



**Fixed Guideway Transportation Systems**

**State Safety and Security Oversight**

**Program Standard**

**FDOT Office**

Freight, Logistics, and  
Passenger Operations

**Date of Publication**

May 2018

---

---

## FDOT Fixed Guideway Transportation Systems

### State Safety and Security Oversight Program Standards Manual

Revised May 2018

#### Endorsement and Authority

This State Safety Oversight Program Procedures and Standards document (“Procedures and Standards”) describes the Florida Department of Transportation (FDOT) approach to implementing the requirements of its State Safety Oversight (SSO) program for the State of Florida and covered Rail Fixed Guideway Transit Systems.

The FDOT SSO program fulfills the Federal Transit Administration (FTA) State Safety Oversight Rule (49 CFR Part 674), which requires states to oversee the safety of Rail Fixed Guideway Transit Systems through a designated oversight agency. This FTA rule implemented enhanced oversight requirements precipitated by the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) of 2012. Pursuant to Section 341.061(1), Florida Statutes (F.S.) and Rule 14-15.017, Florida Administrative Code (F.A.C.), FDOT is designated as the State Safety Oversight Agency responsible for safety and security oversight of Rail Fixed Guideway Transit Systems operated in the State of Florida, which are financed wholly or partly by state funds.

This FDOT State Safety Oversight Program Procedures and Standards and the authorities described herein are endorsed by:

State Transit Manager Ed Coven	Date 5/11/2018	Signature
Transit Safety Manager John Lanham	Date 5/11/2018	Signature

## Contents

Endorsement and Authority .....	2
Revision Table .....	6
Abbreviations and Acronyms .....	7
Definitions .....	9
Introduction and Overview .....	16
Purpose .....	16
Authority .....	16
Fixed Guideway Transportation Systems .....	16
SSO Manual Distribution and Revisions .....	17
Part 1. Systems Subject to Chapter 53 of Title 49, United States Code and Section 341.061, Florida Statutes .....	18
1.1 FDOT Legal and Financial Independence as the SSO Agency .....	18
1.2 Program Participants and Roles .....	18
2 Program Management .....	22
2.1 FDOT Point of Contact .....	22
2.2 Coordination with the FGTS .....	22
2.3 Conflict of Interest .....	23
2.5 FTA Regional Office Coordination .....	23
2.6 FDOT Reporting to Executives .....	23
2.7 Public Transportation Safety Certification Program .....	23
2.8 FDOT SSO Program Policy and Objectives .....	24
2.9 PTASP Goals and Objectives .....	24
3 System Safety Program Plan .....	26
3.1 Objective and General Requirements .....	26
3.2 System Safety Program Plan .....	26
3.3 Initial Review and Approval of SSPP .....	29
3.5 Submittals from New Starts Projects .....	30
3.6 Readiness Review .....	30
4 System Security and Emergency Preparedness Plan Standard .....	31
4.1 Objective .....	31
4.2 SEPP Minimum Requirements .....	31

4.3	Initial Review and Approval of SEPP .....	31
4.4	Subsequent Reviews of SEPP .....	32
4.5	SEPP Submittals from New Starts Projects .....	32
4.6	SEPP Readiness Review .....	33
5	Internal Safety and Security Review Program .....	34
5.1	Objectives.....	34
5.2	Minimum Requirements for Internal Safety and Security Reviews.....	34
6	Hazard Management Process.....	37
6.1	Objective .....	37
6.2	Minimum Requirements .....	37
6.3	Hazard Tracking Log .....	37
6.4	Notification of Unacceptable Hazards .....	39
6.5	Investigation, Evaluation, and Analysis of Unacceptable Hazards.....	40
7	Accident/Incident Notification, Investigations, and Reporting .....	44
7.1	Objective .....	44
7.2	Minimum Requirements .....	44
7.3	Protocols for Reporting Accidents to Other Agencies .....	46
7.4	Investigation and Reporting Requirements .....	47
7.5	FDOT Investigations .....	47
7.6	FGTS Authorized to Conduct Investigation .....	48
7.7	Investigation Report Development, Review, and Adoption .....	49
7.8	NTSB Investigations.....	50
7.9	Other Investigations.....	50
7.10	Joint Investigation by FDOT and FGTS.....	51
7.11	Confidentiality of Investigation Reports .....	51
8	Accident Investigation Procedures.....	52
8.1	Training and Qualification for FDOT Investigative Personnel.....	52
8.2	Initial FDOT Response .....	52
8.3	Accident/incident on-site data development .....	52
8.4	Accident/incident off-site data collection.....	55
9	Triennial On-Site Safety and Security Audits.....	61
9.1	Objective .....	61

9.2	Minimum Requirements .....	61
9.3	Process and Procedure.....	62
10	Corrective Action Plans.....	65
10.1	Objectives.....	65
10.2	Minimum Requirements .....	65
10.3	Notification.....	65
10.4	Corrective Action Plan Review and Approval.....	66
10.5	Monitoring, Tracking, and Verification of Closure .....	66
11	SSO Program Reporting .....	68
11.1	FDOT Reporting to FTA.....	68
12	Other FDOT Reviews.....	70
12.1	Authority to Conduct Inspections .....	70
12.2	Ongoing Inspections/Observations.....	70
12.3	Special Studies and Investigations .....	71
12.4	Reviews of Safety and Security Certification Program.....	71
12.5	Reviews of System Expansions and System Modifications .....	71
12.6	Reviews of Threat and Vulnerability Assessments .....	73
12.7	Review of Safety Data and Agreement on Safety Performance .....	73
Part 2.	FGTS Not Subject to Chapter 53 of title 49 Section 5329 United States Code.....	74
1.1	System Safety Program Plan (SSPP).....	74
1.2	Safety Reviews .....	77
1.3	Hazard Management Process.....	78
1.4	Notification of Reportable Events.....	80
1.5	Investigations of Reportable Events .....	81
1.6	CAP Process.....	83
Appendix A:	Applicable State Legislation.....	85
Appendix B:	FDOT SSO Program Organizational Chart .....	87
Appendix C:	SSPP Review Checklist .....	88
Appendix D:	SEPP Review Checklist .....	95

## Revision Table

<b>Number</b>	<b>Date</b>	<b>Items Changed</b>
1	April 2007	FDOT adopted first edition
2	May 2018	FDOT amended the entire document

## Abbreviations and Acronyms

AIP: Accident-Incident Investigation Procedures

APTA: American Public Transportation Association

CAP: Corrective Action Plan

CFR: Code of Federal Regulations

DMS: Document Management System

DTPW: Miami-Dade Department of Transportation and Public Works

EPP: Emergency Preparedness Plan

F.A.C.: Florida Administrative Code

FAST Act: Fixing America's Surface Transportation Act

FDOT: Florida Department of Transportation

FGTS: Fixed Guideway Transportation System

FRA: Federal Railroad Administration

F.S.: Florida Statutes

FTA: Federal Transit Administration

HART: Hillsborough Area Regional Transit

ISTEA: Intermodal Surface Transportation Efficiency Act of 1991

JTA: Jacksonville Transportation Authority

MAP-21: Moving Ahead for Progress in the 21<sup>st</sup> Century Act

MOSEL: Minimum Operating Standard Equipment List

NBIS: National Bridge Inspection Standards

NTSB: National Transportation Safety Board

PHA: Preliminary Hazard Analysis

PTASP: Public Transportation Agency Safety Plan

SEPP: Security and Emergency Preparedness Plan

SFRTA: South Florida Regional Transportation Authority

SME: Subject Matter Expert

SMS: Safety Management System

SPP: Security Program Plan

SSI: Sensitive Security Information

SSO: State Safety Oversight

SSOA: State Safety Oversight Agency

SSPP: System Safety Program Plan

TASP: Transit Agency Safety Plan

TECO: Tampa Electric Company

TSSP: Transit Safety and Security Program (Certificate)

TTP: Technical Training Plan

U.S.C.: United States Code



## Definitions

**Accident** - As defined in 49 CFR Part 674, an accident is an event that involves any of the following: A loss of life; a report of a serious injury to a person; a collision involving a rail transit vehicle; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause. An accident must be reported in accordance with the thresholds for notification and reporting to FDOT and the FTA, set forth in this standard.

**Accident/Incident Investigation Procedures (AIP)**- A set of procedures for conducting investigations at a rail transit property. Each FGTS must develop an AIP approved by the state safety oversight agency.

