



January 6, 2017

FINAL AUDIT REPORT

State Safety Oversight Audit

of the

Pennsylvania Department of Transportation (PennDOT)

Conducted by the Federal Transit Administration
Office of Transit Safety and Oversight

April 5-6, 2016





Table of Contents

Acronyms 1

Executive Summary 3

Summary of Findings 3

Introduction..... 5

 Background 5

 Audit Methodology 5

 Report Organization 5

Section 1. Designation of SSO Agency 7

 Summary of Activities..... 7

 Specific Criteria..... 7

 Current Status and Assessment 7

 Findings 7

Section 2. Program Management and Program Standard Development 8

 Summary of Activities..... 8

 Specific Criteria..... 8

 Current Status and Assessment 8

 Findings 13

Section 3. SSPP and Security Plan Review and Approval Process..... 14

 Summary of Activities..... 14

 Specific Criteria..... 14

 Current Status and Assessment 14

 Findings 23

Section 4. Oversight of Internal Safety and Security Reviews and Annual RTA Reporting 24

 Summary of Activities..... 24

 Specific Criteria..... 24

 Current Status and Assessment 24

 Findings 27

Section 5. SSO Agency Three-Year Safety and Security Reviews..... 28

 Summary of Activities..... 28

 Specific Criteria..... 28



Current Status and Assessment	28
Findings	30
Section 6. Oversight of the Hazard Management Process.....	31
Summary of Activities.....	31
Specific Criteria.....	31
Current Status and Assessment	31
Findings	36
Section 7. Accident Notification, Investigation, and Reporting	37
Summary of Activities.....	37
Specific Criteria.....	37
Current Status and Assessment	37
Findings	43
Section 8. Corrective Action Plans	44
Summary of Activities.....	44
Specific Criteria.....	44
Current Status and Assessment	44
Findings	48
Section 9. Reporting to FTA.....	49
Summary of Activities.....	49
Specific Criteria.....	49
Current Status and Assessment	49
Findings	51
Appendix A. List of Requested Materials.....	A1
Appendix B. Audit Findings Tracking Matrix.....	B1



Acronyms

AGM	Assistant General Manager
AHJ	Authority Having Jurisdiction
AIP	Accident Investigation Procedure
BASE	Baseline Assessment and Security Enhancement
BTO	Bus Traffic Operations
CamTran	Cambria County Transit Authority/Inclined Plane Inc.
CAP	Corrective Action Plan
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
FTA	Federal Transit Administration
FTE	Full-Time Equivalent
MIL 882	Military Standard 882
NTSB	National Transportation Safety Board
OCC	Operations Control Center
PAAC	Port Authority of Allegheny County
PennDOT	Pennsylvania Department of Transportation
PRTSRP	Pennsylvania Rail Transit Safety Review Program
QUARC	Quality Assurance Rules Compliance
RFGPTS	Rail Fixed Guideway Public Transportation Systems
RGX	Rail Grade Crossing
RTA	Rail Transit Agency
RTSRP	Rail Transit Safety Review Program
SEPP	Security and Emergency Preparedness Plan
SEPTA	Southeastern Pennsylvania Transportation Authority
SH&E	Safety, Health & Environmental
SOP	Standard Operating Procedure
SSO	State Safety Oversight
SSOA	State Safety Oversight Agency
SSEPP	System Security and Emergency Preparedness Plan
SSP	System Security Plan



SSPP	System Safety Program Plan
STPD	SEPTA Transit Police Department
TVA	Threat and Vulnerability Assessment



Executive Summary

On April 5-6, 2016, the Federal Transit Administration (FTA) conducted a State Safety Oversight (SSO) audit of the Pennsylvania Department of Transportation (PennDOT) and the safety oversight program administered for the Southeastern Pennsylvania Transportation Authority (SEPTA), the Port Authority of Allegheny County (PAAC), and the Cambria County Transit Authority/Inclined Plane Inc. (CamTran) rail transit systems. The FTA’s SSO audit program focus is on compliance with the 49 Code of Federal Regulations (CFR) Part 659.

Through the course of the PennDOT audit, FTA found that PennDOT members actively engage with their Rail Fixed Guideway Public Transportation Systems (RFGPTS) also referred to as rail transit agencies (RTAs), across a number of technical and programmatic areas, and that PennDOT implements an SSO program with effective practices.

This final audit report identifies four findings. Additionally, the audit report also identifies two items of concern including, updating the PennDOT resource assessment and ensuring the RTAs’ internal review programs meet the required notification and submission timeframes.

The PennDOT had two weeks to review and submit comments related to the draft SSO audit report’s factual content. On July 26, 2016, PennDOT provided FTA with comments for the audit report. FTA has responded to all comments and revised finding numbers 2, and 3, and combined finding numbers 4 and 5 as a result of PennDOT comments.

With the issuance of this final SSO audit report, including a separate SSO Audit Findings Tracking Matrix included as **Appendix B**, PennDOT has 60 days to respond to the updated Audit Findings Tracking Matrix with corrective action progress and status updates for the findings.

Summary of Findings

The FTA SSO audit identifies findings that address the State’s activity to implement 49 CFR Part 659 and other requirements. The FTA’s SSO audit of PennDOT identified **four findings** as summarized in Table 1.

Audit Category	Total Findings
Section 1. Designation of SSO Agency	0
Section 2. Program Management and Program Standard Development	0
Section 3. SSPP and Security Plan Review and Approval Process	0
Section 4. Oversight of Internal Safety and Security Reviews and Annual RTA Reporting	1
Section 5. SSO Agency Three-Year Safety and Security Reviews	0
Section 6. Oversight of the Hazard Management Process	1
Section 7. Accident Notification, Investigation, and Reporting	1
Section 8. Corrective Action Plans	1
Section 9. Reporting to FTA	0
TOTAL	4



Section 1. Designation of SSO Agency

No findings.

Section 2. Program Management and Program Standard Development

No findings.

Section 3. SSPP and Security Plan Review and Approval Process

No findings.

Section 4. Oversight of Internal Safety and Security Reviews and Annual RTA Reporting

Finding 1: *As specified in 49 CFR Part 659.27(b):* PennDOT must ensure CamTran conducts internal security reviews in an ongoing manner over the three-year cycle.

Section 5. SSO Agency Three-year Safety and Security Reviews

No findings.

Section 6. Oversight of the Hazard Management Process

Finding 2: *As specified in 49 CFR Part 659.31(a) and (b)(5):* PennDOT must ensure the RTAs' SSPPs incorporate the hazard management requirements, and that hazards are consistently logged and tracked.

Section 7. Accident Notification, Investigation, and Reporting

Finding 3: *As specified in 49 CFR Part 659.33(a):* PennDOT must ensure RTAs notify PennDOT within two (2) hours of any incident meeting PennDOT's threshold reporting requirements.

Section 8. Corrective Action Plans

Finding 4: *As specified in 49 CFR Part 659.37(a)(b) and (e):* PennDOT must ensure the RTAs' SSPPs are consistent with the RTSRP Procedures Standard's CAP requirements, including CAP source, hazard rating, and accepted date. The CAP logs must contain the necessary elements, including accurate implementation schedule and responsible party.

Section 9. Reporting to FTA

No findings.



Introduction

On April 5-6, 2016, FTA conducted an SSO audit of PennDOT and its oversight program for the Southeastern Pennsylvania Transportation Authority (SEPTA), the Port Authority of Allegheny County (PAAC), and the Cambria County Transit Authority/Inclined Plane Inc. (CamTran) rail transit systems. This report documents key findings resulting from the audit. The FTA reviewed the PennDOT's SSO program as currently implemented to ensure conformance with Part 659 requirements and identify opportunities for oversight enhancement. The FTA also reviewed the RTAs' documentation, activities, and coordination process with PennDOT to verify the implementation and effectiveness of the PennDOT SSO program requirements.

Background

Part 659.7 requires FTA to monitor and evaluate SSO agency compliance with FTA's SSO rule. Monitoring is an essential function, both to ensure the implementation of the rule, and to support legislative withholding requirements. In addressing Part 659.7, FTA's SSO audit program is designed to:

- Review the implementation of Part 659 requirements by the SSO agency and RTA;
- Assess the adequacy of resources and authority provided to the SSO agency and RTA to carry out Part 659 requirements; and
- Assess the technical capacity of the SSO agency and RTA to implement Part 659 requirements.

The last SSO Audit of PennDOT was conducted October 15-19, 2012 resulting in six findings of Compliance with Recommendations. The PennDOT successfully addressed and closed the 2012 SSO Audit Compliance with Recommendations findings on June 27, 2014.

Audit Methodology

Prior to arriving onsite, FTA requested that PennDOT submit documents and materials related to its SSO program and the RTAs' safety and security programs under its jurisdiction as applicable to Part 659. **Appendix A** contains a complete list of the documents and materials received and reviewed by the audit team.

While on-site in Philadelphia, Pennsylvania, the audit team conducted interviews with PennDOT and RTA personnel responsible for key safety and security programs and control center, maintenance, and management functions. Additionally, the audit team conducted field reviews and verification activities, including touring control centers.

During the audit, the audit team identified several effective practices implemented by both PennDOT and the RTAs. **The FTA identified four findings.** This report identifies the findings that FTA requires corrective action.

Report Organization

This report presents the results of FTA's audit of PennDOT's implementation of Part 659 requirements. It addresses each program area required by Part 659 and PennDOT's compliance with these areas, including:



1. Designation of SSO Agency
2. Program Management and Program Standard Development
3. SSPP and Security Plan Review and Approval Process
4. Oversight of Internal Safety and Security Reviews and Annual RTA Reporting
5. SSO Agency Three-Year Safety and Security Reviews
6. Oversight of the Hazard Management Process
7. Accident Notification, Investigation, and Reporting
8. Corrective Action Plans
9. Reporting to FTA



Section 1. Designation of SSO Agency

Summary of Activities

The FTA evaluated the designation of PennDOT and the agency’s authority to implement the requirements of Part 659.9.

Specific Criteria

Part 659.9 – Designation of oversight agency

Part 659.9 requires that each State with an anticipated or existing RFGPTS regulated by Part 659 shall designate an oversight agency to implement the provisions of Part 659.

Current Status and Assessment

Part 659.9(a) requires “Each state with an existing or anticipated rail fixed guideway system regulated by Part 659 shall designate an oversight agency.” Section 1 of the PennDOT Rail Transit Safety Review Program (RTSRP) Procedures and Standards states, “The Rail Transit Safety Review Program derives its authority from Pennsylvania State Law, Title 74 Part II (Public Transportation). With this authority, PennDOT created the Rail Transit Safety Review Program to function as the State Safety Oversight Agency (SSOA).”

PennDOT has oversight responsibility for:

- The Southeastern Pennsylvania Transportation Authority’s (SEPTA) subway and trolley modes
- The Port Authority of Allegheny County’s (PAAC) light rail and inclined plane modes
- The Cambria County Transit Authority’s (CamTran) Johnstown inclined plane
- The Port Authority Transit Corporation (PATCO) rail facilities located in Philadelphia

Findings

No Findings.



Section 2. Program Management and Program Standard Development

Summary of Activities

The FTA evaluated PennDOT's management of the SSO program, its assignment of resources and responsibilities, and its use of contractors, as specified in Parts 659.9, 659.11, 659.13, and 659.15.

Specific Criteria

Part 659.9 - Designation of oversight agency

Part 659.11 – Confidentiality of investigation reports and security plan

Part 659.11 allows the SSO agency to withhold investigation reports and does not require that the RTA's security plan and associated procedures be made available to the public.

Part 659.13 – Role of SSO agency overview

Part 659.13 determines that the designated SSO agency is responsible for establishing standards for rail safety and security practices and procedures to be used by RTAs within the SSO agency's jurisdiction. Part 659.13 further requires the designated oversight agency to oversee the execution of these practices and procedures to ensure compliance with the provisions of Part 659.

Part 659.15 – System safety program standard

Part 659.15 requires the SSO agency to document planned activities to ensure ongoing communications with the overseen RTAs in the Program Standard.

Current Status and Assessment

PennDOT Program Resources

The Commonwealth of Pennsylvania's SSO Program is administered through the PennDOT Bureau of Public Transportation, Urban Transit Division. The PennDOT SSO program is administered through the PennDOT RTSRP and managed by a Program Manager that includes up to four PennDOT staff and contract support. Section 2.7 of the PennDOT RTSRP Procedures and Standards states, "PennDOT retains contracted support for various tasks conducted by RTSRP. Contractors comply with the Commonwealth of Pennsylvania's Contract Integrity Provisions." Figure 2a below shows the 2016 PennDOT RTSRP organization chart including contract support.

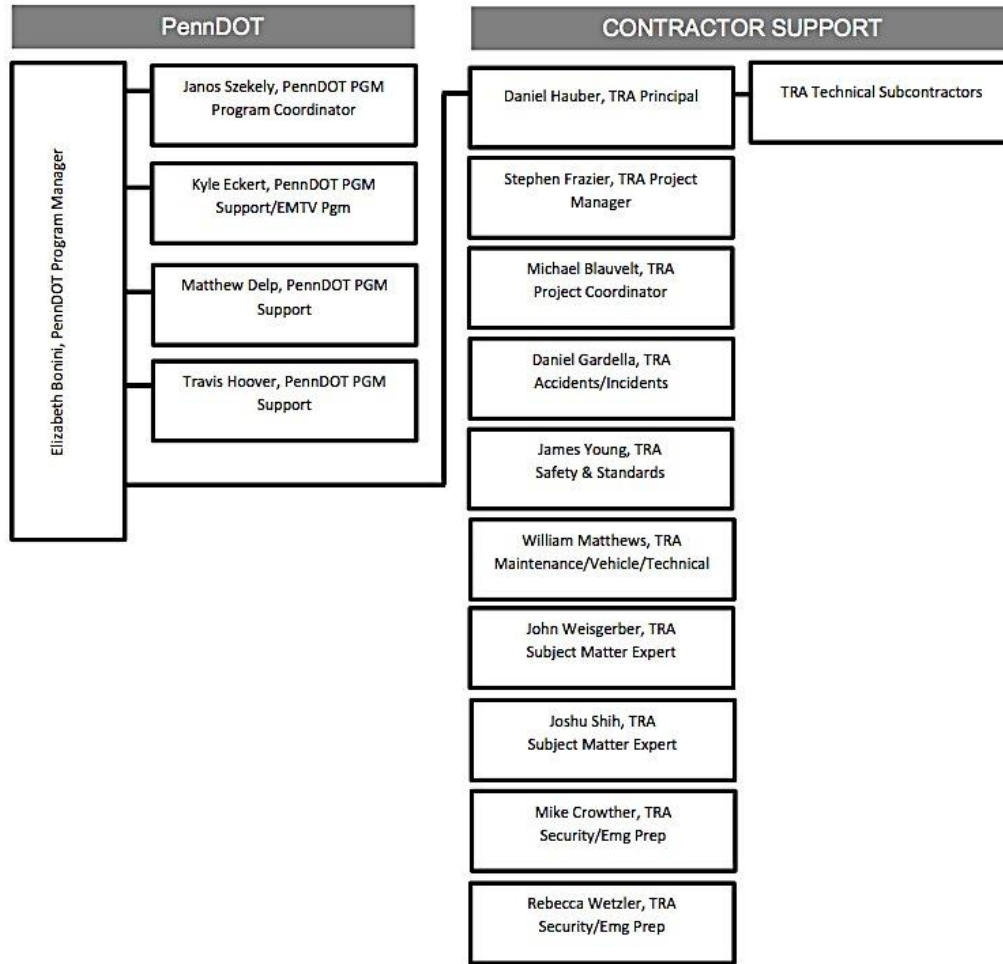


Figure 2a – 2016 PennDOT RTSRP Organization Chart

As shown in Table 2a below, PennDOT staff dedicated approximately 0.6 of a Full Time Equivalent (FTE) to the SSO program and the PennDOT RTSRP contractors account for approximately 1.8 FTEs since 2012. Contractors are responsible for activities such as field observations, three-year safety reviews, updates to procedures and standards, etc.