**Accountable Executive**- A single, identifiable individual who has ultimate responsibility for carrying out the safety of a rail transit agency, the agency's transit asset management plan, and control or directs the human and capital resources needed to develop and maintain the agency's safety plan and transit asset management plan.

**Annual Safety Audit Report**- The report prepared by the FGTS describing safety auditing activities performed during the preceding twelve months.

**CFR**- Code of Federal Regulations.

**Close Call**- A close call, which also may be referred to as a "near miss," a "narrow escape," a "near collision," or a "near hit," is an unplanned event that did not result in injury, illness, or damage, but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality, or damage.

**Consultant/Contractor**- An entity that performs tasks on behalf of the FTA, FDOT, or FGTS. The FGTS may not be a contractor for FDOT.

**Corrective Action Plan (CAP)**- A plan developed by the FGTS according to the requirements specified in this Manual and in the FGTS SSPP or PTASP that describes the actions the rail transit agency will take to minimize, control, correct, or eliminate hazards, and the schedule for implementing for those actions.

**Derailment** – The condition created when one or more wheels of a rail fixed guideway vehicle (including a train, a streetcar, or an automated people mover vehicle) leaves its tracks (or guideway) and/or its intended direction of travel. This condition includes a vehicle coming off its tracks and re-railing itself.

**Document Management System (DMS)**- The FDOT-maintained online SSO document management system. The system allows authorized users to create FDOT SSO Program forms and official notifications of reportable events, and it serves as an online storage site for SSO program documents.

**Emergency**- A condition, situation, or occurrence of a serious nature, developing suddenly and unexpectedly, and requiring immediate action.

**Evacuation-** An authorized, organized, phased, and supervised withdrawal, dispersal, or removal of civilians from a train or from a dangerous or potentially dangerous area. An authorized evacuation includes the reception and care for passengers in a safe area. A “self-evacuation” is an event in which passengers alight a rail vehicle without proper authorization or an approved escort.

**Event-** An accident, incident, or occurrence.

**Federal Railroad Administration (FRA)-** An agency within the U.S. Department of Transportation responsible for promulgating and enforcing rail safety regulations, administering railroad assistance programs, and consolidating government support of rail transportation activities.

**Federal Transit Administration (FTA)-** An agency within the U.S. Department of Transportation responsible for providing financial and technical assistance to public transit systems and oversight of rail/fixed guideway transit operations.

**Fixed Guideway Transportation System (FGTS)-** A public transit system for the transporting of people by a conveyance, or a series of interconnected conveyances, which conveyance or series of conveyances is specifically designed for travel on a stationary rail or other guideway, whether located on, above, or under the ground.

**FGTS-Controlled Property-** Property that is used by the fixed guideway rail transit agency and may be wholly or jointly owned, leased, and/or maintained by the rail transit agency.

**Grade Crossing Collision-** A train to train, train to vehicle, train to object, or train to person(s) collisions that occurs at rail grade crossings, including in mixed traffic environments at street intersections or within transit property yard limits. Driveway entrances onto a rail right of way are not considered grade crossing collisions.

**Hazard-** A real or potential condition (as defined in the rail transit agency/FDOT’s hazard management process) that can cause injury, illness, or death; damage to or loss of a system, equipment or property; or damage to the environment.

**Hazard Severity-**

*Catastrophic* – A hazard severity category defined as “Category I” failure condition that could result in a large number of serious injuries and/or fatalities, and /or significant loss of system capability.

*Critical* – A hazard severity category defined as “Category II” failure condition that could result in severe injury to one or more persons, and/or significant system damage.

*Marginal* – A hazard severity category defined as “Category III”, failure conditions that could result in minor injury, minor occupational illness, or minor system damage.

*Negligible* – A hazard severity category defined as “Category IV” failure conditions that cause less than minor injuries, illness, or system damage

**Hazard Threat Probability-** The level of probability a hazard or threat will occur. Probability may be expressed in quantitative or qualitative terms; and the ranking system is as follows:

(a) *Frequent*. Likely to occur often.

(b) *Probable*. Will occur several times.

(c) *Occasional*. Likely to occur sometime.

(d) *Remote*. Unlikely, but possible to occur.

(e) *Improbable*. So unlikely, it can be assumed occurrence may not be experienced.

(f) *Eliminated*. Incapable of occurrence. This level is used when potential hazards are identified and later eliminated.

**Hazard Resolution-** The analysis and subsequent actions taken to reduce, to the lowest level practical, the risk associated with an identified hazard.

**Incident-** An occurrence or event, natural or human-caused, which requires an emergency response to protect life or property.

**Individual-** A passenger, employee, contractor, other rail transit facility worker, pedestrian, trespasser, or any person on rail transit-controlled property.

**Injury-** Refers solely to bodily harm suffered by a person requiring medical attention necessitating transport to a medical facility by ambulance or police vehicle.

**Investigation-** The process used to determine the causal and contributing factors of an accident, incident, or hazard, so that actions can be identified to prevent recurrence and mitigate risk.

**Internal Reviews/Audits-** The requirement for the transit agency to conduct internal safety and security reviews of the implementation of the SSPP SSP, and EPP respectively.

**Major Capital Project-** A project that involves the construction of a new fixed guideway or an extension to an existing guideway; involves the rehabilitation of an existing fixed guideway with a total project cost in excess of \$100 million; or is determined by the FTA to be a major capital project.

**National Public Transportation Safety Plan –** The plan to improve all public transportation systems that receive Federal financial assistance under 49 United States Code (U.S.C.) Chapter 53; authorized by 49 U.S.C. 5329(b); and the subject of regulations codified at 49 Code of Federal Regulations Part 670.

**National Transportation Safety Board (NTSB)-** An independent Federal agency that investigates every civil aviation accident in the United States and significant accidents in the other modes of transportation, conducts special investigations and safety studies, and issues safety recommendations to prevent future accidents.

**Near Miss-** See “close call.”

**New Starts Project-** Any rail fixed guideway system project funded under FTA’s 49 U.S.C. 5309 discretionary construction program

**Occupational Safety and Health Administration (OSHA)-** An agency of the United States Department of Labor with responsibility for assuring safe and healthful working conditions for working men and women.

**Passenger-** a person who is on board, boarding, or alighting from a rail transit vehicle for the purpose of travel.

**Passenger operations-** means the period of time when any aspect of rail transit agency operations is initiated with the intent to carry passengers.

**Person-** A passenger, employee, contractor, pedestrian, trespasser, or any individual on the property of a FGTS.

**Pre-Revenue Service Review-** A review conducted by the SSO of a new start, system extension, or other major capital project to verify that the Safety Certification process was implemented according to the FGTS’s plans; that all necessary procedures are in place; and that the FGTS required hazards to be mitigated to an acceptable risk level.

**Preliminary Hazard Analysis (PHA) -** An analysis typically drafted prior to and updated during the engineering phase of a capital project, enabling development of design criteria that assure safety and security are built into the project prior to construction.

**Preliminary Threat and Vulnerability Analysis (PTVA) –** An examination of flaws or weaknesses that could be exploited by a potential threat. For new systems, the search for vulnerabilities should focus on security policies, planned procedures, system requirements definitions, and security product analyses. The PTVA is typically conducted prior to and updated during the engineering phase of a capital project, enabling development of design criteria that assure safety and security are built into the project prior to construction.

**Prevention-** Actions to avoid an incident or to intervene to reduce the likelihood of an incident from occurring.

**Procedures-** Established and documented methods to perform a series of tasks.

**Program Standard-** A written document developed and adopted by the SSOA that describes the policies, objectives, responsibilities, and procedures used to provide rail transit agency safety and security oversight, also referred to as the SSO Manual.

**Public Transportation Agency Safety Plan (PTASP)-** The document developed and adopted by the FGTS, describing its safety policies, objectives, responsibilities, and procedures. It shall be derived in accordance with 49 CFR Part 673, once promulgated by FTA as a final rule, and in accordance with FDOT’s SSO Manual.

**Public Transportation Safety Certification Training Program-** Either the certification training program for Federal and State employees, or other designated personnel, who conduct safety audits and examinations of public transportation systems, and employees of public transportation agencies directly responsible for safety oversight, established through interim provisions in accordance with 49 U.S.C. 5329(c)(2), or the program authorized by 49 U.S.C. 5329(c)(1).

**Rail Fixed Guideway Public Transportation System** - As determined by FTA, any light, heavy, or rapid rail system, monorail, inclined plane, funicular, trolley, or automated guideway that uses rail, is operated for public transportation, is within the jurisdiction of a State, and is not subject to the jurisdiction of the Federal Railroad Administration, or any such system in engineering or construction.