	2012	2013	2014
PennDOT Staff	0.6	0.5	0.6
Contractor	1.7	2.0	1.8
<i>Total</i>	2.3	2.5	2.4

The audit team is concerned that the PennDOT resources devoted to the SSO program is not sufficient and may have resulted in findings identified in this report. PennDOT will provide the FTA with an updated resource allocation plan to ensure sufficient staffing.

SEPTA Safety and Security Program Resources

The SEPTA Assistant General Manager (AGM) of Audit, Safety & Investigation Services reports to SEPTA’s General Manager. The AGM of Audit, Safety & Investigation Services manages the areas of



internal audits, contract audits, Inspector General functions, and system safety. Figure 2b shows the high-level organization of SEPTA.

Section 3.3.1 of the SEPTA SSPP states, “The Chief Officer System Safety reports directly to the General Manager, and advises the General Manager and executive staff of SH&E [safety, health, and environmental] issues affecting the Authority.” The Chief Officer System Safety has a dual reporting role, reporting directly to both the General Manager and the AGM of Audit, Safety & Investigation Services.

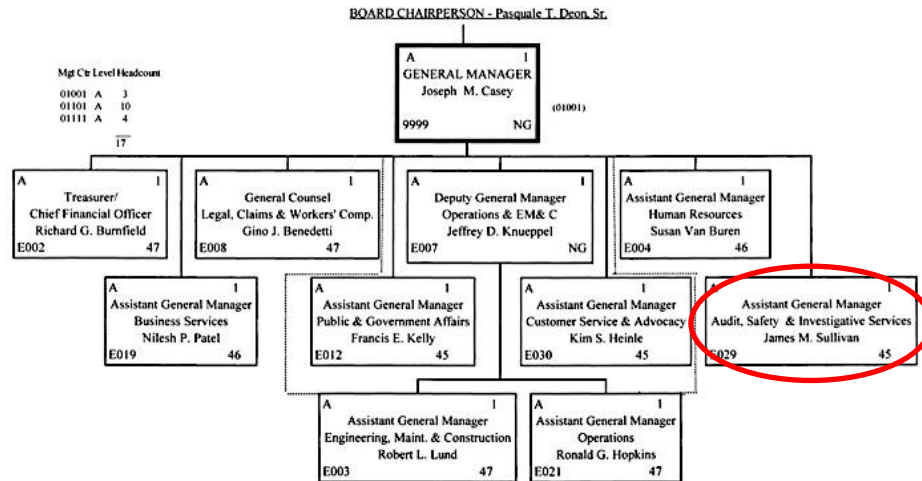


Figure 2b – SEPTA’s Organization Chart

As shown in Figure 2c, SEPTA’s System Safety Department is comprised of administrative staff and safety officers reporting to managers reporting to the Chief Officer for a total of 24 positions.

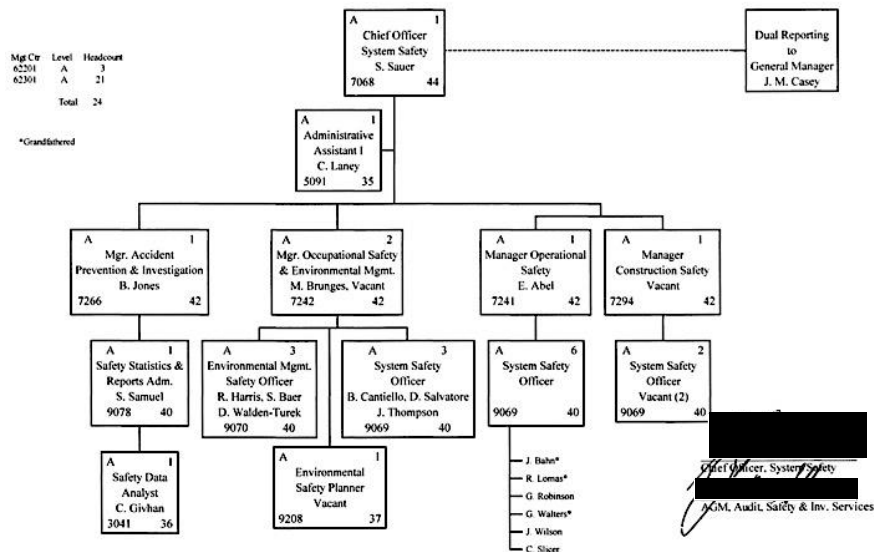


Figure 2c – SEPTA’s System Safety Department Organization Chart

The SEPTA Chief of Police reports to the AGM of Operations and manages the SEPTA Transit Police Department. The Transit Police Department is organized into three areas: Operations, Special Operations, and Quality Control as shown in Figure 2d. The SEPTA Transit Police Department (STPD) includes up to 260 sworn and other officers for the six (6) jurisdictions of patrol. The audit team was informed that



SEPTA Police participates in the Joint Terrorism Task Force with local law enforcement agencies and has an established relationship with the Philadelphia Police Department.

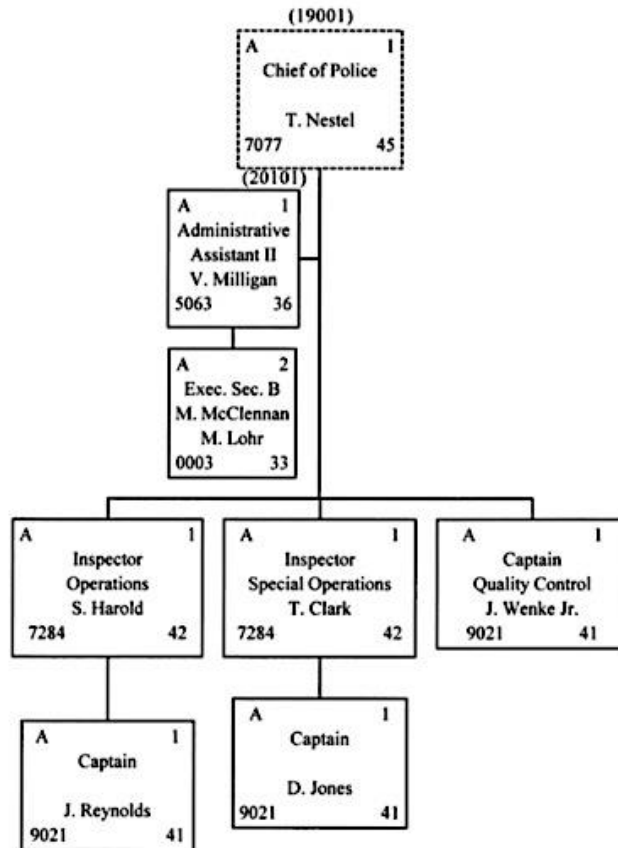


Figure 2d – STPD Organization Chart

PAAC Safety and Security Program Resources

The PAAC AGM of Legal & Corporation Services/General Counsel position reports to the PAAC Chief Executive Officer and manages the PAAC safety, security, and internal audit functions. Section 2.2.1 of the PAAC SSPP states, “The Port Authority Chief Executive Officer (CEO) directs allocation of available resources as necessary to meet system safety goals and objectives and monitors and evaluates safety programs.”

The Director of System Safety oversees PAAC rail safety, bus safety, and occupational safety and health. The Chief of Transit Police manages internal resources, transit security, and telecommunications. Figure 2e shows the PAAC Legal & Corporation Services organization structure.

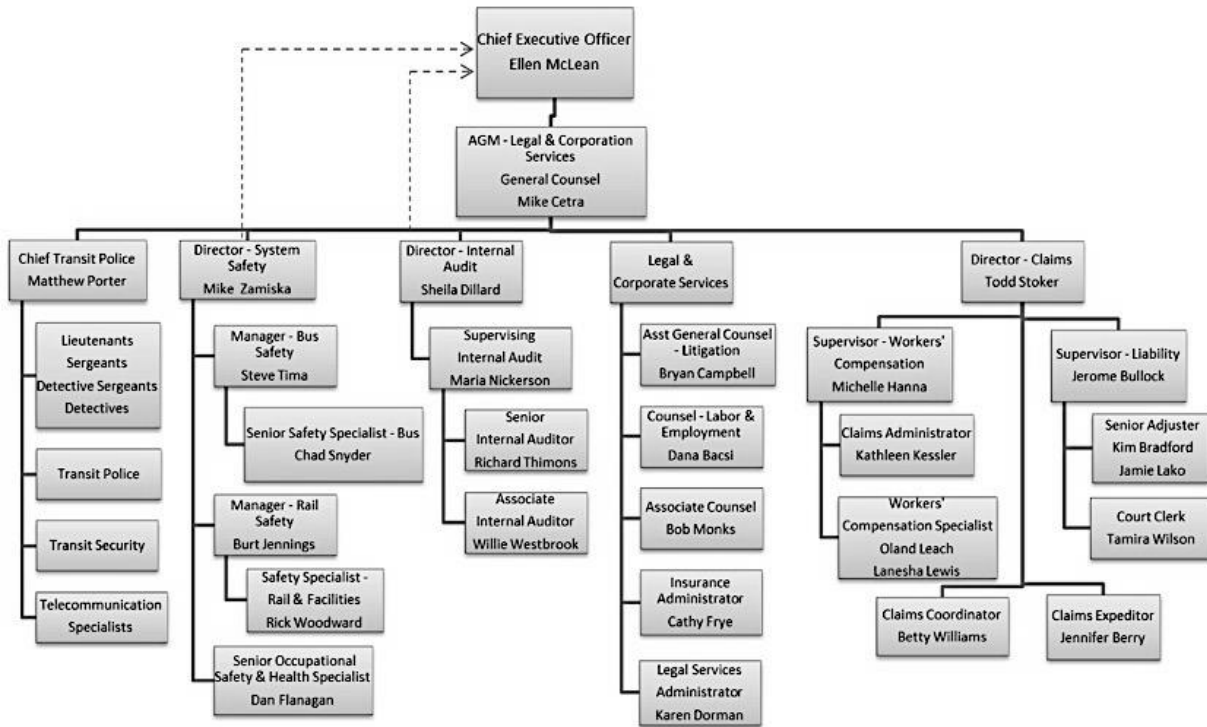


Figure 2e – PAAC Organization Chart

CamTran Safety and Security Program Resources

Section 1.2.2 of the CamTran SSPP states, “The CamTran Inclined Plane employs one (1) full-time operation supervisor; and 12 employees. 2 Full time, 8 part time, and 2 seasonal.” The CamTran Safety Committee meets monthly to review safety items including accident reports and employee recommendations and performs independent safety audits.

Section 1.3.1 of the CamTran SSPP specifies, “The CamTran Director of Safety, Security and Risk Management will be responsible for the safety program and training... [and] will monitor and direct all safety concerns to the Safety Committee and based upon the committee’s recommendations, they will be forward to the Executive Director for his/her directives.” The SSPP also notes that the Director of Safety, Security and Risk Management will manage the SSPP, safety policies, and serve as the liaison to the PennDOT RTSRP. The CamTran organization chart is shown in Figure 2f.

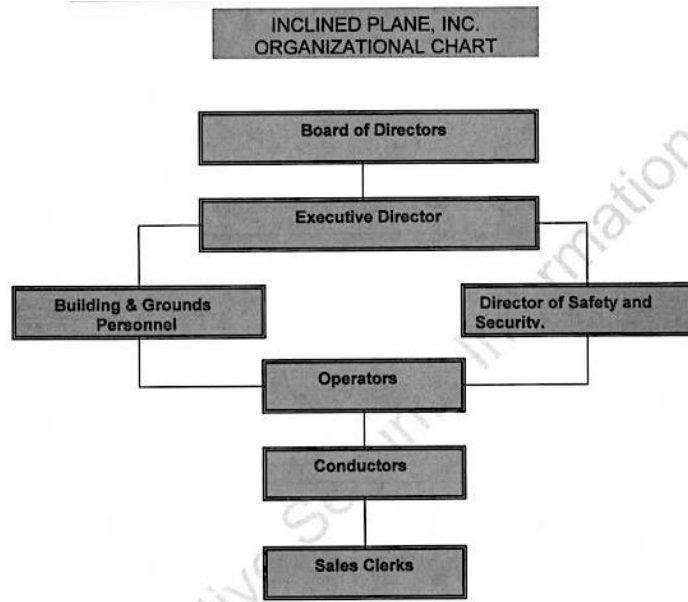


Figure 2f – CamTran Organization Chart

PennDOT’s RTSRP Procedures and Standards

Part 659.15(b)(2) requires the program standard to include, “a description of the oversight agency’s process for the development, review and adoption of the program standard; the modification and/or update of the program standard; and the process by which the program standard and any subsequent revisions are distributed to each affected rail transit agency.” Section 3.2 of the PennDOT RTSRP Procedures and Standards specifies, “The RTSRP Procedures and Standards will be reviewed at least annually by RTSRP staff, and will be updated as needed. ... When the RTSRP Manager determines it to be appropriate and/or necessary, and especially for major changes, the RTSRP may provide a draft of Standards revisions and seek comments from transit agency safety and security managers.”

The revised RTSRP Procedures and Standards are approved by the PennDOT RTSRP Program Manager and once finalized, the document is provided to each RTA’s General Manager and managers of safety and security. The PennDOT RTSRP Procedures and Standards document was last approved on February 24, 2015 with signatures from PennDOT’s Deputy Secretary for Multimodal Transportation and RTSRP Program Manager. Appendix A of the PennDOT RTSRP Procedures and Standards documents the updates made during 2011 to 2015.

Findings

No findings.



Section 3. SSPP and Security Plan Review and Approval Process

Summary of Activities

The FTA evaluated PennDOT's implementation of program polices for requiring, reviewing, and approving the RTA SSPP and System Security Plan (SSP) as specified in Parts 659.17, 659.19, 659.21 and 659.23.

Specific Criteria

Part 659.17 – System safety program plan: general requirements

Part 659.17 specifies that the SSO agency must require the RTAs under its jurisdiction to develop and implement an SSPP that complies with the requirements of Part 659 and the oversight agency's Program Standard.

Part 659.19 – System safety program plan: contents

Part 659.19 establishes the minimum content requirements of the RTA SSPP.

Part 659.21 – System security plan: general requirements

Part 659.21 requires the SSO agency to require RTAs under its jurisdiction to develop and implement a security plan that complies with the requirements of Part 659 and the oversight agency's Program Standard. Part 659.21 also requires that the RTA security plan be developed and maintained as a separate document and not be maintained as part of the RTA's SSPP.

Part 659.23 – System security plan: contents

Part 659.23 establishes the minimum content requirements of the RTA security plan.