**Rail Transit Agency-** An entity that operates a rail fixed guideway transportation system.

**Rail Transit Controlled Property** – A property that is used by the rail transit agency and may be owned, leased, or maintained by the RTA.

**Rail Transit Vehicle-** The rail transit agency’s rolling stock, including, but not limited to passenger and maintenance vehicles.

**Recovery-** Activities that address the long-term effects of an event, both direct and indirect.

**Response-** Activities that address the short-term, direct effects of an event.

**Risk** - The composite of predicted severity and likelihood of the potential effect of a hazard.

**Risk Mitigation** A method or methods to eliminate or reduce the effects of hazards.

**Risk Assessment-** A process to identify potential hazards and analyze the potential outcomes if the hazard occurs.

**Runaway Train-** A vehicle that is no longer under the control of an operator regardless of whether the operator is physically on the vehicle at the time

**Safety-** Freedom from harm resulting from unintentional acts or circumstances.

**Safety Certification-** A process by which the FGTS certifies a new start, major capital project, or other major system change as safe.

**Safety Critical-** Any condition, event, operation, process, or item whose proper recognition, control, performance, or tolerance is essential to safe system operation and support.

**Safety Management System (SMS)-** A method of identifying hazards and controlling risks in a work and operational environment that continually monitors these methods for effectiveness.

**Safety Risk Management-** A process identified within an FGTS Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.

**Security-** Freedom from harm resulting from intentional acts or circumstances.

**Security Breach-** An unforeseen security event or occurrence which endangers life or property and may result in the loss of services or system equipment.

**Security Threat-** Any intentional action with the potential to cause harm in the form of death, injury, destruction, disclosure, interruption of operations, or denial of services.

**Security and Emergency Preparedness Plan (SEPP)-** A comprehensive guideline that describes the FGTS security policies, objectives, responsibilities, and procedures for reducing threats and vulnerabilities, for managing life-threatening situations to passengers, employees, and the general public, and for addressing conditions which may result in damage to or theft of/from transit vehicles or facilities.

**Sensitive Security Information (SSI)-** Information obtained or developed in the conduct of security activities, the disclosure of which would be detrimental to the safety of transit employees or passengers.

**Serious injury -** Any injury which:

- Requires hospitalization for more than 48 hours, commencing within seven days from the date of the injury was received;
- Results in a fracture of any bone (except simple fractures of fingers, toes, or nose);
- Causes severe hemorrhages, nerve, muscle, or tendon damage;
- Involves any internal organ; or
- Involves second- or third-degree burns, or any burns affecting more than five percent of the body surface.

**Split Switch-** An event in which the trucks of a rail transit vehicle are on different tracks. This occurs when the leading truck of a rail transit vehicle passes through a switch in the intended direction of travel, and the second truck passes over the switch in the unintended direction of travel. It can also be when the lead truck is on the wrong track, and the trailing truck is on the correct track, if the vehicle arrives at the switch before it is properly set.

**State of Good Repair-** The condition in which a capital asset is able to operate at a full level of performance.

**State Safety Oversight Agency (SSOA)-** The agency designated to carry out an FTA-compliant program of safety and security oversight of rail fixed guideway transit systems within its jurisdiction. FDOT is the SSOA for the State of Florida.

**State Safety Oversight (SSO)-** A program of activities designed to achieve compliance with 49 CFR Part 674.

**System Safety Program Plan (SSPP)-** A document developed and adopted by the rail transit agency describing its safety policies, objectives, responsibilities, and procedures.

**Threat-** An indication of possible violence, harm, or danger. Any real or potential condition that can cause injury or death to passengers or employees, or damage to or loss of transit equipment, property, and/or facilities.

**Threat and Vulnerability Assessment-** An evaluation performed to consider the likelihood that a specific threat will endanger the system, and to prepare recommendations for the elimination or mitigation of all threats with attendant vulnerabilities that meet predetermined thresholds.

**Threat Resolution-** The analysis and subsequent action taken to reduce the risks associated with an identified threat to the lowest practical level.

**Threat Severity-** A qualitative measure of the worst possible consequences of a specific threat in a specific facility.

**Vehicle-** Any rolling stock used on an FGTS, including but not limited to passenger and maintenance vehicles.

**Vulnerability-** Characteristics of passengers, employees, vehicles, and/or facilities which increase the probability of injury or death to passengers or employees, or damage to or loss of transit equipment, property, and/or facilities.

## Introduction and Overview

### Purpose

The purpose of this *State Safety and Security Oversight Program Standards Manual (SSO Manual)* is to provide minimum safety and security standards, procedures, and technical direction to the Florida Department of Transportation (FDOT) and applicable rail fixed guideway transportation systems (FGTS) operating in the State of Florida.

This SSO Manual describes the responsibilities of applicable FGTS and establishes the authority of FDOT in regards to overseeing and enforcing the safety of these systems. It specifies requirements to ensure ongoing communication between FDOT and applicable FGTS regarding safety and security information, and addresses FDOT's communication with the Federal Transit Administration (FTA), including annual and periodic submissions.

### Authority

Pursuant to Section 341.061(1), Florida Statutes (F.S.) and Rule 14-15.017, Florida Administrative Code (F.A.C.), FDOT is designated as the State Safety Oversight Agency responsible for safety and security oversight of FGTS operated in the State of Florida, which are financed wholly or partly by state funds.

Additionally, FTA conditions the receipt of grant funds on compliance with FTA standards (49 United States Code § 4324(c)). Federal standards for state safety oversight of FGTS are established in the Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) Act (Pub. L. 112–141, July 6, 2012, Chapter 53 of title 49 Section 5329). Consistent with directives in MAP-21, on March 16, 2016, the Final Rule for 49 Code of Federal Regulations (CFR) Part 674 State Safety Oversight Rule, was published in the Federal Register and became effective on April 15, 2016.

### Fixed Guideway Transportation Systems

Please note that Federal regulations refer to “rail fixed guideway public transportation systems,” and Section 341.061(1), F.S. and Rule 14-15.017, F.A.C. refer to “fixed-guideway transportation systems.” For continuity purposes, this Manual utilizes the latter term and its abbreviation “FGTS” throughout this document.

49 CFR Part 674.7 defines “rail fixed guideway transportation system” as a system that uses rail, is operated for public transportation, is within the jurisdiction of a State, and is not subject to the jurisdiction of the Federal Railroad Administration, or any such system in engineering or construction. These systems include but are not limited to rapid rail, heavy rail, light rail, monorail, trolley, inclined plane, funicular, and automated guideway.

Florida law further defines a “fixed guideway transportation system” as a public transit system for the transporting of people by a conveyance, or a series of interconnected conveyances, which conveyance or series of conveyances is specifically designed for travel on a stationary rail or other guideway, whether located on, above, or under the ground.



The FGTS subject to the FTA regulations described above and the provisions in Part 1 of this SSO Manual as of August 2018 are: Miami-Dade Department of Transportation and Public Works (DTPW) Metrorail and Metromover, Jacksonville Transportation Authority (JTA) Skyway, and Hillsborough Area Regional Transit Authority (HART) - TECO Line Streetcar.

Other FGTS in the state are subject to Section 341.061(1), F.S., but not 49 U.S.C. 5329 and 49 CFR Part 674. These systems are subject to Part 2 of this Manual. As of August 2018, these systems are: the Miami International Airport automated people movers, the Orlando International Airport automated people movers, the SunRail commuter rail system, the Tampa International Airport automated people movers, and the South Florida Regional Transportation Authority Tri Rail commuter rail system.

### **SSO Manual Distribution and Revisions**

FDOT will provide electronic copies of this SSO Manual to each FGTS. Requests for additional copies of the FDOT SSO Manual should be directed to:

FDOT Public Transit Office  
605 Suwannee Street M.S. 26  
Tallahassee, FL 32399-0450

This document can also be obtained directly from the FDOT Transit Website:

<http://www.fdot.gov/transit/Pages/NewTransitFixedGuidewaySafetySecurity.shtm>

FDOT will review this SSO manual on a triennial basis, or more frequently if necessitated by law or other change in the SSO Program, beginning in 2018. Changes to this Manual will be made internally and result from internal or external sources, policy changes, statewide meetings, and/or organizational changes. Each comment or suggestion received will be reviewed by the appropriate Public Transit Office staff in a timely manner. Proposed changes to this Manual will be circulated for review in draft form to the District Office Modal Development Managers and appropriate staff, FGTS, the FTA, other agencies, Department offices, etc., as appropriate. Following review and comment, draft changes will be approved by the State Transit Safety Manager and incorporated into the next draft revision of the Manual for Rule Development.