Part 659.25 – Annual review of system safety program plan and system security plan

Part 659.25 states the SSO agency is responsible for requiring the RTA to conduct an annual review of its SSPP and SSP. Part 659.25(b) requires that, in the event the RTA's SSPP is modified, the RTA must submit the modified plan and any subsequently modified procedures to the SSO agency for review and approval. After the SSPP is approved, the SSO agency must issue a formal letter of approval to the RTA.

Current Status and Assessment

System Safety Program Plans

Part 659.19(d) states, the SSPP shall include, "The process used to control changes to the system safety program plan, including: (1) Specifying an annual assessment of whether the system safety program plan should be updated; and (2) Required coordination with the oversight agency, including timeframes for submission, revision, and approval." Section 11.1 of the PennDOT RTSRP Procedures and Standards outlines 22 elements for RTA SSPPs compliant with Part 659 requirements.



Section 11.3.1 of the PennDOT RTSRP Procedures and Standards states, “Transit agencies covered under the RTSRP must update their system safety program plan and security & emergency preparedness plan once each calendar year. The transit agency will submit its system safety program plan (SSPP) and security emergency preparedness plan (SEPP) to the PennDOT RTSRP annually for review and approval. The due dates for draft SSPP and SEPP will be decided by agreement between the PennDOT RTSRP and each covered transit agency.” Table 3a summarizes the annual SSPP update process and PennDOT RTSRP’s approval.

Table 3a – RTA SSPP Review Practices					
Agency (SSPP Date)	SSPP Annual Review/Section	Party Responsible	Typical Review Period	RTSRP Approval Dates	Target Completion Date
SEPTA (July 2015)	Section 5	System Safety Dept.	April 30 – Sept. 1	August 6, 2015 and July 2014	October 15
PAAC (Aug. 2015)	Section 10	Director of System Safety	Aug. – Sept.	September 2015 and December 2014	October
CamTran (June 2015)	Section 1.10	Director of Safety, Security, and Risk Mgt.	90 days	June 30, 2015	60 days from RTSRP approval

In addition to Part 659 SSPP requirements, Section 11, Element 16a of the PennDOT RTSRP Procedures and Standards requires the RTA SSPP content to include “Lists and general descriptions of, and specific references to, the rail transit agency’s standards for:

1. Fatigue management and hours of service,
2. Medical fitness for duty, and
3. Safety measures and protection for roadway workers and personnel entering fixed guideway right-of-way.”

The audit team verified that each RTA’s SSPP includes the PennDOT RTSRP SSPP Element 16a requirements, as summarized in Table 3b.

Table 3b – RTA Compliance with SSPP Requirements for Element 16a			
Agency	Fatigue Management & Hours of Service	Fitness for Duty	Contractor Safety & Roadway Worker Protection
SEPTA	Sections 19.2 & 19.3	Section 19.1	Section 21.2(N) and (R) and Section 22
PAAC	Section 6.5 & Appendix D	Section 6.6 & Appendix E	Section 6.2.2.1
CamTran	Section 1.6.1	Section 1.6.1	Section 1.6.2

The audit team also reviewed PennDOT’s oversight of specific SSPP elements including training and rules compliance activities. The audit team conducted interviews with PAAC and CamTran for training and rule compliance programs and noted that implementation was consistent with the approved SSPPs.. The audit team also conducted interviews and several record reviews for SEPTA’s training, rule compliance, and maintenance programs to verify compliance.

Training & Certification

Part 659.19(p) and Section 11, Element 16 of the PennDOT RTSRP Procedures and Standards requires that the SSPP include “A description of the training and certification program for employees and contractors, including:



- (1) Categories of safety-related work requiring training and certification;
- (2) A description of the training and certification program for employees and contractors in safety-related positions...”

SEPTA Training & Certification

Section 17 of the SEPTA SSPP states, “The Training Department conducts training of all operating employees. ... Training is responsible for the development and implementation of all training programs relevant to operating and safety rules and procedures for all SEPTA operating and support employees, private contractors performing work on Authority property, and outside agencies /AHJs [Authority(s) Having Jurisdiction].” For all tests, except signal, which requires a 100% score, employees are expected to achieve an 85% or higher score. Courses and exams are reviewed and revised annually by the Training Department. A sample of SEPTA training recertification requirements is shown in Table 3c.

Course	Frequency	Classroom (Y/N)	Field/ On the Job (Y/N)	Test Type	Min. Pass Score
1. Train Operator	Annual	Y	Y	Written / Field	85%-W / PF-F
2. Yard Persons	Annual	Y	Periodic	Written	85%-
3. TEO	Annual	Y	Y	Written / Field	85%-W / PF-F
4. Train Dispatcher	Annual	Y	Periodic	Written / Field	85%-W
5. Tower Person	Annual	Y	N	Written	85%
6. Supervisor / Mgmt	Annual	Y	Y	Written / Field	85%-W / PF-F

During on-site interviews and records reviews the audit team examined SEPTA training records for Controllers and Vehicle Maintenance and verified that the employees met recertification requirements for 2015. Tables 3d and 3e provide a sampling of recertification information for SEPTA Inspectors and Mechanics.



Table 3d – Training Recertification for SEPTA Inspectors

Employee ID	Initial Training Date	Recent Recertification Date	Class
[REDACTED]	11/19/15		M-4
[REDACTED]	10/28/01	10/01/15	M-4
[REDACTED]	10/23/15		M-4
[REDACTED]	02/08/07	10/13/15	LRV d/e
[REDACTED]	10/23/12	10/07/15	M-4
[REDACTED]	10/23/15		M-4
[REDACTED]	07/10/13	09/30/15	M-4
[REDACTED]	10/29/01	10/09/15	M-4
[REDACTED]	10/24/13	10/14/15	M-4
[REDACTED]	10/24/13	09/23/15	M-4
[REDACTED]	01/09/03	10/07/15	M-4
[REDACTED]	10/18/11	10/21/15	M-4
[REDACTED]	09/16/14	10/14/15	M-4
[REDACTED]	11/19/15		M-4
[REDACTED]	04/13/01	10/14/15	LRV d/e
[REDACTED]	04/20/88	10/14/15	LRV d/e
[REDACTED]	10/28/01	09/23/15	M-4

Table 3e – Training Recertification for SEPTA Mechanics

Employee ID	Location	Vehicle Certification	Date
[REDACTED]	Ferrock	BIV	7/24/2015
[REDACTED]	Ferrock	BIV	7/28/2015
[REDACTED]	Ferrock	BIV	7/15/2015
[REDACTED]	Ferrock	BIV	10/22/2015
[REDACTED]	Ferrock	BIV	7/28/2015
[REDACTED]	Ferrock	BIV	7/28/2015
[REDACTED]	Ferrock	BIV	7/21/2015
[REDACTED]	Ferrock	BIV	7/21/2015
[REDACTED]	MSH	LRV D/E	10/13/2015
[REDACTED]	MSH	LRV D/E	10/14/2015
[REDACTED]	MSH	LRV D/E	10/14/2015
[REDACTED]	MSH	LRV D/E	10/13/2015
[REDACTED]	Elmwood	LRV S/E	10/19/2015
[REDACTED]	Elmwood	LRV S/E	10/28/2015
[REDACTED]	Elmwood	LRV S/E	10/21/2015



PAAC Training & Certification

Section 6.1 of the PAAC SSPP states “There are three types of safety training: 1) initial, 2) periodic, and 3) retraining. Training mechanisms include classroom, written and video communications, field exercises, and drills.”

CamTran Training & Certification

Section 1.6.1 of the CamTran SSPP states, “CamTran employees conducting safety-related work include Inclined Plane Operators, Inclined Plane Conductors, Infrastructure and Maintenance personnel, and management/supervisory personnel who are in charge of or may perform any of these functions. Training for new operators and conductors occurs through the TransitSCORE Program, a 100-hour training and certification course developed through cooperative efforts of PennDOT, PennTrain, and the PPTA. ... Retraining is to be done quarterly by the Director of Maintenance. Remedial training is to be done after every preventable accident incident.”

Rules Compliance

Part 659.19(m) and Section 11, Element 13 of the PennDOT RTSRP Procedures and Standards requires that the SSPP describe, “...the process used by the RTA to develop, maintain, and ensure compliance with rules and procedures having a safety impact.” Each RTA SSPP incorporated rules compliance through monitoring and observation activities.

SEPTA Rules Compliance

Section 20.4(B) of the SEPTA SSPP states, “The *Rail Transportation Division Efficiency Testing Program* for Subway/Elevated and Surface Rail Operations specifies the process and protocols for Rail Transit Operations to execute a self-audit process to monitor, assesses, and document employee compliance with operating rules and procedures having a safety impact.” Operations supervisors participate in the rules compliance process, making and recording observations monthly as assigned by their department. The rules compliance program includes, but is not limited to the following rail transit areas:

- Maximum Authorized Speeds
- Signals/ Signs
- Switches
- Grade Crossings
- Emergency Preparedness/Emergency Evacuation Procedures
- Station Stops/Radio Procedures
- Proper Equipment
- Monthly Emphasis Program
- Roadway Workers

Section 20.1 of the SEPTA SSPP specifies, “System Safety independently evaluates field compliance with operating rules and procedures, ... but will also review and assess trends identified by the modal rules compliance programs per System Safety rules compliance process audit protocols.”

Furthermore, departmental rules compliance observations and activities are tracked and measured to evaluate performance in meeting departmental objectives. Section 20.6 states, “Statistics generated by the Quality Assurance Rules Compliance (QUARC) database identify modal employee adherence to prescribed procedures, and provide a measurable bench mark for judging supervisory effectiveness in assuring implementation of the salient rules and procedures. Additionally, System Safety’s Transportation



Department Rules Compliance Testing Process Audit Program systemically assesses each mode’s application of their unique compliance monitoring initiatives.”

During onsite interviews, the audit team reviewed control center rule compliance records and also conducted audits for Blue Line vehicle preventative maintenance inspections. As shown in Table 3f, vehicles with overdue days are highlighted and removed from service as necessary.



Table 3f – SEPTA Vehicle Maintenance

Train #	15 day Insp.	Days Since	60 day Insp.	Days Since	120 day Insp.	Days Since	1 year Insp.	Days Since
H1001	03/13/16	3	03/13/16	3	01/14/16	62	01/14/16	62
H1002	03/13/16	3	03/13/16	3	01/15/16	61	01/15/16	61
H1003	03/16/16	0	02/17/16	28	02/17/16	28	02/17/16	28
H1004	03/15/16	1	02/17/16	28	02/17/16	28	02/17/16	28
H1005	03/06/16	10	03/06/16	10	03/06/16	10	03/06/16	10
H1006	03/06/16	10	03/06/16	10	03/06/16	10	03/06/16	10
H1007	03/03/16	13	01/21/16	55	11/21/15	116	03/28/15	354
H1008	03/03/16	13	01/21/16	55	11/19/15	118	03/28/15	354
H1009	03/06/16	10	01/25/16	51	01/25/16	51	01/25/16	51
H1010	03/06/16	10	01/20/16	56	01/20/16	56	01/20/16	56
H1011	03/09/16	7	03/09/16	7	11/24/15	113	03/28/15	354
H1012	03/09/16	7	03/09/16	7	11/16/15	121	03/28/15	354
H1013	03/06/16	10	02/21/16	24	12/24/15	83	05/11/15	310
H1014	03/06/16	10	02/21/16	24	12/24/15	83	04/27/15	324
H1015	03/11/16	5	01/25/16	51	01/25/16	51	05/30/15	291
H1016	03/11/16	5	01/25/16	51	01/25/16	51	05/30/15	291
H1017	03/05/16	11	01/22/16	54	01/22/16	54	05/30/15	291
H1018	03/05/16	11	01/21/16	55	01/21/16	55	05/30/15	291
H1019	03/15/16	1	03/01/16	15	03/01/16	15	06/30/15	260
H1020	03/15/16	1	03/01/16	15	03/01/16	15	06/29/15	261
H1021	03/14/16	2	03/04/16	12	03/04/16	12	06/30/15	260
H1022	03/14/16	2	03/02/16	14	03/02/16	14	06/30/15	260
H1023	03/13/16	3	02/28/16	17	02/28/16	17	07/15/15	245
H1024	03/13/16	3	02/28/16	17	02/28/16	17	07/15/15	245
H1025	03/12/16	4	01/16/16	60	11/19/15	118	07/25/15	235
H1026	03/12/16	4	01/16/16	60	11/19/15	118	07/26/15	234
H1027	03/06/16	10	02/21/16	24	12/29/15	78	09/03/15	195
H1028	03/06/16	10	02/21/16	24	12/29/15	78	08/29/15	200
H1029	03/10/16	6	01/28/16	48	01/28/16	48	10/01/15	167
H1030	03/11/16	5	01/28/16	48	01/28/16	48	10/01/15	167
H1031	03/11/16	5	02/25/16	20	02/25/16	20	10/28/15	140
H1032	03/11/16	5	02/25/16	20	02/25/16	20	10/28/15	140
H1033	03/02/16	14	02/16/16	29	12/15/15	92	08/17/15	212
H1034	03/02/16	14	02/16/16	29	12/15/15	92	08/17/15	212
H1035	03/13/16	3	02/16/16	29	02/16/16	29	10/21/15	147
H1036	03/13/16	3	02/16/16	29	02/16/16	29	10/20/15	148
H1037	03/11/16	5	02/24/16	21	02/24/16	21	10/26/15	142
H1038	03/11/16	5	02/24/16	21	02/24/16	21	10/26/15	142
H1039	03/09/16	7	01/27/16	49	11/27/15	110	11/27/15	110
H1040	03/09/16	7	01/27/16	49	11/27/15	110	11/27/15	110
H1041	03/06/16	10	01/27/16	49	11/27/15	110	11/27/15	110
H1042	03/06/16	10	01/27/16	49	11/30/15	107	11/30/15	107
H1043	03/15/16	1	02/15/16	30	12/17/15	90	12/17/15	90
H1044	03/15/16	1	02/15/16	30	12/16/15	91	12/16/15	91
H1045	03/04/16	12	02/19/16	26	12/26/15	81	12/24/15	83
H1046	03/04/16	12	02/19/16	26	12/24/15	83	12/24/15	83
H1047	01/15/16	61	01/15/16	61	01/15/16	61	01/24/16	52
H1048	01/24/16	52	01/24/16	52	01/24/16	52	01/24/16	52
H1049	02/05/16	40	01/24/16	52	01/24/16	52	01/24/16	52
H1050	02/05/16	40	01/24/16	52	01/24/16	52	01/24/16	52
H1051	02/29/16	16	02/29/16	16	02/29/16	16	02/29/16	16
H1052	02/29/16	16	02/29/16	16	02/29/16	16	02/29/16	16
H1053	12/26/15	81	12/11/15	96	12/11/15	96	12/11/15	96
H1054	12/26/15	81	12/11/15	96	12/11/15	96	12/11/15	96
H1055	01/10/16	66	01/10/16	66	11/12/15	123	03/23/15	359
H1056	01/10/16	66	01/10/16	66	11/11/15	126	03/23/15	359
H1057	01/26/16	50	01/09/16	67	11/11/15	126	03/13/15	369
H1058	01/26/16	50	01/09/16	67	11/10/15	127	03/13/15	369
H1059	02/06/16	39	02/06/16	39	12/10/15	97	04/17/15	334



PAAC Rules Compliance

Section 3.4 of the PAAC SSPP covers rules compliance and procedures review activities for the agency. The compliance activities listed in Table 3g are conducted for both operations and maintenance personnel.

Table 3g – PAAC Rules Compliance Activities	
Operations	Maintenance
<ul style="list-style-type: none"> • Operator daily inspections – by dispatcher • Field observations • Daily and weekly operational checks • Periodic spot checks as a result of accident or request • Random checks (signal compliance, attention to duty, work zone protection, etc.) • Monitoring of Operator procedures, rules violations, inspection practices and documentation, etc. 	<ul style="list-style-type: none"> • Yard and shop observations • Employee and contractor performance observations • Rules compliance monitoring • Preventative maintenance monitoring and inspection tasks • Monitoring of maintenance facilities and rail maintenance personnel rule and procedures violation and documentation

Additionally, Section 6.2.2.1 states, “Port Authority employees and contractors working within or adjacent to Port Authority ROW, will be monitored to ensure compliance with Port Authority established rules and procedures for track and bus way safety.”

CamTran Rules Compliance

Section 1.3.2 Task 5 of the CamTran SSPP requires that “The CamTran Director of Safety, Security and Risk Management shall coordinate with the Incline supervisor and maintenance director to conduct inspections of a Safety System related nature, if necessary. Furthermore the CamTran Director of Safety, Security and Risk Management will coordinate inspections twice a year in accordance with the provisions of the PRTSRP, which will be monitored by PRTSRP staff.”

Section 1.3.4 of the CamTran SSPP adds, “The CamTran/Inclined Plane, Inc is subject to a review process by the CamTran Director of Safety, Security and Risk Management at least on a quarterly basis.” The CamTran Director of Safety, Security and Risk Management maintains an activity log of compliance activities.

System Security Plans

Part 659.23 requires, “The system security plan must, at a minimum address the following:

- (a) Identify the policies, goals, and objectives for the security program endorsed by the agency’s chief executive.
- (b) Document the rail transit agency’s process for managing threats and vulnerabilities during operations, and for major projects, extensions, new vehicles and equipment, including integration with the safety certification process ...”

The RTAs are required to update their SEPP annually and submit it to the PennDOT RTSRP for review and approval by the agreed upon submission date. The SEPP Checklist is included as Appendix G of the PennDOT RTSRP Procedures and Standards. The RTSRP approved the RTA SEPPs on the following dates for the past two years:



- SEPTA – December 2015 and October 2014
- PAAC – July 23, 2015 and November 2015
- CamTran – June 24, 2015 and 2014 N/A (revisions commenced late 2014 into 2015)

The PennDOT 2014 RTSRP Annual Report of SEPTA states, “During 2014, RTSRP worked extensively with the SEPTA Transit Police Department to revise its System Security and Emergency Preparedness Plan (SSEPP), and relatedly, its internal security audit practices. ... The revised SSEPP, approved in October 2014, better reflects the totality of SEPTA’s work in security and emergency preparedness areas.”

During on-site interviews, the audit team was informed that SEPTA conducts Threat and Vulnerability Assessments (TVAs) on a quarterly basis, such that the entire SEPTA system will be assessed on a three year cycle. The audit team reviewed the Market East Station sample Risk Assessment Report conducted June 23, 2015. The FTA encourages ongoing security assessments and identifies this as an effective practice. Additionally, the FTA was informed of security data analyses conducted for quarterly trends, CompStat meetings, and security committees. Following the audit, RTSRP provided the documentation for SEPTA quarterly TVAs specified in the SEPP. RTSRP to continue ensuring that other security activities such as CAP tracking and security assessments are documented in the RTAs’ SEPPs.

Emergency Management

Part 659.19(k) and Section 11 of the RTSRP Procedures and Standards requires that the SSPP include “A description of the process used by the rail transit agency to develop an approved, coordinated schedule for all emergency management program activities.” Each of the RTA SSPP includes a section on agency emergency management activities.

The SEPTA emergency management program, outlined in the SSPP encompasses planning, emergency response procedures, employee training, responder familiarization, and coordination with external agencies. Section 11.7(E) of the SEPTA SSPP states “System Safety generally organizes and critique emergency preparedness exercises that simulate varied scenarios involving Authority infrastructure, vehicles, facilities and equipment. ... The lead SEPTA representative will prepare an After-Action report that documents an objective, qualitative critique of the exercise.”

During on-site interviews, the audit team reviewed the SEPTA mass causality full-scale exercise after action report conducted November 2015. As shown in Figure 3a, Appendix A of the after action included an improvement plan similar to the typical CAP matrix. The FTA notes this as an effective practice for resolving drill concerns.



After Action Report/
Improvement Plan (AAR/IP)

Philadelphia Mass Casualty and
Mass Decontamination Full-Scale Exercise

APPENDIX A: IMPROVEMENT PLAN

The Improvement Plan identifies the following actions based on the recommendations listed above:

Action Item	Assigned to	Supported by	Deadline
Objective 1: Establish Scene Organization			
Recommendation 1.2.1: Obtain and use appropriate marking mechanisms for the ICP. Options for consideration include green strobe lights, green flags, and/or a green pop-up tent.	PFD	OEM	April 1, 2016
Objective 2: Interoperable Communications			
Recommendation 2.3.1: Utilize the PPD-PFD interoperable talkgroup to disseminate regular situational awareness and safety messages to appropriate command-level personnel for further dissemination to subordinate personnel.	PPD, PFD	OEM	August 31, 2015
Recommendation 2.4.1: Evaluate how tactical talkgroups may be pre-assigned to specific functions in order to minimize radio traffic on main channels.	PPD, PFD	OEM, OIT	April 1, 2016
Recommendation 2.4.2: Convene a radio use study group comprised of PPD, PFD, PFD-EMS, SEPTA PD, OIT, and OEM to improve tactical communications procedures.	PPD, PFD, SEPTA, OIT, OEM		January 31, 2016
Recommendation 2.5.1: Personal aides should be provided for police and EMS senior officials charged with managing emergency response operations during major incident responses.	PPD, PFD-EMS	OEM	July 1, 2016
Objective 3: Integrate Law Enforcement into MCI Operations			
Recommendation 3.2.1: Plan for and implement a liaison between PPD and the PFD-EMS Transportation Group Supervisor to increase coordination during MCIs and other appropriate events.	PPD, PFD-EMS	OEM	April 1, 2016
Recommendation 3.3.1: Train police officers to integrate into an MCI response. Consider focusing	PPD, PFD-EMS	OEM	December 31, 2016

Appendix A: Improvement Plan OEM

FOR OFFICIAL USE ONLY

Figure 3a – SEPTA After Action Report Improvement Plan for November 2015 Drill

The PAAC includes emergency management elements similar to SEPTA in Section 9 of its SSPP. Section 9.1.3 of the PAAC SSPP states, “The Transit Police and Security Services Department personnel participate in annual drills and fire/life safety training with various emergency responders and Port Authority Departments including System Safety.” A list of exercises shows that an annual exercise has been conducted since 2005 and typically more than one exercise is conducted within a calendar year.

Section 1.9 of the CamTran SSPP specifies, “The Inclined Plane will conduct a training exercise at least once a year. This training will consist of a tabletop exercise on the even number years and an actual on-hands training exercise on the odd number of the year with the local emergency responders. Upon completion of each field exercise CamTran/Inclined Plane will complete an after action report and review exercise with emergency response personnel.” CamTran also provides familiarization and annual tours for local responders and new hire training for CamTran/Incline Plane staff.

Findings

No findings.



Section 4. Oversight of Internal Safety and Security Reviews and Annual RTA Reporting

Summary of Activities

The FTA evaluated PennDOT policies to require the RTAs to conduct internal safety and security reviews and annual assessments of its SSPP and SSP as specified in Parts 659.25 and 659.27.

Specific Criteria

Part 659.25 – Annual review of system safety program plan and system security plan

Part 659.25 requires the SSO agency to ensure RTAs conduct annual reviews of their SSPP and SSP. This section further requires the SSO agency to require the RTAs to make available to the SSO agency any modified SSPP or SSP.

Part 659.27 – Internal safety and security reviews

Part 659.27 requires RTAs to develop and document a process for the performance of ongoing internal safety reviews in their SSPP. The internal safety review process must, at a minimum:

- Determine if all identified elements of its SSPP are performing as intended
- Ensure that all elements of the SSPP are reviewed in an ongoing manner and completed over a three-year cycle

Part 659.27(c) requires RTAs to notify the SSO agency at least 30 days before scheduled internal safety reviews. In addition, Part 659.27(d) and (e) require RTAs to submit to the SSO agency any checklists or procedures that will be used during the internal reviews. Part 659.27(f) requires the SSO agency to require the RTA to annually submit a report documenting internal safety review activities and the status of subsequent findings and corrective actions.

Current Status and Assessment

Internal Safety and Security Review Schedule

Part 659.27(b)(2) and Section 4 of the RTSRP Procedures and Standards requires, “transit agencies to develop and document a process for the performance of on-going internal safety and security audits to assess compliance and implementation of the safety program plan and the security and emergency preparedness plan. ... The audit program must ... ensure that all elements of the system safety program plan and security & emergency preparedness plan are reviewed in an ongoing manner and distributed over a three year-cycle.”

The audit team reviewed the PennDOT RTSRP and RTA Audit Schedule for 2013 – 2015, which includes RTA internal audit dates and activities scheduled for the three-year cycle. The SEPTA internal audits schedule is shown in Table 4a.



Table 4a – Sample SEPTA Internal Audit Schedule

SSPP AUDIT ELEMENTS	Quarter	Year	Date Scheduled	Date Completed	Date Notified	30 days given	Date Report Submitted	Notes	Responsible Party
13. Operations: Control Center	2nd	2015	5/7	7/30	4/7	30	5/4	Field work to be completed	Wilson
13. Rule Compliance, Mtc., Checks	1st	2013	2/28	2/28	1/28	30	5/3	SS rules Compliance check- ongoing BSS/MFSE- 2/28 Rail Transportation/ District Rules Compliance- 3/11	Wilson
14a. Facil. & Equip. Safety Inspections: Structures- Calow, Elmwood	2nd	2014	4/17	4/17	3/17	1/30	5/21	Completed	Lomas
14a. Facil. & Equip. Safety Inspections: Structures- AS	1st	2013	3/26	3/26	2/26	30	5/6	Completed	Lomas
14a. Facil. & Equip. Safety Inspections: Structures- Bridge, Woodland	2nd	2013	4/23	4/23	3/23	30	6/1	Completed	Lomas
14a. Facil. & Equip. Safety Inspections: Structures- Fernock	2nd	2013	6/17	6/17	5/10	37	10/10	Completed	Jeanne
14a. Facil. & Equip. Safety Inspections: Structures- MSH/Shep	3rd	2013	7/23	7/23	6/20	33	8/21	Completed	Wilson
14a. Facil. & Equip. Safety Inspections: Structures- Motor/HSL	3rd	2013	8/20	8/20	7/20	30	9/23	Completed	Wilson

The audit team found that each RTA generally schedules and conducts internal audits in an ongoing manner. However, CamTran did not conduct any safety internal reviews during 2014. Additionally, CamTran did not conduct any security internal reviews in 2015. PennDOT must ensure that CamTran schedules internal safety and security audits in an on-going manner over the three-year audit period.

Section 4.1 of the PennDOT RTSRP Procedures and Standards also requires, “On or before December 1st of each year, the rail transit agency must submit to the RTSRP an outline of audit activity for safety and security internal audits over the next three years.” The SEPTA and PAAC SSPPs both include the December 1st requirement, however the CamTran SSPP does not include the PennDOT RTSRP’s annual submission deadline of December 1st for internal audit schedule. PennDOT should encourage CamTran to incorporate this requirement into their SSPP.

Notification of Internal Safety and Security

Part 659.27(c) requires “The rail transit agency must notify the oversight agency at least thirty (30) days before the conduct of scheduled internal safety and security reviews.” Section 4.1 of the RTSRP Procedures and Standards states, “Covered transit agencies must notify RTSRP at least 30 days before the conduct of internal safety and security audits. ... Audit checklists and procedures to be used for scheduled audits must be provided to the RTSRP prior to conducting the audit.”

The audit team reviewed sample notifications from each RTA informing the RTSRP of upcoming internal audits; all providing over 30 days notice for the scheduled audits. In addition, the audit team closely reviewed the PennDOT RTSRP and RTA Audit Schedule for 2013 – 2015, which tracks the status of RTA internal safety and security notifications and highlights those instances in which less than 30-days was provided to the SSO agency. While records for this measure were incomplete, data available shows consistency with RTAs providing 30 or more days of notification to RTSRP regarding upcoming internal



safety and security audits. There were six (6) instances, overall, in which internal audit notifications were provided to RTSRP less than 30 days, the shortest at 23 days. FTA commends the RTSRP for tracking the internal review notification dates and encourages the RTAs to continue to properly notify the RTSRP of internal audits.

Approval of Internal Safety and Security Reviews

Part 659.27(f) requires “The oversight agency shall require the rail transit agency to annually submit a report documenting internal safety and security review activities and the status of subsequent findings and corrective actions.” Section 4.51 of the RTSRP Procedures and Standards states, “Reports from internal safety and security audits conducted by covered transit agencies must be submitted to the PennDOT RTSRP within 45 days of the date on which the audit was completed.”

RTSRP tracks the submission date of internal audit reports in the PennDOT RTSRP and RTA Audit Schedule for 2013 – 2015 to verify the 45-day submission requirement. During 2013-2015, the RTAs did not comply with providing internal review reports within the 45-day requirement as follows:

- SEPTA – at least 10 instances of non-compliance
- PAAC – at least 6 instances of non-compliance
- CamTran – at least 5 instances of non-compliance

Again, the FTA commends the RTSRP for tracking the internal review report submission dates and encourages the RTAs to properly submit reports to the RTSRP per requirements.

Annual Reports for the Internal Reviews

Section 4.5.2 of the RTSRP Procedures and Standards specifies, “Each year, each covered transit agency must submit to RTSRP a report of all safety and security internal audits performed in the previous calendar year. The Annual Safety and Security Audit Report(s) must be submitted to RTSRP on or before February 1st of each year.” Upon receipt, RTSRP will review and provide a written response approving or rejecting the annual report. A process for conflict resolution is also outlined if disagreement arises between the agencies.

Whereas the SEPTA and PAAC SSPPs include the February 1st deadline for annual report submissions and certification letters, in Sections 7.5 and 5.1.3.4 respectively, the CamTran SSPP does not specify this deadline. With one exception over the past three years, all RTAs submitted annual letters of certification by the February 1st deadline signed by the general manager informing RTSRP of internal safety and security audit activities, as shown in Table 4b. This late submission is addressed in PennDOT’s response letter to SEPTA dated February 20, 2015 stating, “The report is due by February 1st each year. As you are aware, STPD exceeded the due date by over a week. RTSRP requests future letters to be submitted on time and in compliance with the program Procedures and Standards.”