## Part 1. Systems Subject to Chapter 53 of Title 49, United States Code and Section 341.061, Florida Statutes

### 1.1 FDOT Legal and Financial Independence as the SSO Agency

MAP-21 requires the State Safety Oversight Agency to be legally and financially independent of the rail transit agencies it oversees. In accordance with both federal law and regulation, the FDOT SSO Program is a legally and financially independent entity from the FGTS it oversees. FGTS in Florida are prohibited from funding either the FDOT Public Transit Office or the activities conducted by FDOT personnel and/or contractors. FDOT has demonstrated such via documentation transmitted to FTA's Office of Transit Safety and Oversight (TSO.)

FDOT organizational charts in Appendix A of this document illustrate the housing of the FDOT SSO Program within the FDOT Public Transit Office. The FDOT State Transit Safety Manager manages the SSO Program and reports to the Operations Administrator, who reports to the State Transit Manager, who in turn reports to the Office of Freight, Logistics, and Passenger Operations Administrator, who in turn reports to the Assistant Secretary for Strategic Development, who in turn reports to the Secretary of FDOT. The FDOT Secretary reports to the Governor of the State of Florida.

### 1.2 Program Participants and Roles

The FTA State Safety Oversight Final Rule delineates the responsibilities of the State (Florida), the FGTS state safety oversight agency (FDOT), the FGTS, and the FTA in implementing the state safety oversight program. A brief overview of these responsibilities and roles is provided below.

**The Federal Transit Administration:** The FTA assesses whether FDOT has complied with the Rule or has made adequate efforts to comply with the Rule. If the FTA determines that FDOT is not in compliance or has not made adequate efforts to comply, it may withhold up to five percent of the amount apportioned for use in the State or affected urbanized areas under FTA's formula program for urbanized areas (formerly section 9). Also, FTA receives reports from the oversight agency.

**The Federal Railroad Administration:** While the FRA does not have a formal role in FGTS state safety oversight, it is the regulatory agency for railroads that are part of the United States 'general railroad system.' Because HART's Mainline crosses track used by railroad trains, the FRA has regulatory jurisdiction over that portion of the HART Streetcar line interlocking. This means that HART must comply with FRA regulations with respect to operations, equipment, maintenance, etc., or receive a specific waiver from FRA for any regulations HART and FRA agree cannot be met or are not necessary.

Additionally, the FRA's jurisdiction over part of the HART system may require HART to file selected FRA-mandated reports. Finally, the FRA's involvement compels both HART and FDOT to maintain a high level of coordination and communication with the FRA in order to ensure that the FDOT SSO Program is appropriate and transparent.

**The State:** The primary responsibility of the State of Florida is to designate an oversight agency to oversee the safety of any FGTS that is:

1. Included in FTA's calculation of fixed guideway route miles or receives funding under FTA's formula program for urbanized areas (49 U.S.C. 5336);
2. Not regulated by the Federal Railroad Administration (As explained on the previous page, HART Streetcar is subject to FRA jurisdiction and FTA state safety oversight.); or
3. Has submitted documentation to FTA indicating its intent to be included in FTA's calculation of fixed guideway route miles to receive funding under FTA's formula program for urbanized areas (49 U.S.C. 5336).

**The Oversight Agency:** As the oversight agency, FDOT is required to develop and adopt a system safety program standard, which is a document that establishes the relationship between the oversight agency and the FGTS in Florida and specifies the requirements which the FGTS must follow. The system safety program standard must include minimum requirements for (1) safety practices to reduce the likelihood of unintentional events that may lead to death, injury, or property damage, and (2) security practices to reduce intentional wrongful or criminal acts, such as muggings, rapes, murders, assaults, or terrorist activities.

To ensure FGTS compliance with the safety and security standards, FDOT identifies the following SSO Program objectives to govern and evaluate FGTS safety and security:

- Require the FGTS to develop and submit safety-related plans, such as a System Safety Program Plan (SSPP) or a Public Transit Agency Safety Plan (PTASP), to FDOT for review, after which, FDOT shall approve or disapprove the safety-related plans, as appropriate. These plans must be submitted on an annual basis, as stipulated within this Manual or at any time when the FGTS conducts significant additions, deletions, or other modifications to the system's assets, facilities, infrastructure, or operating practices.
- Oversee the implementation of and enforce the execution of these safety-related plans through the use of formal findings, violation notices, and corrective action plans (CAPs) to ensure that FGTS policies, procedures, and practices are compliant with Federal regulations and State safety standards, and consistent with such actions that would promote the safe operation of the FGTS. FDOT transmits findings, violation notices, and CAPs to the FGTS chief safety and security officer(s) and the accountable executive.
- Conduct, or cause to be conducted, investigations, independently or in cooperation with Federal agencies, into the operations of the FGTS, including any accident or incident involving the operations or assets of the FGTS, or observation or allegation of non-compliance with the SSPP, insofar as those operations affect, or could affect, the safe operation of the FGTS.
- Conduct inspections at any time to oversee the operations of the FGTS and its contractors and subcontractors (including operations, maintenance, and training activities) through scheduled and unscheduled on-site activities.

- Audit the FGTS system for compliance with safety-related plans according to the FTA requirement for triennial audits, or for any other purpose the FDOT Program Manager concludes would promote the safe operation of the FGTS.
- Issue reports and findings regarding all aspects of the safety and security of the RTA, including operations and accidents.
- Ensure the FGTS develops and implements a formal training plan, which includes job descriptions with minimum qualifications and requirements specific to the duties of the position.
- Ensure the FGTS develops and implements a formal Roadway Worker Protection (RWP) plan.
- Ensure the FGTS develops and implements a formal employee staffing plan, which identifies minimum staffing numbers in essential areas and includes provisions for maintaining these numbers and succession planning.
- Enforce statutes, regulations, and executive orders related to the safe operation of the FGTS. If FDOT concludes that enforcement is required to protect or promote public safety, FDOT may take enforcement actions as outlined in this SSO Manual.
- Assure that all FDOT staff and contract personnel comply with the requirements of the Public Transportation Safety Certification Training Program, as applicable.

Aside from triennial audit process, as described in Section 9 of this Manual, FDOT will also conduct ongoing or periodic inspections, audits, and observations of FGTS operations, maintenance, safety, security, and training functions and activities, outlined in Section 12 of this Standard. Findings or concerns resulting from these inspections, audits, and observations will be communicated by FDOT to the FGTS in various forms, based on the nature of the situation.

FDOT shall issue a finding in cases where a reported or observed rule violation created a high or serious hazardous condition, or in cases where repeated or prolonged violations have occurred despite previous written warnings. See Figure 1, FGTS Risk Assessment Matrix for a depiction of hazard severity. The finding shall include specific action items and related deadlines that must be carried out by the FGTS. These actions may include, but not be limited to, cessation of some or all operations or maintenance activities; or removal of system components, equipment, or facilities from use and/or access. A finding may also result in one or more required CAPs to be developed and implemented by the FGTS as per the procedures and rules outlines in this Manual and the FGTS SSPP.

- FDOT may issue an appropriate finding in situations where a reported or observed activity or condition created a potential safety hazard or security vulnerability that was not deemed high or serious. In this case, a finding may also include required action items with deadlines for the FGTS as well as one or more CAPs to be developed and implemented by the FGTS as per the procedures and rules outlined in this Manual and the FGTS SSPP.
- FDOT may issue a written request for information or action to the FGTS regarding a reported or observed activity or condition, in which FDOT determines that the activity or condition may have created a safety hazard and/or security vulnerability. These written requests will direct the FGTS to provide specific information and/or internal analysis ranging from reviewing logs, audio, or video recordings; to initiate a formal hazard analysis or threat and vulnerability assessment; and/or to determine the potential severity of the activity or condition.

FDOT shall transmit all applicable correspondence described above formally to the FGTS via email and/or standard mail.