Agency	2015	2014	2013
SEPTA – Safety	January 29, 2016	January 31, 2015	January 31, 2014
SEPTA – Security (STPD)	January 22, 2016	February 6, 2015	January 22, 2014
PAAC – Safety & Security	January 22, 2016	January 15, 2015	January 22, 2014
CamTran – Safety & Security	January 25, 2016	Original: January 30, 2015 Revised: February 27, 2015	Unavailable for review

The FTA audit reviewed the PennDOT RTSRP annual report response letters provided to each RTA within the 30 day time period as outlined in the RTSRP Procedures and Standards. SEPTA and PAAC annual reports were approved on February 20, 2015, and CamTran was provided an approval with comments on March 12, 2015.

More specifically, the PennDOT 2014 RTSRP Annual Report of SEPTA states on page 36, “In 2012, an RTSRP audit of SEPTA found that Police Department personnel active in the drafting and implementation of the SSEPP were auditing their own efforts through SEPTA’s internal security audit program. ... As of March 2015, SEPTA is still not employing industry best practices with respect to internal security audits. RTSRP will continue to closely monitor these audits and provide technical assistance to SEPTA.”

The audit team finds general compliance with the requirements outlined in Part 659 and RTSRP Procedures and Standards. All RTAs are completing portions of internal safety and security audits over a three-year time period, however compliance with meeting required notification and submittal deadlines could be improved. PennDOT must ensure RTAs adhere with RTSRP Procedures and Standards requirements for submission of individual internal audit reports. PennDOT should also encourage CamTran to incorporate critical internal audit and other deadlines into their SSPPs.

Findings

Finding 1: *As specified in 49 CFR Part 659.27(b):* PennDOT must ensure CamTran conducts internal security reviews in an ongoing manner over the three-year cycle.



Section 5. SSO Agency Three-Year Safety and Security Reviews

Summary of Activities

The FTA evaluated PennDOT's performance of three-year reviews to assess the RTAs' implementation of its SSPP and SSP, as specified in Part 659.29.

Specific Criteria

Part 659.29 – Oversight agency safety and security reviews

Part 659.29 requires that, at least once every three years, beginning with the initiation of rail transit agency passenger operations, the SSO agency must conduct an on-site review of the rail transit agency's implementation of its SSPP and security plan. Alternatively, the on-site review may be conducted in an ongoing manner over the three-year timeframe. At the conclusion of the review cycle, the SSO agency must prepare and issue a report containing findings and recommendations resulting from that review, which, at a minimum, must include an analysis of the effectiveness of the SSPP and security plan and a determination of whether either should be updated.

Current Status and Assessment

Part 659.29 requires "At least every three (3) years, beginning with initiation of rail transit agency passenger operations, the oversight agency must conduct an onsite review of the rail transit agency's implementation of its system safety program plan and system security plan." Section 5.2 of the RTSRP Procedures and Standards states, "The RTSRP is intended as an ongoing and comprehensive safety and security assessment, and as such will strive to review safety and security plan implementation on an ongoing basis over a triennial cycle, rather than in a compressed period of days or weeks every three years."

In addition, Section 5.5 of the RTSRP Procedures and Standards adds "The RTSRP produces annual reports for each covered transit agency, which summarize major program activities. These reports include summary descriptions of the RTSRP's safety and security audits from the previous calendar year, and list major RTSRP safety and security review findings." The written report will contain audit methodology and three categories of findings of which two require corrective action plans from the RTA:

- Findings of Non-Compliance – corrective action plan required
- Findings of Compliance with Recommendation – corrective action plan required
- Observations

The RTSRP and RTA Audit Schedule for 2013 – 2015 outlines the PennDOT's RTSRP three-year safety and security review schedule shown in Table 5a. However, while PennDOT reviews security elements for SEPTA over the three-year period, the schedule shows security reviews occurring only two of the three years for PAAC, and a single year, for CamTran. PennDOT should ensure it implements its triennial audit program and oversight activities consistent with the RTSRP Procedures and Standards ensuring ongoing security reviews over the three-year period.



Table 5a – PennDOT’s RTSRP Three-year Safety and Security Review Schedule (Year/Quarter)

Audit Element	SEPTA	PAAC	CamTran
Safety			
1. Policy Statement	2015-third		2015-first
2. Goals & Objectives	2015-third		2015-first
3. Management Structure	2015-third		2015-first
4. SSPP Change Control	2015-third		2015-first
5. SSPP Implementation Activities	2015-third		2015-first
6. Hazard Management Program	2014-fourth		2015-second
7. Safety Modifications	2015-fourth		2015-first
8. Safety Certification	2015-fourth		2014-third
9. Safety Data	2015-third		2015-first
10. Accident Notification Investigation and Reporting	2013-first	2014-first	2014-third
11. Emergency Management (see also security)	2014-third	2013-first	2014-third
12. Internal Safety Reviews	2015-third	2014-third	2014-third
13. Rule Compliance Checks	2014-third	2014-third	2015-third
14a. Facility & Equip. Safety Inspections	2013-first	2013-third	2015-second
14b. Facility & Equip. Safety Inspections: Stations	2015-second	2014-fourth	NA
14c. Facility & Equipment Safety Inspections: Maintenance	NA	2015-fourth	NA
15a. Maintenance Audits & Inspection: Track	2014-fourth	2014-third	2013-fourth
15b. Maintenance Audits & Inspection: Signals	2015-second	2014-third	NA
15c. Maintenance Audits & Inspection: Power	2015-second	2014-third	2013-fourth
15d. Maintenance Audits & Inspection: Vehicles	Multiple	2015-third	NA
15e. Maintenance Audits & Inspection: Vertical Transportation	2015-third	2015-first	2013-fourth
15f. Maintenance Audits & Inspection: Communications	2013-third	2013-fourth	2013-fourth
16a. Employee & Contractor Training: Operations	2015-fourth	2014-none specified*	2013-third
16b. Employee & Contractor Training: Maintenance	Ongoing	2013-second	2015-third
17. Configuration Management	2015-fourth	2015-third	2014-third
18. Employee & Contractor Safety	2014-first	2015-fourth	2015-second
19. Hazardous Materials	2015-fourth	2015-third	2015-second
20. Drug & Alcohol Program	2013-first	2013-second	2015-third
21. Procurement	2015-fourth	2015-fourth	2015-second
Security			
1. Policies, Goals, Objectives, Chief Executive Endorsement	2013-second	2013-second	2014-third
2. System Description	2013-second	2015-first	2014-third
3. SEPP Management Activities	2015-third	2015-first	2014-third
4. SEPP Program (Personal Security)	2014-third	2015-second	2014-third
5. Threats and Vulnerabilities Management	2015-first	2013-fourth	2014-third
6. Implementation of the SEPP	2013-fourth	2015-second	2014-third
7. SEPP and Accompanying Procedures	2015-third	2013-fourth	2014-third
8. Corrective Action Plan (CAP) Process	2014-third	2015-second	2014-third

* RTSRP and RTA Audit Schedule for 2013 – 2015 shows audit as incomplete



In addition to the audit elements outlined in Table 5a, PennDOT RTSRP’s three-year review included the following additional elements at SEPTA and PAAC:

SEPTA

- BSS Tunnel Fire Life Safety
- Subway-Surface Tunnel Fire Life Safety
- Subway Emergency Exits: MSFE
- Subway Emergency Exits: BSS & Ridge

PAAC

- SSPP 15. Maintenance Audits & Inspection: Duquesne Incline
- SSPP 15. Maintenance Audits & Inspection: Monongahela Incline
- PAAC Busway
- PAAC Subway Emergency Exits/Fans
- PAAC CBD/NS Subway Emergency Exits/Fans
- Roadway Worker Protection

Part 659.29 specifies, “At the conclusion of the review cycle, the oversight agency must prepare and issue a report containing findings and recommendations resulting from that review, which, at a minimum, must include an analysis of the effectiveness of the system safety program plan and the security plan and a determination of whether either should be updated.”

The FTA audit team reviewed 2012, 2013, and 2014 RTSRP annual reports for each agency. However, the PennDOT RTSRP does not develop a comprehensive three-year review report at the end of the three-year cycle for each RTA. The audit team is concerned that the lack of a comprehensive three-year review report may cause the PennDOT RTSRP to overlook auditing all elements. PennDOT should develop a comprehensive three-year review report and ensure all elements are addressed in during the three-year cycle.

Findings

No Findings.



Section 6. Oversight of the Hazard Management Process

Summary of Activities

The FTA evaluated PennDOT policies to require the RTAs to implement a hazard management program and PennDOT's processes for tracking the resolution of identified hazards as specified in Part 659.31.

Specific Criteria

Part 659.15 – System safety program standard

Part 659.15(b)(8) requires the SSO agency to identify in its Program Standard its requirements for ongoing communication and coordination relating to the identification, categorization, resolution, and reporting of hazards (including specified types or categories of hazards at the RTA) to the oversight agency.

Part 659.19 – System safety program plan: contents

Part 659.19(f) outlines the minimum requirements for the hazard management program portion of the RTA's SSPP, including a description of how the RTA will provide ongoing reporting to the SSO agency regarding those activities.

Part 659.31 – Hazard management process

Part 659.31 specifies that the SSO agency must require each RTA in its jurisdiction to develop, implement, and document, in its SSPP, a program to identify and resolve hazards, (including "any hazards resulting from subsequent system extensions or modifications, operational changes, or other changes within the rail transit environment"). Part 659.31(b), further clarifies that the program must:

- Define the RTA's approach to hazard management and the implementation of an integrated system-wide hazard resolution process
- Specify the sources of, and the mechanisms to support, the ongoing identification of hazards
- Define the process by which identified hazards will be evaluated and prioritized for elimination or control
- Identify the mechanism used to track through resolution of the identified hazard(s)
- Define minimum thresholds for the notification and reporting of hazard(s) to oversight agencies
- Specify the process by which the RTA will provide ongoing reporting of hazard resolution activities to the oversight agency

Current Status and Assessment

Hazard Identification and Reporting

Part 659.31(b)(2) requires the hazard management process to "Specify the sources of, and the mechanisms to support, the ongoing identification of hazards."



Section 8.3 of the RTSRP Procedures and Standards states, “The transit agency’s hazard management program must describe how hazards are identified, including the following elements:

- Hazards in ongoing transit operations and maintenance, including from sources such as rule compliance checks, maintenance processes, operator and supervisor reports, customer service logs, and facilities and employee safety assessments
- Hazards in transit agency system changes, including system expansions, capital projects, engineering changes, and configuration changes
- Hazards in transit agency investigations and audits, including accident investigations, internal audits, external audits, and safety analysis.”

Section 9.2 of the SEPTA SSPP states, “Centralized, independent oversight is provided by SEPTA System Safety through regular and autonomous assessments, audits and inspections of Authority operations and physical plant.” The SSPP lists six (6) audit procedures with checklists that support hazard identification including rules compliance and maintenance inspection programs. Section 4.3.1 of the PAAC SSPP states, “Every Port Authority employee is encouraged to report any unsafe condition to his or her Supervisor or Department Manager. ... Most hazards in the system are identified in the field and reported to the OCC/BTO [Operations Control Center/Bus Traffic Operations] control centers and entered on daily operations reports bus & rail and operation occurrence reports.” Finally, Section 1.4 of the CamTran SSPP states, “Hazards may be identified during daily pre-trip inspections, noticed during the course of regular operations, or observed during employee rule compliance checks or routine equipment and maintenance inspections.”

Part 659.31(a) and (b)(5) specifies, “The oversight agency must require the rail transit agency to develop and document in its system safety program plan a process to identify and resolve hazards [also known as hazard management process] during its operation... The hazard management process must, at a minimum: ... define minimum thresholds for the notification and reporting of hazard(s) to oversight agencies.” Section 8.3 of the RTSRP Procedures states, “The transit agency hazard management program must include specific thresholds at which further analyses, investigations, and reporting will take place.” This section also lists the minimum required hazard reporting thresholds for RTAs. These hazard thresholds, reporting, and investigation requirements are categorized by mode and provided in Table 6a.

Table 6a – RTSRP Minimum Require Hazard Reporting Thresholds	
Hazard	Reporting & Investigation Requirements
All Rail Transit Modes	
Any hazard deemed “unacceptable” or equivalent, per the transit agency’s hazard management and analysis program	Notify RTSRP of hazard within one (1) business day Assemble written hazard investigation report specific to the particular hazard
Face-up of rail transit vehicles	
Non-safe side signal or control system failures	
Elevator or escalator injury to one or more persons requiring treatment at a hospital	Notify RTSRP of hazard within one (1) business day Maintain analysis of hazard or hazard trends, provide written analysis (new or updated) at least quarterly
Non-mainline derailments (derailments not covered un accident definition)	
Rail work zone incursions by a rail transit vehicle	
Off-platform or wrong-side door activation on a rail transit vehicle	



Table 6a – RTSRP Minimum Require Hazard Reporting Thresholds	
Hazard	Reporting & Investigation Requirements
Inclined Planes	
Unexpected inclined plane shutdowns	Notify RTSRP of hazard within one (1) business day Assemble written hazard investigation report specific to the particular hazard
Inclined plane cable or major component failure	
All Rail Transit Modes, Including Inclined Planes	
Unauthorized persons entering the track area – accidental (known to the transit agency)	Notify RTSRP of hazard within one (1) business day Maintain analysis of hazard or hazard trends, provide written analysis (new or updated) at least quarterly
Unauthorized persons entering the track area – intentional/trespassing (known to the transit agency–may be reported and tracked by the police or security as designated by the transit agency)	
All Rail Transit Modes, Including Inclined Planes, and Busway Modes	
Collision of rail transit or busway vehicle with a fixed object, including buildings, bumping posts, doors, signals, and support structures	Notify RTSRP of hazard within one (1) business day Maintain analysis of hazard or hazard trends, provide written analysis (new or updated) at least quarterly

Section 8.4 of the RTSRP Procedures and Standards requires, “The transit agency must reference and discuss its default or standard hazard analysis method.” Additionally, Section 8.5 of the RTSRP Procedures and Standards states, “The transit agency must report hazards, including the threshold hazards noted above, using the accident notification phone, [REDACTED] within one (1) business day of learning of the hazard.”

During on-site interviews, the audit team reviewed SEPTA control center logs and daily reports for 4/4-5/2016 to ensure that required hazards were reported to the RTSRP. No reportable SEPTA hazards were evident for this period.

Hazard Evaluation

The RTA SSPPs outlines a hazard evaluation and analysis methodology based on severity and probability resulting in a rating that determines if a hazard is “unacceptable,” “undesirable,” or “acceptable” with and without review. The SEPTA SSPP and hazard analysis practices includes an alternate analysis through the Petersen model, but notes in Section 9.3 “If the alternate Petersen model is used in any System Safety hazard assessment / classification, a caveat explanation will be included in each affected report justifying why an alternate to the default MIL 882 is used.”

Additionally, while the SEPTA SSPP outlines proper hazard notification practices, it is missing one applicable reportable hazard, “Unauthorized person entering the track area–intentional/trespassing.”

The PAAC SSPP incorporates all relevant RTSRP reportable hazards and notification requirements into their program including the primary and support roles for notification.

Lastly, the CamTran SSPP does not include any of the five reportable hazards specific to “Inclined Plane” as required by RTSRP and shown in Table 6a. CamTran also does not clearly outline hazard notification requirements only stating in Section 1.4.1 of the CamTran SSPP, “The CamTran/Incline Plane, Inc. will report to the RTSRP by phone that an unacceptable hazard condition exists no matter how minor. The CamTran/Inclined Plane, Inc. will submit a written report of the investigation and the follow-up that will be taken to the RTSRP staff.”