**Transit Agencies:** The FGTS subject to Part 1 of this Manual include the systems currently operating as described on page 16, as well as systems in the design, engineering, and construction phases that are FTA funding recipients. A FGTS subject to the SSO Rule must develop and implement a safety plan and an SEPP that complies with this FDOT SSO Manual. In addition, each FGTS shall develop and maintain a safety plan, approved by the FGTS leadership, as well as corresponding plans, policies, and/or procedures that include:

- Methods for identifying and evaluating, and mitigating as appropriate, all safety risks and security vulnerabilities throughout all elements of the system;
- Strategies to minimize the exposure of the public, FGTS personnel and assets, and passengers to hazardous and unsafe conditions and activities;
- Establishment of performance metrics based on safety performance criteria and on state of good repair standards;
- An hours of service policy consistent with industry standards and best practices guidelines;
- A safety data collection and distribution policy consistent with industry standards and best practices guidelines;
- Identification and assignment of qualified and TSSP-compliant safety officers;
- Technical and safety training program(s) and materials for comprehensive initial and ongoing technical and safety training for operations, maintenance, and all safety-related staff positions and contract and emergency response personnel; including specific minimum qualifications for experience and education relevant to each position's work activities identified in the training program;
- A formal Roadway Worker Protection program;
- Employee staffing plans that establish minimum staffing levels in accordance with minimum operations, inspection, maintenance, and training/qualification requirements. The employee staffing plan shall take into account projected attrition and length of time for hiring, and it shall also identify requirements for documenting alternative staffing approaches if minimum requirements cannot be met and succession planning for essential positions;
- Minimum parts stocks, to ensure the FGTS is able to meet minimum maintenance requirements and is able to meet minimum operating requirements;
- A minimum operating standard equipment list (MOSEL) before the FGTS allows vehicles to enter service; and
- A minimum two-year bridge inspection (per NBIS) plan, if applicable.

## 2 Program Management

### 2.1 FDOT Point of Contact

The FDOT SSO program operates within the FDOT Transit Office, as part of the Office of Freight, Logistics, and Passenger Operations. Appendix B depicts the FDOT SSO Program organizational chart. The FDOT Transit Safety Manager administers the state safety and oversight program on a full-time basis.

The Transit Safety Manager is authorized to arrange meetings with FGTS leadership, including, but not limited to the accountable executive(s) and FGTS board(s) of director(s.) FDOT may use contractors to support the performance of safety and security oversight activities. FDOT will employ minimum requirements and qualifications for any contractors providing technical support.

### 2.2 Coordination with the FGTS

FDOT will conduct meetings and correspond with FGTS safety and security representatives according to an established schedule and on an as-needed basis. This will include formal on-site meetings and teleconferences with FGTS safety and security representatives, and an annual report or presentation to the FGTS Executive Leadership and/or Boards of Directors. Informal meetings will be convened as needed, in addition to frequent phone calls and correspondence with key safety and security personnel. Meetings and communication protocols between FDOT and FGTS are detailed in other sections throughout the SSO Manual, specifically within the Corrective Action Plan, Accident Notification and Investigation, and Triennial Audit sections.

FDOT personnel will meet with other FGTS personnel regarding operations, maintenance, inspections, facilities and infrastructure, training, administration, and other safety- and security-critical topics during triennial audits, on-site inspections, and as needed, such as in response to an identified hazard or a concern for safety. FDOT may also attend emergency drills and exercises, Accident Evaluation Group (AEG) meetings, Fire Life Safety Committee (FLSC), Safety and Security Review Committee (SSRC), or ad hoc safety committee meetings at the FGTS as warranted. FDOT reserves the right to conduct its own investigations and inspections at the FGTS, as detailed in the Accident Investigation and Corrective Action Plan sections of the SSO Manual. FDOT develops and maintains a coordination schedule showing the FDOT scheduled activities.

FDOT meetings and correspondence with FGTS are intended to ensure ongoing communications between FDOT and each FGTS, such that all groups are familiar with agency perspective and needs. Ongoing communications also ensure the best possible safety and security programs for each program participant as enhanced attention in these areas is expected to result in fewer problematic outcomes. The FDOT SSO Program Manager maintains primary responsibility for meetings and correspondence with covered FGTS. The FDOT SSO Program Manager may assign meetings, correspondence, or reviews to FDOT contractors.

The FDOT SSO Program Manager and staff will maintain all required FGTS training and certification (such as Roadway Worker Protection/Track Access) in order to access FGTS property as needed and in compliance with FGTS rules. FDOT contractors must also complete requisite training and maintain certification to access the right-of-way as required by each FGTS, unless escorted by qualified FGTS

personnel. In the event FDOT personnel or contractors wish to access the right-of-way, FDOT will coordinate such access through appropriate FGTS safety and security departments and/or relevant maintenance or operations groups.

### **2.3 Conflict of Interest**

The FDOT SSO Program is committed to maintaining legal and financial independence from the covered FGTS, so that the opinions, findings, conclusions, judgments, and recommendations made by FDOT will be impartial and viewed as impartial by objective third parties, such as FTA, with knowledge of the relevant information.

In accordance with 49 CFR 674.41(c), no contractor may provide services to both FDOT (as the SSOA) and the covered FGTS, absent a waiver from the FTA Administrator. FDOT prohibits individuals or entities from providing services where there is a conflict of interest or an appearance of a conflict. A conflict of interest occurs when an individual or entity performing work for an FGTS or FDOT is unable, or potentially unable, to render impartial assistance or advice on the development or implementation of the provisions of this SSO Manual, or to objectively perform such work without bias. A third-party contractor to FDOT or the transit agency may not have an unfair competitive advantage over other contractors. Each contractor is subject to full disclosure on all present and potential conflicts of interest in its activities or relationships prior to being awarded a contract with FDOT. With the exception of the scenario noted above, the FDOT SSO Program Manager will have the final determination as to what relationships between an entity/party and a rail transit agency may constitute or appear to constitute a conflict of interest.

### **2.5 FTA Regional Office Coordination**

The FTA Regional Office conducts regular meetings with FDOT in its role as a grantee of federal funds. When these meetings occur, SSO program personnel shall be prepared to provide a briefing on program activities, including open CAPs, investigations, hazards, and other program elements. FDOT shall work with each FGTS to ensure that FTA receives all requested information.

### **2.6 FDOT Reporting to Executives**

In conformance with 49 CFR 674.13, FDOT must provide a publicly available annual safety status report to the Governor of Florida, each FGTS Chief Executive Officer, and to the FGTS Boards of Directors. These reports or presentations include updates on changes to FDOT SSO Program implementation, completed audits and significant findings, recent accident/incident investigations, and data on Corrective Action Plans, among others. This reporting will generally occur in the second quarter of each year (between April and June), following approval of each FGTS SSPP, SEPP, and Annual Report, and the FDOT annual report to FTA in the first quarter of each year (typically in March.)

### **2.7 Public Transportation Safety Certification Program**

As of this edition of the FDOT SSO Manual, FTA has issued a notice of safety certification training requirements for SSO personnel and their contractor support who conduct safety audits and examinations of public transportation systems [Federal Register Docket FTA-2014-0012, February 27, 2015]. The safety certification training requirement is designed to support FTA's adoption of the safety management

systems (SMS) approach to improve the safety of public transportation. FDOT is currently working to adhere to the interim certification requirements and will make program changes as needed to comply with forthcoming final rules and guidance from FTA. It is possible that FDOT and/or contractor personnel will be required to obtain training at the covered rail transit agency. FDOT will work collaboratively with each FGTS to comply with this or any other safety training rules promulgated by FTA.

## 2.8 FDOT SSO Program Policy and Objectives

49 CFR Part 674.27(a)(3) requires the FDOT SSO Program Manual to “set an explicit policy and objectives for safety in rail fixed guideway public transportation systems throughout the State.”

The overall objectives of the FDOT SSO Program are to reduce the potential for safety and security incidents and to increase awareness of safety and security. The overall policy of the FDOT SSO Program is to address these objectives in a proactive manner, with the belief that preventing accidents and incidents through reasonable measures is preferable to reacting to them after they occur. In addition, it is FDOT policy to work collaboratively with all levels of FGTS personnel to achieve the program objectives. Specifically, collaboration will flow through FGTS Safety Departments, with connection to FGTS executive management and Boards of Directors, as described above.

## 2.9 PTASP Goals and Objectives

FDOT will work with both FTA and each FGTS in the years ahead to delineate a specific policy and set of safety objectives, which must be endorsed by the FDOT Accountable Executive. FDOT anticipates that the requirements set forth by FTA in its final rule regarding Public Transportation Agency Safety Plans (PTASPs) will inform additional requirements of the FDOT SSO Program.

**Goal:** FDOT will approve each FGTS PTASP as compliant with 49 CFR Part 673 within one year of FTA’s promulgation of the PTASP final rule. Until such time, FDOT will approve each FGTS SSPP.

**Objectives:**

- Within three months of the PTASP final rule, FDOT and each FGTS will meet to discuss potential changes to the Interim PTASP needed to meet all requirements.
- Within six months of the PTASP final rule, FDOT will issue a PTASP review and approval checklist (which will be formally amended to the Procedures and Standards.)
- Within 10 months of the PTASP final rule, each FGTS will submit a final PTASP for FDOT formal review and approval.

**Goal:** FDOT will audit FGTS’s implementation of the PTASP within three years of formally approving a final, 673-compliant version of the PTASP.

**Objectives:**

- Within one year of formally approving a 673-compliant PTASP, FDOT will issue a revised Procedures and Standards that includes triennial audit procedures and checklists tailored to PTASP content and implementation requirements.



- Within three years of formally approving a 673-compliant PTASP, FDOT will schedule a triennial safety audit of each FGTS.

### 3 System Safety Program Plan

#### 3.1 Objective and General Requirements

The FGTS shall prepare a System Safety Program Plan (SSPP) that conforms to the requirements specified by this SSO Manual.

Section 5329(d)(1) requires the FGTS to establish Public Transportation Agency Safety Plans (PTASPs) within one year of the effective date of a final rule issued by the FTA.

The FGTS shall implement its SSPP as an Interim Safety Plan to satisfy the requirements of Section 5329(d), this Manual, and 49 CFR Parts 659 and 674 until one year after the effective date of the Federal PTASP rule.

#### 3.2 System Safety Program Plan

The FGTS must develop, implement, and maintain a written SSPP that complies with the program requirements outlined in this SSO Manual. The safety plan must be consistent with the National Public Transportation Safety Plan.

**An SSPP shall address, at a minimum, the following:**

- (1) A policy statement, signed and dated, by the Accountable Executive of the FGTS that endorses the safety program and describes the authority that establishes the SSPP.
- (2) A clear definition of the goals and objectives for the safety program and stated management responsibilities to ensure that they are achieved.
- (3) An overview of the management structure of the FGTS, including: (i) an organization chart; (ii) a description of how the safety function is integrated into the rest of the FGTS organization; and (iii) clear identification of the lines of authority used by the FGTS to manage safety issues.
- (4) The process used to control changes to the SSPP including: (i) specifying and documenting an annual assessment of whether the SSPP should be updated; and (ii) required coordination with the Department, and timeframes for submission, revision and approval.
- (5) A description of the specific activities required to implement the system safety program, including: (i) tasks to be performed by safety function, by position and management accountability, specified in matrices and/or narrative format; and (ii) safety-related tasks to be performed by other FGTS departments, by position and management accountability, specified in matrices and/or narrative format.
- (6) A description of the process used by the FGTS to implement its hazard management program, including activities for: (i) hazard identification; (ii) hazard investigation, evaluation, and analysis; (iii) hazard control and elimination; (iv) hazard tracking; and (v) requirements for on-going reporting to the FDOT relating to hazard management activities and status.

- (7) A description of the process used by the FGTS to ensure that safety concerns are addressed in modifications to existing systems, vehicles, and equipment, which do not require formal safety certification but which may have safety impacts.
- (8) A description of the safety certification process required by the FGTS to ensure that safety concerns and hazards are adequately addressed prior to the initiation of passenger operations for any new starts project and subsequent major projects to extend, rehabilitate, or modify an existing system, or to replace vehicles and equipment.
- (9) A description of the process used to collect, maintain, analyze, and distribute safety data, to ensure that the safety function within the FGTS receives the necessary information to support implementation of the system safety program. The SSPP must adhere to minimum categories as established by FDOT, including but not limited to regular reporting of training compliance, rules and operations bulletins, preventive maintenance inspection program compliance, and internal rules compliance audits.
- (10) A description of the process used by the FGTS to perform accident and incident notification, investigation and reporting, including: (i) notification thresholds for internal and external organizations; (ii) investigation process and references to procedures; (iii) the process used to develop, implement and track corrective actions that address investigation findings; (iv) reporting to internal and external organizations; and (v) coordination with FDOT.
- (11) A description of the process used by the FGTS for emergency management program activities, which include: (i) coordination with external agencies; (ii) emergency planning responsibilities and requirements; (iii) process used to evaluate emergency preparedness, such as annual emergency field exercises; (iv) after action reports and implementation of findings; (v) revision and distribution of emergency response procedures; (vi) familiarization training for public safety organizations; and (vii) employee training.
- (12) A description of the process used by the FGTS to ensure that planned and scheduled internal safety reviews are performed to evaluate compliance with the SSPP including: (i) identification of departments and functions subject to review; (ii) responsibility for scheduling reviews; (iii) process for conducting reviews, including the development of checklists and procedures and issuing of findings; (iv) review of reporting requirements; (v) tracking the status of implemented recommendations; and (vi) coordination with the Department.
- (13) A description of the process used by the FGTS to develop, maintain, and ensure compliance with rules and procedures having a safety impact, including: (i) identification of operating and maintenance rules and procedures subject to review; (ii) techniques used to assess the implementation of operating and maintenance rules and procedures by employees, such as performance testing; (iii) techniques used to assess the effectiveness of supervision relating to the implementation of operating and maintenance rules; and (iv) process for documenting results and incorporating them into the hazard management program.
- (14) A description of the process used for facilities and equipment safety inspections, including: (i) identification of facilities and equipment subject to regular safety-related

- inspection and testing; (ii) techniques used to conduct inspections and testing; (iii) inspection schedules and procedures; and (iv) description of how results are entered into the hazard management process.
- (15) A description of the maintenance audits and inspections program including identification of the affected facilities and equipment, maintenance cycles, documentation required, and the process for integrating identified problems into the hazard management process. A description of minimum parts stocks, a minimum operating standard equipment list, and a plan to ensure adherence to these requirements. A minimum two-year bridge inspection cycle, per NBIS, shall also be specified, if applicable.
- (16) A training plan containing a description of the training and certification program for employees and contractors, including: (i) categories of safety-related work requiring training and certification; (ii) a description of the training and certification program for employees and contractors in safety-related positions; (iii) process used to maintain and access current employee and contractor training records; and (iv) process used to assess compliance with training and certification requirements. The training plan shall also include a description of the FGTS' process for establishing the core functions of each safety-related position, including, but not limited to train operations and train and fixed guideway infrastructure and systems inspection and maintenance, and a description of the established minimum educational, certification, and/or experience requirements related to the specific duties of each job. It shall include a description of the minimum requirements for frequency of training and for the provision of training related to system modifications. The FGTS training and certification program must also reflect the FGTS's employee staffing plan which establishes minimum requirements for staffing levels for any function in accordance with minimum operations, inspection, maintenance, and training/qualification requirements. An employee staffing plan shall take into account projected attrition and length of time for hiring, and it shall also identify requirements for documenting alternative staffing approaches if minimum requirements cannot be met. The FGTS training and certification program must be consistent with the requirements of the Public Transportation Safety Certification Training Program.
- (17) A description of the configuration management control process, including: (i) the authority to make configuration changes; (ii) process for making changes; and (iii) assurances necessary for formally notifying all involved departments.
- (18) A description of the safety program for employees and contractors that incorporates coordination with applicable local, state, and federal authorities, including: (i) safety requirements, including right-of-way worker protection practices, that employees and contractors must follow when working on, or in close proximity to, FGTS controlled property; and (ii) processes for ensuring the employees and contractors know and follow the requirements. A description of the FGTS plan for compliance with hours of service requirements as established by FDOT.
- (19) A description of the hazardous materials program, including the process used to ensure knowledge of and compliance with program requirements.

- (20) A description of the drug and alcohol program and the process used to ensure knowledge of and compliance with program requirements.
- (21) A description of the measures, controls, and assurances in place to ensure that safety principles, requirements, and representatives are included in the FGTS procurement process.

### **3.3 Initial Review and Approval of SSPP**

FDOT shall, review, and approve in writing each SSPP. With the SSPP, the FGTS shall also submit any referenced materials, including procedures, checklists and training materials for accident investigation, the internal safety audit program, the hazard management process, the emergency response planning, coordination and training program, and the rules compliance program.

Each FGTS must submit an SSPP and all FGTS documents referenced in the SSPP, in compliance with the program requirements specified in this Manual and, the National Public Transportation Safety Plan to FDOT no less than 180 calendar days prior to the start of passenger operations. The FGTS shall submit the SSPP and supporting documents in electronic format to FDOT.