PennDOT must ensure the RTAs' SSPPs incorporate the hazards notification requirements in compliance with RTSRP Procedures and Standards.

Hazard Tracking and Resolution

Part 659.31(b)(6) requires the hazard management process to “Specify the process by which the rail transit agency will provide on-going reporting of hazard resolution activities to the oversight agency.” Section 8.5 of the RTSRP Procedures and Standards requires, “The transit agency must maintain a hazard log, which must be submitted to the RTSRP monthly...” The hazard log must include:

- Unique Hazard Identifier
- Date Hazard was Identified
- Source
- Transit Mode
- Location
- Other Appropriate Identifying Information
- Hazard Description
- Hazard Rating/Category
- Corrective Action Plan

Section 9.5 of the SEPTA SSPP and Section 4.3.4.4 of the PAAC both specify the requirements of the hazard tracking log in compliance with the RTSRP Procedures and Standards incorporating this log into the Corrective Action Plan (CAP) which adds a “responsible party” element. However, CamTran does not explicitly describe these requirements within Section 1.4 of the SSPP.

The audit team was informed that the transit agencies do not maintain hazard logs. SEPTA and PAAC incorporate hazards into the CAP logs depicted in Figure 6a.

PAAC										
Safety and Security Corrective Action Plan (CAP) Log										
Date CAP Generated	CAP Number	Source	Description of Hazard/ Finding	CAP Description	Anticipated Completion Date	Date CAP Accepted by RTSRP	Responsible Party	CAP Status	RTA Quarterly Update	RTA Quarterly Update
31-Dec-14	CAP-132	Accident/Incident		Distribution and training of new Rule Book and SOP's to all rail system employees.	30-May-15		Rail Maintenance Training, Instruction	OAA	SOP's are printed. Rulebook is close to being printed. Outer cover and font size issues have	SOP's are printed. Rulebook is close to being printed. Outer cover and font size issues have slowed down the procurement/printing process.
31-Dec-14	CAP-133	Accident/Incident		Reinforce Rules 508.6, 508.7, and 509.5 with MD's, Road Ops Supervisors, and Signalmen.	28-Feb-15		Road Ops, LRT Systems Management	OAA		
31-Dec-14	CAP-134	Accident/Incident		Investigate and attempt to remedy lack of synchronization between time stamps on telephone and radio voice prints, and OCC train tracking logs	30-Mar-15		IT and RSD	OAA		
31-Mar-15	CAP-135	Hazard		The following actions will be made: 1) Procedures for coupling LRV's will be updated/strengthened 2) Rail Techs, Road Ops Supervisors and operators will be notified/re-trained of updated procedures 3) Fleet check of all LRV couplers & pins for proper functionality will be completed 4) When available, a second person will be used to verify proper coupling/pinning when towing a "dead" LRV.	31-May-15		Road Ops, Rail Instruction, Carhouse	OAA	Procedures for coupling LRV's has been updated.	Procedures for coupling LRV's has been updated.
25-May-14	1500	RTSRP Audit	Road Operations Supervisor investigation reports often do not contain enough information to appropriately determine a probable cause or other incident details.	RTSRP recommends that Road Operations revise the Incident Report form to include spaces for all relevant investigatory activities expected for Road Operations investigations. This may include a few of the items listed under subsection Section C, On-Site Accident Investigation, beginning on page 19 of the Incident/Accident Investigation Procedures Manual. Examples would be a space for a summary of third-party witness accounts, direction of travel for automobiles if involved, observation of signals or warning devices present, condition of the Operator's console, and/or other fields that would help			Don Palmer	OAA		D. Palmer set up a live demo of the new IntranetQuorum (IQ) reporting system for RTSRP personnel. It is projected to be fully implemented in January 2016, with a series of on-site and e-learning training series for Road Ops Supervisors.

Figure 6a – Sample PAAC CAP Tracking Log (Hazard Log)

CamTran incorporates the hazards into the monthly safety committee meeting minutes and documented in annual reports as shown in Table 6b.



Table 6b – 2014 CamTran Incident Descriptions and Status including Probable Causes	
RTSRP ID	2014 Incident Description / Current Status
2032	<p>At 8:08 a.m. on May 21st, an Operator was in the process of making a training run (while being observed), bringing the South car to the top station. The car stopped within a few feet of the top landing. The supervisor instructed the Operator how to bring the car the rest of the way in. The Operator became nervous and hit the power and let too much air out of the braking system, which caused the car to hit the top platform. This impact caused two pieces of flooring to be displaced, and one piece attached in front of the Operator's booth to be broke off (pulled the nails loose). The maintenance crew immediately began the repairs. The Operator received post-accident testing. Damage to the incline was repair of two boards, and adjustment of the loading plate. The incline opened shortly before noon for service. The Operator reported having only slept three hours the night before. CamTran opened a CAP to determine what can be done to check operator fatigue.</p> <p><i>CamTran confirmed probable cause for this non-FTA-reportable incident was operator error. RTSRP received all applicable components of the CamTran investigation, and the incident is adopted/closed.</i></p>
2042	<p>At 3:24 p.m. on June 28th, a power outage isolated to the Incline caused the car to stop before reaching a station. Firefighters reportedly had to escort passengers off the cars. Contractors inspected and tested equipment and found defective forwarding/reversing contractors and resistors, caused by old age and heat buildup.</p> <p><i>CamTran confirmed probable cause for this non-FTA-reportable incident was equipment failure. RTSRP received all applicable components of the CamTran investigation, and the incident is adopted/closed.</i></p>
2088	<p>On the morning of December 26th, the Incline experienced problems with the safety system, which was not showing all the indicator lights properly at times. For example, personnel could see that the yellow safety gates at both stations were closed, but the system displayed them as open. CamTran closed the Incline as a precaution. No people were stranded at the time of the shutdown. Lin's Elevator Service inspected the system and found a relay that was going bad, and two defective track rocker switches. After Lin's replaced the track switches, the Incline was operated numerous times without issues. The switches and relays are related to the new safety bypass system. As per the normal winter schedule, the Incline closed to the public on January 1, 2015. During the preceding two weeks, the Incline had sporadic problems, seemingly weather related. Camco was brought in to check all electrical elements of the Incline. They could not find a problem, and the Incline ran normally during testing. Camco reported it was not an electrical power issue that they believed it may be related to the safety system bypass.</p> <p><i>As of this report writing, RTSRP awaits necessary incident documentation and investigation from CamTran, including a description of the root cause and any resulting CAPs, procedural changes, or reinstruction to prevent recurrence.</i></p>

The RTSRP incorporates RTA hazards into IndustrySafe database as shown in Figure 6b.

System ID	Transit Agency	Agency Asset	Location	Date Identified	RTSRP Hazard Investigation?	Type of Hazard	Reported By: Name	RTSRP Rep	Was this Hazard Reported within one (1) business day?	Corrective Action	Status	Closed
1180	SEPTA	BSS - Stations	City Hall	02/19/2016	No	Unauthorized Persons Entering the Track Area – Accidental	R. Harris	Daniel Gardella	No		Complete	Open
1100	SEPTA	BSS - Facilities	Fern Rock Shop	02/15/2016	No	Non-Mainline Derailments	J. Thompson		Yes		Complete	Open
1182	SEPTA	MFSE - Stations	8th St	02/13/2016	No	Off-Platform Door Activation on a Rail Transit Vehicle	J. Thompson		Yes		Open	Open
1101	SEPTA	MFSE - Stations	Allegheny	02/12/2016	No	Unauthorized Persons Entering the Track Area – Accidental	J. Thompson	Daniel Gardella	No		Complete	Open
1183	SEPTA	MFSE - Stations	Allegheny	02/12/2016	No	Unauthorized Persons Entering the Track Area – Accidental	J. Thompson		Yes		Complete	Open
1184	SEPTA	BSS - Stations	AT&T	02/12/2016	No	Unauthorized Persons Entering the Track Area – Accidental	J. Thompson		Yes		Complete	Open
1140	SEPTA	MFSE - Stations	60th St	02/08/2016	No	Elevator / Escalator injury	J. Thompson		Yes		Complete	Open
1141	CamTran	Bottom Station	N/A	02/08/2016	No	Collision of Rail Transit or Busway Vehicle with a Fixed Object	D. Gibson		Yes		Open	Open
1103	SEPTA	BSS - Stations	Spring Garden	02/07/2016	No	Unauthorized Persons Entering the Track Area – Accidental	D. Salvatore	Daniel Gardella	Yes		Complete	Open
1104	SEPTA	BSS - Stations	Cecil B Moore	02/07/2016	No	Unauthorized Persons Entering the Track Area – Accidental	J. Wilson		Yes		Complete	Open

Figure 6b –PennDOT RTSRP IndustrySafe Hazard Tracking Log



However, review of the RTAs’ CAP logs and meeting minutes revealed that they do not contain all the necessary elements required for the hazard logs, and that some existing log elements are incomplete or missing information summarized in Table 6c.

Table 6c – Status of Hazard Tracking Elements		
Agency	Missing From Log Format	Incomplete Information in Existing Log Format
SEPTA	<ul style="list-style-type: none"> • Date Hazard was Identified • Source • Location 	<ul style="list-style-type: none"> • None
PAAC	<ul style="list-style-type: none"> • Date Hazard was Identified • Location • Hazard Rating/Category 	<ul style="list-style-type: none"> • Description of hazard
CamTran	<ul style="list-style-type: none"> • Date Hazard was Identified • Location 	<ul style="list-style-type: none"> • Hazard Rating/Category

Additionally, during on-site interviews, the RTAs did not consistently maintain documentation of hazards reported to the RTSRP, such that the audit team was not provided with internal RTA hazard logs for each agency. PennDOT must ensure RTA hazards are consistently reported and tracked. The audit team recommends that each agency maintain separate hazard logs that contain the PennDOT RTSRP Procedures and Standards requirements.

Findings

Finding 2: *As specified in 49 CFR Part 659.31(a) and (b)(5):* PennDOT must ensure the RTAs’ SSPPs incorporate the hazard management requirements, and that hazards are consistently logged and tracked.



Section 7. Accident Notification, Investigation, and Reporting

Summary of Activities

The FTA evaluated PennDOT's policies and procedures for performing and overseeing accident notifications, investigations, and investigation reports, as specified in Parts 659.33 and 659.35.

Specific Criteria

Part 659.33 – Accident Notification

Part 659.33 establishes the minimum thresholds for accident notification and investigation. FTA requires RTAs to notify the SSO agency within two (2) hours of any incident involving a rail transit vehicle or taking place on rail transit-controlled property where one or more of the following occurs:

- A fatality at the scene, or where an individual is confirmed dead within thirty days of a rail transit-related incident
- Injuries requiring immediate medical attention away from the scene for two or more individuals
- Property damage to rail transit vehicles, non-rail transit vehicles, other rail transit property or facilities and non-transit property that equals or exceeds \$25,000
- An evacuation due to life safety reasons
- A collision at a grade crossing
- A main line derailment
- A collision with an individual on a rail right-of-way
- A collision between a rail transit vehicle and a second rail transit vehicle, or a rail transit non-revenue vehicle

Part 659.35 – Investigations

Part 659.35(d) requires each investigation to be documented in a final report that includes a description of investigation activities, identifies causal and contributing factors, and creates a corrective action plan. Part 659.35(f) gives the SSO agency the authority to require periodic status reports that document investigation activities and findings in a timeframe determined by the SSO agency.

Current Status and Assessment

Accident Notification

Section 7.1 of the RTSRP Procedures and Standards is compliant with Part 659.33(a) and specifies, “In order to notify the PennDOT RTSRP of an accident, the rail transit agency must contact the PennDOT RTSRP on-call representative using one of the following means. Either phone or email is acceptable as a primary means of notification. If the PennDOT RTSRP representative is not available via phone, the transit agency representative must leave a voicemail message with pertinent accident information and a call-back number.” PennDOT requires the following information for initial incident notifications:



- The name and transit system of the caller
- Type of accident (e.g., which of the accident criteria above prompted the accident report to RTSRP)
- Time and date of the accident
- The location of the accident
- Transit vehicle identifying information, including route, direction, vehicle number, block number, etc.
- Information about any other vehicles involved
- Number of injuries (persons requiring immediate medical attention away from the scene)
- Number of fatalities
- Estimated property damage
- A description of the accident
- A description of accident investigation activities completed and anticipated in the short term
- Preliminary determination of accident cause, if available

During the previous SSO audit of PennDOT, conducted October 2012, the FTA identified eight (8) SEPTA incidents that were not reported in the 2011 annual report. The FTA also coordinated with PennDOT beginning 2014 to reconcile several non-reported accidents occurring 2009 through 2014.

To encourage proper accident reporting, PennDOT revised Section 2.9 of the RTSRP Procedures and Standards to specify, “as a result of FTA requests, the PennDOT RTSRP also is involved in reviewing covered transit agencies’ accident reports in relation to National Transit Database (NTD) submittals. While the PennDOT RTSRP does not make or directly review NTD entries, it does regularly review the transit agencies’ NTD submittals against information sent to the RTSRP. This review occurs semi-annually for SEPTA and PAAC, and as needed for other stakeholders.”

However, upon review of the PennDOT 2015 SSO annual report submitted to the FTA in March 2016, at least four incidents may not be properly reported as shown in Table 7a. PennDOT should coordinate with each RTA to ensure consistency between SSO and NTD accident data, and to also ensure all SSO incidents are properly reported to the FTA in the 2016 annual report.

Incident Date	Event Type	Incident Location
7/31/15	2 or more injuries	60th Street
8/3/15	2 or more injuries	40th St Portal
11/5/15	Evacuation	63rd street station
11/9/15	Evacuation	S. 51st St & Grays Ave



The audit team reviewed the 2014 SSO annual report data to determine consistency for two (2) hour notification requirements. Table 7b lists five of PAAC’s 2014 incidents and 57 of SEPTA’s 2014 incidents were not reported to PennDOT within two (2) hours. During the on-site review, the audit team was informed that the notification errors were largely a result in clarifying SEPTA grade crossing reporting requirements, and PennDOT noted that the two (2) hour notification issue was resolved and 2015 incidents were properly reported. PennDOT must continue to ensure that the RTAs provide notifications within two (2) hours.

Table 7b – SEPTA and PAAC 2014 Reportable Incidents Not Reported Within Two-Hours				
Date	SSO Internal Tracking	RTA	Two-Hour Notification	Incident/Type
7/24/2013	1956	PAAC	No	RGX Collision
1/24/2014	2004	PAAC	No	Derailment
7/6/2014	2045	PAAC	No	RGX Collision
7/15/2014	2048	PAAC	No	RGX Collision
8/16/2014	2058	PAAC	No	RGX Collision
1/25/2013	1923	SEPTA	No	Collision (Non RGX)
2/4/2013	1924	SEPTA	No	Other
2/7/2013	1926	SEPTA	No	Other
3/22/2013	1934	SEPTA	No	RGX Collision
4/1/2013	1936	SEPTA	No	Derailment
4/3/2013	1937	SEPTA	No	Derailment
5/14/2013	1941	SEPTA	No	Other
7/6/2013	1950a	SEPTA	No	Other
9/14/2013	1964a	SEPTA	No	Other
9/16/2013	1965	SEPTA	No	RGX Collision
9/19/2013	1965a	SEPTA	No	Other
9/24/2013	1966	SEPTA	No	RGX Collision
9/25/2013	1967	SEPTA	No	RGX Collision
10/25/2013	1974	SEPTA	No	RGX Collision
10/26/2013	1973	SEPTA	No	Collision (Non RGX)
10/29/2013	1977	SEPTA	No	Collision (Non RGX)
11/7/2013	1982	SEPTA	No	RGX Collision
11/15/2013	1986	SEPTA	No	Collision (Non RGX)
11/18/2013	1987	SEPTA	No	RGX Collision
11/24/2013	1989a	SEPTA	No	Other
12/10/2013	1992	SEPTA	No	RGX Collision
12/12/2013	1994	SEPTA	No	Derailment
3/31/2013	1936b	SEPTA	No	Collision (Non RGX)
3/19/2013	1932a	SEPTA	No	RGX Collision
4/6/2013	1937a	SEPTA	No	Collision (Non RGX)
5/28/2013	1942a	SEPTA	No	RGX Collision
6/29/2013	1948a	SEPTA	No	RGX Collision
10/29/2013	1978a	SEPTA	No	RGX Collision
1/14/2014	2002	SEPTA	No	Derailment
1/22/2014	2003	SEPTA	No	Derailment
2/22/2014	2012	SEPTA	No	Collision (Non RGX)
3/17/2014	2016a	SEPTA	No	Other
3/27/2014	2016b	SEPTA	No	Other
4/4/2014	2020	SEPTA	No	Other



Date	SSO Internal Tracking	RTA	Two-Hour Notification	Incident/Type
4/20/2014	2024	SEPTA	No	Collision (Non RGX)
4/26/2014	2026	SEPTA	No	Other
4/29/2014	2027	SEPTA	No	Other
5/1/2014	2028	SEPTA	No	Collision (Non RGX)
5/21/2014	2033	SEPTA	No	RGX Collision
6/11/2014	2038	SEPTA	No	RGX Collision
7/4/2014	2043	SEPTA	No	Collision (Non RGX)
7/13/2014	2047	SEPTA	No	Other
7/31/2014	2050	SEPTA	No	Collision (Non RGX)
8/1/2014	2051	SEPTA	No	Other
8/4/2014	2052	SEPTA	No	Collision (Non RGX)
8/6/2014	2053	SEPTA	No	Derailment
8/7/2014	2054	SEPTA	No	Collision (Non RGX)
9/7/2014	2062	SEPTA	No	Collision (Non RGX)
9/5/2014	2063	SEPTA	No	Other
10/20/2014	2072	SEPTA	No	Collision (Non RGX)
11/19/2014	2078	SEPTA	No	Other
7/11/2014	2046A	SEPTA	No	RGX Collision
8/30/2014	2060A	SEPTA	No	RGX Collision
10/5/2014	2068A	SEPTA	No	Collision (Non RGX)
10/21/2014	2072A	SEPTA	No	RGX Collision
12/5/2014	2081A	SEPTA	No	Derailment
10/4/2014	2068	SEPTA	No	Collision (Non RGX)

Accident Investigation and Reporting

Part 659.35(c) specifies, “in the event the oversight agency authorizes the RTA to conduct investigations on its behalf, it must do so formally and require the RTA to use investigation procedures that have been formally approved by the oversight agency.” Section 9 of the RTSRP Procedures and Standards states, the “RTSRP may authorize the transit agency to conduct the investigation on RTSRP’s behalf (in accordance with 49 CFR 659.35), RTSRP may conduct its own independent investigation, or RTSRP and the transit agency may agree to conduct a joint investigation.” Section 9.2 the RTSRP Procedures and Standards further specifies, “if the transit agency is to conduct accident investigations on the RTSRP’s behalf, the RTSRP must review and formally approve the transit agency’s accident investigation procedures...” Table 7c lists the current, approved versions of the RTA’s accident investigation procedures (AIPs).

Agency	AIP Revision	Date Reviewed by PennDOT
SEPTA	August 2015	September 2015
PAAC	April 2015	May 2015
CamTran	Included in 2015 SSPP	June 2015



Accident Investigation Report Review and Approval

Part 659.35(e) specifies that, “If the oversight agency has authorized an entity other than itself (including the RTA) to conduct the accident investigation on its behalf, the oversight agency must review and formally adopt the final investigation report.” Section 9.3 the RTSRP Procedures and Standards states, “Upon the completion of the accident investigation process, the transit agency will submit a draft final accident investigation report to RTSRP. RTSRP will review this report within 10 days and either accept it, or require specific additional information or request changes.” In reviewing the accident investigation report RTSRP will ensure that the report has the following:

1. Description of the accident including a clear sequence of events before, during, and after the accident
2. Description of investigation process and methodology
3. Description of the post-accident testing and research conducted
4. Conclusions (including findings and identified causal and contributing factors)
5. Corrective action plan (outlined in “Corrective Action Plans” section)
6. Supporting analysis to defend recommendations in report
7. Recommendations

PennDOT uses the IndustrySafe database to log the accident information prior to review and adoption of accident investigation reports. A sample of the IndustrySafe information is shown in Figure 7a.



New Incident Form:FY16-0009

Basic Information	
Involved Employee Name	OPERATOR OPERATOR
Involved Employee ID	OPERATOR
Involved Employee Title	OPERATOR
Date of Incident	2/11/2016
Time of Incident	0711
Incident Type	Collision: Non Grade Crossing
Client	PennDOT
Transit Agency	SEPTA
Agency Asset	Sub-Surf - Stations
Location	Girard Av + 38th St
Latitude	
Longitude	
Was a Vehicle Involved?	No
Was an employee or directly supervised contractor injured?	No
Was a Non-Employee injured?	No
Was Property Damage Involved?	No
Initial Incident Description	A Westbound Rt15 LRV (#2328), made contact with an automobile at 38th and Girard. The automobile fled the scene. No injuries, or damage was reported, and the operator was not held off for D&A testing.
Select Additional Incident Forms	<input checked="" type="checkbox"/> Incident Investigation
Was Incident Reported on Time?	Yes
Was Preliminary Report Received?	Yes
Was Operator Report Received?	Yes
Was Supervisor Report Received?	Yes
Was Control Center Report Received?	Yes
60 Day Final Report Date	4/11/2016
Notes	Adopted 14 Mar. 2016.
Time Reported	0900

Additional Features

Attached Files		
021116 Rt 15 Intersection Collision 38th & Girard Report.pdf	021116 Rt 15 Intersection Collision 38th & Girard Report.pdf	1.39 MB

History

Monday, March 14, 2016 Page 1 of 2

Figure 7a – Sample of the PennDOT’s Accident Database (IndustrySafe) Investigation Reports

During the on-site interviews, the audit team reviewed several SEPTA accident reports including:

- Derailment incident occurring on 2/24/2016
- Derailment incident occurring on 2/22/2016
- Train vs. Train incident occurring on 2/18/2016
- Grade crossing incident occurring 2/17/2016
- Grade crossing incident occurring 2/11/2016



The investigation reports reviewed did not always identify the probable causes, or the identified causes did not clearly specify the resulting corrective actions. Additionally, not all necessary investigation components were included as part of the investigation report to ensure all probable causes were evaluated. For example, the derailment occurring 2/22/2016 noted the primary cause as “Equipment Failure,” but the report did not include the track and switch inspection and maintenance history. Additionally, corrective actions such as operator awareness retraining were not included in the report. Other reports noted “Human Factor (Other Actors)” as probable causes, but did not list retraining as corrective actions.

The audit team is concerned that SEPTA trolley incidents are not investigated consistent with other rail system derailments and do not use the approved accident investigation procedure for each incident. PennDOT must ensure that all necessary information is included or summarized in the accident investigation report forms prior to adoption.

Findings

Finding 3: *As specified in 49 CFR Part 659.33(a):* PennDOT must ensure RTAs notify PennDOT within two (2) hours of any incident meeting PennDOT’s threshold reporting requirements.



Section 8. Corrective Action Plans

Summary of Activities

The FTA evaluated PennDOT policies and procedures for requiring the development of CAPs, approving CAPs, CAP tracking, and CAP implementation verification, as required by Part 659.37.

Specific Criteria

Part 659.37 – Corrective action plans

Part 659.37 establishes that each oversight agency must require the development of corrective action plans for, at a minimum, the following:

- Results from investigations in which it is determined corrective actions are necessary, and
- Findings from the oversight agency’s three-year safety and security reviews

Part 659.37 requires that each plan identify:

- The action to be taken by the RTA
- An implementation schedule, and
- The individual or department responsible for implementation

Part 659.37 also requires the oversight agency to review and approve each CAP and monitor and track the implementation of each plan.

Current Status and Assessment

CAP Development Process

Part 659.37 requires that, “The oversight agency must, at a minimum, require the development of a corrective action plan for the following:

- (a)(1) Results from investigations, in which identified causal and contributing factors are determined by the rail transit agency or oversight agency as requiring corrective actions
- (a)(2) Findings from safety and security reviews performed by the oversight agency.
- (b) Each corrective action plan should identify the action to be taken by the rail transit agency, an implementation schedule, and the individual or department responsible for the implementation.
- (e) The oversight agency must identify the process by which findings from an NTSB [National Transportation Safety Board] accident investigation will be evaluated to determine whether or not a corrective action plan should be developed by either the oversight agency or rail transit agency to address NTSB findings.”

Section 10 of the RTSRP Procedures and Standards requires, “Transit systems covered under the RTSRP are required to develop corrective action plans (or CAPs) for various deficiencies and hazards identified



through the RTSRP’s on-site safety and security review process, accident or hazard investigations, internal safety or security reviews, NTSB findings and other similar sources.” In addition, the RTSRP Procedures and Standards requires CAPs for FTA advisories or notifications, major capital projects, and as a result of safety data trends and analysis. Table 8a identifies the areas for which RTA SSPPs meet RTSRP requirements for causes that require CAP development.

Causes for Initiation of CAP	SEPTA	PAAC	CamTran
On-Site RTSRP Safety or Security Review	Section 15.7	Sections 4.4.2.1 & 8.3.1	Section 1.3.3
Accident Investigations	Section 15.7	Sections 4.4.2.1 & 8.3.1	Section 1.3.3
Hazards	Section 9.6	Sections 4.4.2.1 & 8.3.1	Section 1.4
Transit Agency Internal Safety or Security Audits	Section 7.4	Sections 4.4.2.1, 5.1.3.5 & 8.3.1	Section 1.3.3
NTSB Investigations	Section 15.9	Sections 4.4.2.1 & 8.3.1	Not specified
Response to FTA Notifications	Section 15.7	Sections 4.4.2.1 & 8.3.1	Not specified
Major Capital Projects	Section 23.4	Sections 4.4.2.1 & 8.3.1	Not specified
Data/Trend Analysis	Sections 9.6 & 20.5	Sections 3.3.2 & 4.4.2.1	Not specified
Other	Sections 20.5, 30.3 & 31.3	Sections 3.5.4.2, 3.6.4 & 4.4.2.1	Sections 1.3.3 & 1.7.1

Upon review of the RTAs’ SSPPs, the SEPTA and PAAC SSPPs incorporate the necessary CAP requirements. However, the CamTran SSPP is missing CAP requirements for NTSB investigations, response to FTA notifications, Major Capital Projects, and Data/Trend analysis. PennDOT must ensure the CamTran SSPP CAP requirements are in compliance with the RTSRP Procedures and Standards.

CAP Review and Approval Processes

Part 659.37(c) requires, “The corrective action plan must be reviewed and formally approved by the oversight agency.” Section 10.5 of the RTSRP Procedures and Standards states, “Transit agencies must submit each CAP to the RTSRP for approval. This applies to CAPs resulting from deficiencies identified both internally and externally. Upon each submission, the RTSRP will review each corrective action plan and evaluate it compared to the identified issue (accident cause, audit finding, hazard, etc.). RTSRP will notify the transit agency in writing of its acceptance or rejection of the CAP.” The RTSRP reviews and approves CAPs at three stages:

- Initial submission
- When updated or submitted as part of overall CAP log
- When submitted for verification of a closed or completed status

The audit team was provided with sample PennDOT CAP approval memos as shown in Figure 8a supporting that proper CAP notifications and approval are coordinated between agencies.

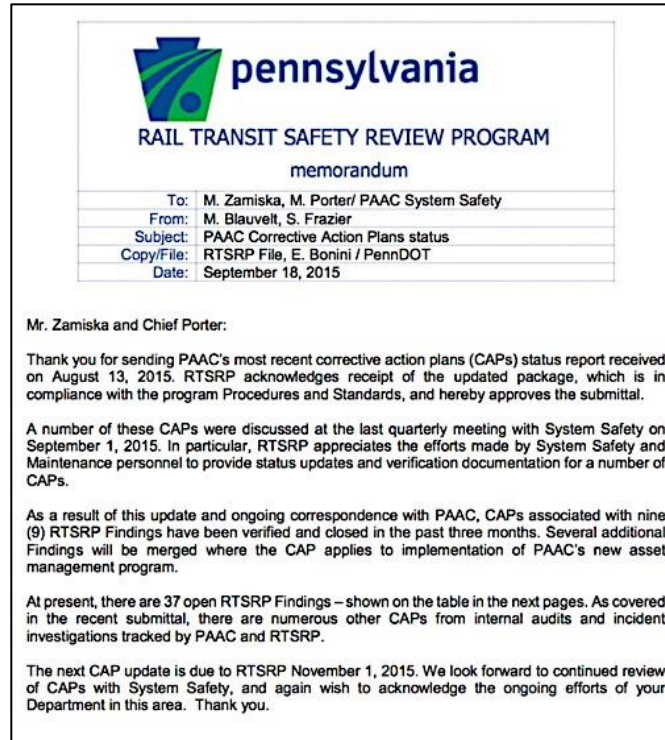


Figure 8a – PennDOT RTSRP Memo on PAAC Corrective Action Plans Status

CAP Monitoring and Tracking Processes

Part 659.37(b) requires that, “each corrective action plan should identify the action to be taken by the rail transit agency, an implementation schedule, and the individual or department responsible for the implementation.” Section 10.4 of the RTSRP Procedures and Standards requires, “four times annually (quarterly) on February 1, May 1, August 1, and November 1: The transit agency must submit current, comprehensive corrective action plan logs to the RTSRP. Corrective action plan logs must be submitted electronically in accordance with the template and format provided by the RTSRP.”

Several CAP elements required by Part 659.37 and Section 10.3 of the RTSRP Procedures and Standards are not addressed in the RTAs’ CAP tracking logs. Figures 8b and 8c show the anticipated completion date is missing or overdue by years in some cases and the responsible party is not completed.