FDOT will review the submitted SSPP, using the checklist provided in Appendix C, and evaluate the document to determine if it is consistent and compliant with current regulations governing the implementation of such plans, including the National Public Transportation Safety Plan. Upon approval, FDOT will provide a written letter of approval and a copy of the completed checklist to the FGTS.

While conducting its review, FDOT may request additional information, clarifications or revisions from the FGTS. FDOT may conduct meetings and/or teleconferences to address any issues identified during its review of the SSPP. Any additional requirements will be conveyed by the SSOA point-of-contact. Pending any major deficiencies in the SSPP, FDOT will approve the initial SSPP within 60 calendar days of receipt. In the event that the plan is not approved, FDOT shall provide a written explanation to the FGTS and allow the FGTS the opportunity to modify and resubmit the plan for approval.

### **3.4 Subsequent Reviews of the SSPP**

The FGTS shall conduct an annual review of its SSPP and update it as necessary to comply with applicable regulations, or address changing conditions or best practices. The FGTS shall complete the review for the previous calendar year and submit a revised SSPP to FDOT by March 1st of each year following the commencement of passenger service. The FGTS shall submit referenced materials affected by the revision(s) with the SSPP.

The FGTS shall include a text or tabular summary that identifies and explains proposed changes and includes a time frame for completion of the associated activities. FDOT shall review subsequent SSPP submissions using the checklist provided in Appendix C and evaluate the document to determine if it is consistent and compliant with applicable State and Federal regulations governing the implementation of such plans. Upon approval of modifications, FDOT will issue written approval to the FGTS within 30 calendar days of receipt, and a copy of the completed SSPP review checklist.

In the event that a FGTS conducts its annual SSPP review and determines that no update is necessary for that year, it must prepare and submit formal correspondence by March 1 notifying FDOT of this determination. If FDOT wishes to object to this determination, FDOT will notify the FGTS within 30 calendar days of receipt.

FDOT may require additional reviews of the SSPP to address specific issues based on revisions to the SSO Manual or procedures, revisions to applicable Federal Regulations and Rules, audit results, on-site reviews, investigations, and/or changing trends or terrorism threat levels. Upon receipt of a written notification from FDOT for SSPP modifications, the FGTS shall submit a revised SSPP to FDOT within 30 calendar days. FDOT will review the revised SSPP against the request/required changes and approve as appropriate, providing a formal approval letter. FDOT will complete this review and approval process within 30 calendar days of receipt of the modified SSPP.

In the event that the FGTS initiates updates outside of the annual review cycle, the FGTS shall submit the modified SSPP, and any subsequently modified procedures, to FDOT for review and approval within 30 calendar days.

### **3.5 Submittals from New Starts Projects**

A New Starts project shall begin preparing a draft SSPP as part of its initial project planning phase. The project shall submit a draft SSPP to FDOT prior to the final design phase of the project and before construction begins. The project shall submit a final draft SSPP and all referenced procedures/materials to FDOT at least 60 calendar days before initiating the minimum six-week pre-revenue operations period. The project must successfully complete this period prior to the start of revenue operations. FDOT will review the initial SSPP using the checklist provided in Appendix C and evaluate the document to determine if it is consistent and compliant with current regulations governing the implementation of such plans, including but not limited to the National Public Transportation Safety Plan. The FGTS shall adopt the final SSPP as part of the New Starts project safety certification process.

### **3.6 Readiness Review**

FDOT may conduct an on-site Readiness Review of any New Starts project. FDOT may conduct the review after receipt of the initial SSPP submission and prior to the commencement of passenger operations. This assessment shall focus on the capabilities of the FGTS to implement its SSPP during passenger operations. FDOT may conduct this assessment in conjunction with review and approval of the initial SSPP submission.

FDOT may issue an official report with required corrective actions (consistent with Section 9 of this document), or may address any findings through the SSPP review and approval process.

## 4 System Security and Emergency Preparedness Plan Standard

### 4.1 Objective

This section identifies the minimum requirements for the Security and Emergency Preparedness Plan (SEPP) to be developed, approved, adopted, and implemented by the FGTS.

The FGTS must prepare the SEPP as a separate document from the SSPP. Any SEPP or SSP and EPP should be classified and managed as a Sensitive Security Information (SSI.) A FGTS may also choose to develop and maintain separate documents as an Emergency Preparedness Plan (EPP) and a System Security Plan (SSP.) For continuity purposes, this SSO Manual will collectively refer to these plans as the SEPP going forward.

### 4.2 SEPP Minimum Requirements

Each FGTS must develop, implement, and maintain a written SEPP that complies with the program requirements specified in this document, which are based on FTA's System Security and Emergency Preparedness Planning Guide, issued in January 2003.

#### **At a minimum, the SEPP must:**

- Identify the policies, goals, and objectives for the security and emergency preparedness program endorsed by the accountable executive of the FGTS;
- Document the process for managing threats and vulnerabilities during operations and for major projects, extensions, new vehicles and equipment, including integration with the safety certification process;
- Identify controls in place that address the personal security and emergency preparedness of passengers and employees;
- Document the process for conducting internal security audits to evaluate compliance and measure the effectiveness of the SEPP; and
- Document the process for making its SEPP and accompanying procedures available to FDOT for review and approval.

FDOT must review the SEPP on-site at the FGTS.

### 4.3 Initial Review and Approval of SEPP

In carrying out its oversight responsibilities FDOT shall review, and approve in writing, each SEPP. The FGTS shall provide any referenced materials, including procedures and checklists for the threat and vulnerability identification/assessment/resolution process, the internal security audit program, and the controls in place that address the personal security and emergency preparedness of passengers and employees. For FGTS participating in the Federal Department of Homeland Security's Transit Security Grant Program, FDOT requests copies of the Regional Transit Security Strategy.

FDOT shall review and approve in writing each SEPP. Each FGTS must provide an SEPP and all FGTS documents referenced in the SEPP, in compliance with the program requirements specified in this Manual

and, the National Public Transportation Safety Plan to FDOT no less than 180 calendar days prior to the start of passenger operations. The FGTS should make the SEPP and supporting documents available to FDOT for review on-site at the FGTS.

FDOT will review the submitted SEPP, using the checklist provided in Appendix D, and evaluate the Plan to determine if it is consistent and compliant with current regulations governing the implementation of such plans, including the National Public Transportation Safety Plan. Upon approval, FDOT will provide a written letter of approval and a copy of the completed checklist to the FGTS.

While conducting its review, FDOT may request additional information, clarifications or revisions from the FGTS. FDOT may conduct meetings and/or teleconferences to address any issues identified during its review of the SEPP. FDOT will convey any additional requirements. Pending any major deficiencies in the SEPP, FDOT will approve the initial SEPP within 60 calendar days of receipt. In the event that FDOT does not approve the plan, FDOT shall provide a written explanation to the FGTS and allow the FGTS the opportunity to modify and resubmit the plan for approval.

#### **4.4 Subsequent Reviews of SEPP**

The FGTS shall conduct an annual review of its SEPP and update it as necessary to ensure it is current at all times. A revised SEPP shall include a text or tabular summary that identifies and explains proposed changes and includes a time frame for completion of the associated activities. FDOT shall review SEPP revisions, FDOT shall issue to the FGTS written requests for changes or a formal approval letter of the SEPP within 30 calendar days of the review of the SEPP.

In the event that an FGTS conducts its annual SEPP review and determines that no update is necessary for that year, it must prepare and submit by March 1 formal correspondence notifying FDOT of this determination. If FDOT objects to this determination, FDOT shall notify the FGTS within 30 calendar days of receipt of the correspondence.

The FGTS shall conduct additional reviews of the SEPP to address specific issues based on revisions to State regulations, audit results, on-site reviews, investigations, or changing trends in crime data or terrorism threat levels. Upon receipt of a written notification from FDOT for SEPP modifications, the FGTS shall revise the document(s). FDOT will review and approve the revised document, providing a formal approval letter and a completed review checklist.

#### **4.5 SEPP Submittals from New Starts Projects**

A New Starts project shall begin preparing a draft SEPP as part of its initial project planning phase. A preliminary draft SEPP shall be submitted to FDOT prior to the final design phase of the project and before construction begins. The project shall submit a final draft SEPP and all referenced procedures/materials to FDOT at least 60 calendar days before initiating the minimum six-week pre-revenue operations period. This period must be successfully completed prior to the start of revenue operations. FDOT will review the initial SEPP using the checklist provided in Appendix D and evaluate the document to determine if it is consistent and compliant with current regulations governing the implementation of such plans, including



but not limited to the National Public Transportation Safety Plan. The FGTS shall adopt the final SEPP as part of the New Starts project security certification process.