CamTran Safety and Security Corrective Action Plan (CAP) Log									
Date CAP Generated	CAP Number	Source	Description of Hazard/ Finding	CAP Description	Anticipated Completion Date	Date CAP Accepted by RTSRP	Responsible Party	CAP Status	Verification Date
10-Oct-13	1301	RTSRP Audit	During the Check Trolley Wheels inspection the RTSRP team noted that the mechanic has one incandescent light bulb available to him to perform the inspection. The location where the procedure is performed is underneath the Incline guide way. The lack of adequate lighting could potentially hinder the mechanic from observing the wheels properly. Inexpensive and better quality lights are readily available, and should be considered for this application.	CamTran will install larger, 200 watt bulbs in the existing lights to illuminate the area the Sheave Wheel Inspections are performed.	10/30/13	11/5/13	Gibson	AWV	
10-Oct-13	1306	RTSRP Audit	In reviewing records, the RTSRP team noted that Bi-weekly inspection forms were not completed every other week and some forms were found to not have the appropriate initials or signature. In addition, monthly inspection forms were not always completed every 30 days and some forms were found to not have the appropriate initials or signature. Similar issues were identified in 2011 (see enclosed RTSRP memo to Tom Maher). The RTSRP has made several written and verbal recommendations to CamTran about how to more effectively record maintenance and inspections. Regardless of the particular steps CamTran may choose to take, it is imperative that Incline maintenance documentation be accurate and complete.	CamTran has revised our policy and will check maintenance records weekly to insure the inspections and tasks were completed on time and the maintenance personnel responsible for each task initials the proper form.	8/31/15	11/15/13	Gibson	Missing or outdated	
11-Mar-14	1401	Internal Audit	CamTran's Incline Plane should update the onsite compressed air schematic. The schematic for the compressed air that powers the incline was missing current, vital components. This could present a safety hazard in the event of an emergency.	The matter has been referred to an engineering firm under contract with CamTran. Expected implementation by late March 2015.	3/31/15	7/28/14	Gibson	OAA	
11-Mar-14	1403	Internal Audit	RTSRP observed a delay in opening the incline due to sensor issues on the track from snow build up. The maintenance team corrected the situation, but said that this happens frequently.	CamTran should research if there are more weather appropriate safety sensors for use on the incline.			Gibson	AWA	
30-Jul-14	1407	Internal Audit	CamTran does not have a comprehensive set of maintenance procedures for the Johnstown Incline Plane; while some procedures exist, others are not immediately available or need to be updated.	Procedures to be compiled and updated/revised as needed by the Deputy Director of Maintenance.	8/31/15		Gibson	OAA	
15-Aug-14	1408	RTSRP Audit	Security and Emergency Preparedness Plan has not been updated since January of 2012. Under Pennsylvania RTSRP and FTA mandated requirements, the SEPP must be updated annually. CamTran should update the SEPP to reflect its current practices and to expand on descriptions of the security program at the Incline	Revise & update SEPP to meet RTSRP standards and reflect CamTran current practice	4/17/15		Gibson	CLD	6/19/15

Figure 8b –CamTran CAP Tracking Log

PAAC Safety and Security Corrective Action Plan (CAP) Log									
Date CAP Generated	CAP Number	Source	Description of Hazard/ Finding	CAP Description	Anticipated Completion Date	Date CAP Accepted by RTSRP	Responsible Party	CAP Status	Verification Date
4-Mar-15	P15-014	Internal Audit	System Safety audit noted several issues with subway station fire alarms, although none were serious or life threatening. The conditions should be corrected.	Complete corrective actions to fire alarm panels and systems and verify.	9/30/15		Facilities	OAA	
19-Oct-15	P15-015	Internal Audit	Joint RTSRP/PAAC Audit of East Busway found emergency phone not operational at East Liberty Station, 1B side.	Repair phone as soon as possible	11/30/15		Electronic Maintenance and Facilities	OAA	
14-Jul-15	P15-016	Internal Audit	System Safety Audit of Mt. Lebanon tunnel revealed several emergency phone that were not operative. Several other minor items are listed. Emergency vent Fans VF1 and VF2	Repair fans, blue lights, phones and other items as soon as possible.	12/30/15		Facilities and Electronic Maintenance	AWV	
31-Aug-15	P15-017	RTSRP Audit	There are various instances where the frequency of safety inspections are not conducted within the Department's prescribed policy of 7 days.					OAA	
31-Aug-15	P15-018	RTSRP Audit	The RTSRP was unable to locate a PAAC vehicle maintenance plan. This plan will help PAAC specify maintenance targets and outline existing vehicle conditions.					OAA	
31-Aug-15	P15-019	RTSRP Audit	Some preventive maintenance worksheets are improperly filled out by PAAC maintenance personnel. The RTSRP review team often noticed initials, dates, and check marks written at the beginning of a section, followed by a drawn line to indicate verification for subsequent fields. These procedures					OAA	
5-Nov-15	P15-020	RTSRP Audit	RTSRP observed various instances where emergency call boxes at stations on the East and West Busway were not functioning properly or improperly labeled. Of the 12 emergency call boxes tested, five did not complete calls properly.					OAA	
5-Nov-15	P15-021	RTSRP Audit	PAAC does not perform regular tool calibration for electric meters. PAAC should ensure that test equipment and measurement devices are properly calibrated in accordance with FTA best practices and industry-wide standards.					OAA	

Figure 8c –PAAC CAP Tracking Log



In addition to missing dates and responsible party information, the CAP logs generally did not complete the “Hazard Rating” and “Verification Date.” In addition, SEPTA and CamTran SSPPs did not include all required CAP elements in their SSPPs. Table 8b illustrates the incomplete CAP tracking elements for the provided logs and SSPPs. PennDOT must ensure CAP logs and SSPPs incorporate all required elements, and logs are comprehensive and up-to-date.

RTSRP CAP Log Requirements	SEPTA SSPP (Section 15.7)	SEPTA CAP Log	PAAC SSPP (Section 4.4.2)	PAAC CAP Log	CamTran SSPP (Section 1.3.3)	CamTran CAP Log
Date CAP generated	X	X	X	X		X
CAP unique identifier	X	X	X	X		X
Source	X	Incomplete	X	X		X
Description of Incident		X	X	Incomplete	X	X
Hazard Rating	X	Incomplete	X		X	Incomplete
CAP Description	X	X	X	X	X	X
Completion Date	X	Incomplete	X	X	X	Incomplete
Date CAP Accepted		X	X	Incomplete	X	Incomplete
Responsible Party	X	X	X	X	X	Incomplete
CAP Status	X	X	X	X	X	Incomplete
Verification Date	X	X	X		X	X
Quarterly Updates		X	X	X	X	Incomplete

Section 10.7 of the RTSRP Procedures and Standards, “For each CAP a covered transit agency proposes to close, the RTSRP will review the corrective action plan’s completeness, and will conduct a final verification of documentation, records, or process implementation, as appropriate to the particular issue.” RTSRP may verify CAPs through:

- Field observations
- Document review, such as receipt of revised document or work order showing completion
- Audit of RTA records
- RTA provided photograph

During on-site reviews, the audit team reviewed quarterly coordination meeting minutes and noted that CAP verification activities were routinely discussed. The audit team reviewed the RTSRP’s intranet filing system which stores documentation and verification activities for each CAP. The audit team was also informed that the RTSRP is evaluating methods to use the IndustrySafe database for CAP tracking.

Findings

Finding 4: As specified in 49 CFR Part 659.37(a)(b) and (e): PennDOT must ensure the RTAs’ SSPPs are consistent with the RTSRP Procedures Standard’s CAP requirements, including CAP source, hazard rating, and accepted date. The CAP logs must contain the necessary elements, including accurate implementation schedule and responsible party.



Section 9. Reporting to FTA

Summary of Activities

FTA evaluated PennDOT policies and procedures for certifying and reporting to the FTA, as specified in Parts 659.39 and 659.43.

Specific Criteria

Part 659.39 – Oversight agency reporting to the Federal Transit Administration

Part 659.39 establishes the minimum reporting requirements by the SSO to the FTA. The SSO agency must make an annual submission to the FTA before March 15 of each year. The annual report must include a publicly available annual report summarizing the SSO agency's oversight activities for the preceding twelve months, including a description of the causal factors of investigated accidents, status of corrective actions, updates, and modifications to RTA program documentation, and the level of effort used by the oversight agency to carry out its oversight activities.

The annual report must document and track findings from three-year safety review activities and state whether a three-year safety review has been completed since the last annual report was submitted. The annual report must also state if the program standard and supporting procedures have changed during the preceding year and must include the oversight agency's certification that any changes or modifications to the RTA SSPP or security plan have been reviewed and approved by the oversight agency.

Part 659.43 – Certification of compliance

Part 659.43 requires oversight agencies to annually certify to the FTA that they have complied with the requirements of Part 659.

Current Status and Assessment

Part 659.43 requires, "Annually, the oversight agency must certify to the FTA that it has complied with the requirements of this part." Section 2.9 of the RTSRP Procedures and Standards specifies, "As designated by FTA, typically before March 15th of each year, RTSRP must submit to the FTA for each covered transit agency:

- A publicly available annual report summarizing its oversight activities for the preceding twelve months, including a description of the causal factors of investigated accidents, status of corrective actions, updates and modifications to rail transit agency program documentation, and the level of effort used by the oversight agency to carry out its oversight activities.
- A report documenting and tracking findings from three-year safety review activities and whether a three-year safety review has been completed since the last annual report was submitted.
- Program standard and supporting procedures that have changed during the preceding year.
- Certification that any changes or modification to the rail transit agency system safety program plan or system security plan (or security & emergency preparedness plan as used under RTSRP) have been reviewed and approved by the oversight agency."



Additionally, the RTSRP Procedures and Standards states, “RTSRP must annually certify to the FTA that, as the SSO, it has complied with the requirements of 49 CFR Part 659. RTSRP will maintain a signed copy of each transit agency’s annual certification to the FTA, subject to audit by the FTA.” In accordance with Part 659.39(2)(c), PennDOT submitted the 2015 annual report and certification to the FTA by the deadline of March 15, 2016.

Additionally, RTSRP develops annual reports for each RTA and the FTA audit team examined samples from each agency; all 2014 annual reports were finalized and published in June 2015. These 2014 Final included all requirements as outlined in Part 659.43 such as descriptions of accident causal factors, three-year safety review activities, and general oversight activities. Examples of the information provided in the PennDOT annual reports are shown below in Tables 9a, 9b, 9c, and 9d.

Table 9a - Summary of SEPTA 2014 Reportable Incidents		Table 9b - Probable Causes of SEPTA 2014 Closed Incidents	
Item	Count	Item	Count
Total RTSRP-reportable incidents in Pennsylvania (all RTSRP systems and modes)	89	SEPTA operating rule violation or error	19
Total incidents at SEPTA	65 (73% of total accidents)	Actions of motorist	17
SEPTA incidents by mode:		Imprudent actions of patron, criminal act, or trespassing	14
- Market-Frankford Line	11 (17% of SEPTA incidents)	Suicide/attempted suicide	5
- Broad Street Subway	12 (18% of SEPTA incidents)	Equipment malfunction	4
- Subway/Surface Trolley Routes (6 routes)	39 (60% of SEPTA incidents)	Actions of pedestrian	3
- Media/Sharon Hill Trolleys	2 (3% of SEPTA incidents)	Track condition	1
- Norristown High Speed Line	1 (2% of SEPTA incidents)		

Table 9c - 2014 RTSRP Audits of PAAC System Safety Program Plan (SSPP) Elements	Table 9d - 2014 Select PAAC Internal Audits System Safety Program Plan (SSPP) Elements
Accident/Incident Notification, Investigation and Reporting	Maintenance Audits and Inspection: Light Rail Track Switches
Internal Safety Reviews	Maintenance Audits and Inspection: South Busway
Rule Compliance: Light Rail Operations	Facilities and Equipment Inspections: Light Rail Public Address Systems
Maintenance Audits and Inspection: Light Rail Track	Facilities and Equipment Inspections: Inclined Planes
Maintenance Audits and Inspection: Light Rail Signals	Security & Emergency Preparedness Plan (SEPP) Elements
Maintenance Audits and Inspection: Light Rail Traction Power	Policies, Goals, Objectives
Maintenance Audits and Inspection: Light Rail Stations	Other Elements
Security & Emergency Preparedness Plan (SEPP) Elements	Subway Emergency Exits & Fans: Central Business District, North Shore
None	Subway Tunnel Fire/Life Safety: Central Business District
Other Elements	Light Rail Traction Power Substation Batteries
Subway Emergency Exits & Fans: Central Business District, North Shore	



The PennDOT annual reports are thorough, well organized, and validate the SSO's ongoing involvement with each RTA. The FTA considers these reports a good practice within the industry and encourages the continuance of these annual documents for each RTA.

Findings

No findings.



Appendix A. List of Requested Materials

The Federal Transit Administration's (FTA) State Safety Oversight (SSO) audit team requested electronic copies of the following materials:

Requested Materials

- Program Standard and Procedures (49 CFR §659.15)
- SSO Agency Organization Chart, clearly depicting safety reporting relationship, if not included in the Program Standard and Procedures
- RTA System Safety Program Plans (49 CFR §659.19)
- RTA Organization Charts, clearly depicting safety reporting relationships, if not included in the SSPP
- List of RTA's Rail Safety Committees, their members, and the schedule for their meetings, if not included in the SSPP
- System Safety Program Plan Approval Letters (49 CFR §659.17(c))
- System Safety Program Plan Review Checklists (49 CFR §659.17(c))
- RTA's Security Plans (49 CFR §659.21)*
- Security Plan Approval Letters (49 CFR §659.21(c))*
- Security Plan Review Checklists (49 CFR §659.21(c))*
- Internal Safety and Security Review Schedules (49 CFR § 59.27(a))
- Internal Safety and Security Review Checklists (49 CFR §659.27(d))*
- Internal Safety and Security Review Procedures (49 CFR §659.27(d))*
- Internal Safety and Security Review Notifications (49 CFR §659.27(c))
- Internal Review Annual Reports from the previous three years (49 CFR §659.27(f))*
- RTA Formal Annual Letters of Certification (49 CFR §659.27(g))
- Documentation of RTA's Annual Report and SSO Approval (49 CFR §659.27(i))
- SSO Three-Year Review Procedures (49 CFR §659.29)
- SSO most recent Three-Year Safety and Security Review Report of RTAs (49 CFR §659.29)
- Mechanism used to track hazards through resolution (49 CFR §659.31(b)(4))
- Three most recent Event/Accident Notifications (49 CFR §659.33(a))
- Event/Accident Tracking Log (49 CFR §659.33(c))
- SSO Agency and RTA's Accident Investigation Procedures (49 CFR §659.35(b))
- SSO Letter Approving RTA's Accident Investigation Procedures (49 CFR §659.35(c))
- Three most recent Accident Investigation Reports (49 CFR §659.35(d))
- Sample of Formal Documentation of SSO Agency Adoption of Investigation Report (49 CFR §659.35(e)(2))



- RTA's Corrective Action Plan and SSO approval letter (49 CFR §659.37(b)(c))
- RTA's Corrective Action Plan Tracking Log (49 CFR §659.37(f)(1))
- RTA's Rulebook and Standard Operating Procedures and sample Special Notices/Operating Bulletins (49 CFR §659.19(m))
- Overview of process used by RTA's to develop, maintain, and ensure compliance with rules and procedures having a safety impact, if not clearly specified in the SSPP (49 CFR §659.19(m))
- Training certification and qualification requirements for train operators, supervisors, and controllers, if not clearly specified in the SSPP (49 CFR §659.19(p))
- Track, signal and switch, power and vehicle inspection frequencies, if not clearly specified in the SSPP (49 CFR §659.19(o))

***FTA followed protocols that have been established by the SSO agency and the RTA to access any materials classified as Sensitive Security Information (SSI).**



Appendix B. Audit Findings Tracking Matrix

Included as a separate attachment.