FDOT shall transmit a formal letter of approval and the completed checklist to the FGTS. During its review, FDOT may request additional information, revisions or modifications. The FGTS shall comply with these requests within ten calendar days of receipt.

#### **4.6 SEPP Readiness Review**

FDOT may conduct an on-site SEPP Readiness Review of any New Starts project. FDOT shall conduct this review after completing the review of the initial SEPP submission but prior to the system beginning passenger operations. This review shall focus on the capabilities of the FGTS to implement its SEPP during passenger operations. FDOT may conduct the review in conjunction with the review and approval of the initial SEPP.

In conducting this review, FDOT may follow the procedures specified for the triennial audit, identified in Section 9 of this Manual; or as an on-site walk-through of the FGTSs security and emergency preparedness program to ensure both the accuracy of its initial SEPP submission and the capacity of the FGTS to implement its SEPP.

FDOT may issue an official report with required corrective actions (see Section 10 of this document), or may address any findings through the review and approval process used for the SEPP.

## 5 Internal Safety and Security Review Program

### 5.1 Objectives

This section describes requirements for the internal safety and security review program that an FGTS must implement.

The key objectives of internal safety reviews are:

- Determine through methods such as interviews, document reviews, and field observations if the responsible department(s) is implementing the programs described in the SSPP and SEPP and identified more specifically in the rules, procedures, and other program documentation
- Determine if the responsible department(s) is identifying hazards and non-compliance issues in a timely manner,
- Determine if the responsible department(s) is appropriately tracking and mitigating hazards and issues using the established hazard management process.
- Issue findings when hazardous conditions or non-compliant practices are discovered, and issue recommendations or observations when processes or procedures can be improved.
- Work with affected departments to address findings, mitigate safety and security deficiencies, or improve business practices through development and tracking of CAPs in accordance with established processes.
- Determine whether plans, procedures, and/or rules are sufficiently detailed and reflect actual practice or if they should be modified and/or updated.
- Ensure all elements of the FGTS safety, security, and emergency preparedness program, including all areas described within the SSPP and SEPP are reviewed in an ongoing manner and completed over a three-year cycle.

### 5.2 Minimum Requirements for Internal Safety and Security Reviews

The FGTS must:

- Develop and submit to FDOT an internal safety and security review schedule, which addresses all elements of the SSPP and SEPP (plans) over a three-year cycle. At a minimum, the FGTS must provide annual updates of this schedule to FDOT with the annual report discussed in Section 5.2 of this document.
- Develop checklists and procedures for reviewing each of the elements of the SSPP and SEPP. These materials must include sufficient criteria to determine if the FGTS is implementing all of the elements of these plans, in addition to evaluating whether the plans adequately contain all of the required provisions.
- Notify FDOT at least 30 calendar days prior to an internal safety or security review. Notification must be in writing and may be transmitted to FDOT via letter or email. Notification shall include the time and location of the internal review. FDOT may participate in any internal review.

- At the time of notification, the FGTS must submit to FDOT checklists and procedures relevant for the review being conducted. These materials may be submitted to the FDOT point-of-contact in electronic copy via email or in hard copy via mail.
- Prepare a written report documenting recommendations and any corrective actions identified as a result of the review. The FGTS must submit any resulting CAPs to FDOT.
- Track the implementation of all findings, recommendations, and CAPs developed as a result of the internal safety and security review process through the Hazard Tracking Log as described in Section 6.3. This log should be available to FDOT and may be referenced during activities performed in support of the Hazard Management Process (discussed in Section 6 of this document).
- Develop and formally approve checklists and procedures for conducting regular rules compliance checks, including but not limited to, all established operating rules such as compliance with the Rulebook, Standard Operating Procedures, General Orders, Directives, and Bulletins relating to operations, maintenance, and supervisory/management practices of the system. Compliance checks should also take into account and document observable security hazards, including but not limited to emergency signage, emergency call buttons, graffiti, and public-address systems. All findings from compliance checks should be recorded in the Hazard Tracking Log as described in section 6.3. The FGTS shall establish minimum performance requirements for frequency of each type of rule compliance check developed. The FGTS must also produce a report of any and all records of compliance checks performed, including the name of the person who performed the check, as well as any logistical information, including but not limited to the time, vehicle number, and stations facilities.

By March 1 of each year, the FGTS must submit an annual report to FDOT that includes documentation of the internal reviews conducted during the previous year. The FGTS may submit this report via email or in hard copy via standard mail.

This annual report must include:

- A list of the internal safety and security reviews conducted for that year;
- A discussion of the FGTS status in meeting its three-year internal audit schedule, including the identification of any obstacles in meeting the schedule and any proposed mitigation measures;
- An updated schedule for the following year review;
- The status of all findings, recommendations and corrective actions resulting from the reviews conducted that year; and
- Any challenges or issues experienced by the FGTS in obtaining action from/compliance with these findings, recommendations and corrective actions during that year.

The annual report must also include a formal letter of certification, signed by the accountable executive of the FGTS, stating that, based on the evaluation performed during the internal safety and security review process during the previous year, the FGTS is in compliance with its SSPP and SEPP.

If the FGTS determines that findings from its internal safety and security reviews indicate that the FGTS is not in compliance with its SSPP, the FGTS must identify in an action plan the activities necessary to achieve compliance. FDOT must review and approve this action plan using the procedures specified in Section 10 of this document.

FDOT shall review this report within 60 calendar days. While conducting its review, FDOT may request additional information, clarifications or revisions from the FGTS. The FGTS shall comply with such requests within ten calendar days.

## 6 Hazard Management Process

### 6.1 Objective

This process provides the FGTS with minimum standards for identifying, assessing, and mitigating or eliminating hazards, and provides FDOT with an ongoing role in overseeing the FGTS hazard management process.

### 6.2 Minimum Requirements

FDOT requires each FGTS to develop and document in its SSPP a process to identify and resolve hazards discovered during normal operations, reviews, audits, inspections, and investigations or for New Starts projects, extensions, or modifications of existing systems, operational or environmental changes. The hazard management process must identify, report, classify, resolve, and track safety hazards in a manner that is planned, consistent, and rigorous, as well as appropriate to the FGTS size and operating situation.

The information in this section is provided as guidance in the development and operation of a hazard management program. The FGTS shall submit its hazard management plan, or section of its SSPP, in accordance with the FDOT SSO Program SSO Manual. The hazard management plan must include a threshold for reporting of the most serious classes of hazards to FDOT, as further detailed below. It must also include a protocol for regular review of all levels of hazards on a regular (e.g., monthly or quarterly) basis.

The hazard management process must, at a minimum:

- Define the FGTS 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 on-going identification of hazards;
- Define the process by which identified hazards will be evaluated and prioritized for elimination and control;
- Identify the mechanism used to track through resolution the identified hazard(s);
- Define the minimum thresholds for the notification and reporting of hazards to FDOT; and
- Specify the process by which the FGTS will provide on-going reporting of hazard resolution activities to FDOT.

### 6.3 Hazard Tracking Log

The SSPP must specify an approach to identifying and assessing hazards. The FGTS may use a variety of methodologies, including informal processes, such as reports from operations and maintenance personnel, results from rules compliance checks and employee evaluations, the mining of operations and maintenance data, results from facilities and vehicles inspections, findings from internal safety and security reviews, and daily review of the unusual occurrences log, as well as more formal approaches, such as trend analysis, hazard analyses using inductive processes (Preliminary Hazard Analysis, Failure

Modes and Effects Analysis, Job Hazard Analysis, etc.) and/or hazard analysis using deductive processes (Fault Tree Analysis.)

Based on its selected methods, each FGTS must identify its process for consolidating all hazard information into a single, coordinated process. This process may use worksheets, forms, databases and other tools to support standardization and organization of hazard information.

FDOT requires each FGTS to establish a Hazard Tracking Log which reflects the consolidation of information in the hazard management process. The Hazard Tracking Log must contain all hazards identified through the various methods applied by the FGTS. The Hazard Tracking Log may be organized by a unique identifier assigned by the FGTS, or by the type of hazard, the source from which it was identified, or the element of the FGTS operation affected by the hazard (i.e., facilities, vehicles, track and signal, communications/SCADA, personnel training and procedures, etc.). At a minimum, the Hazard Tracking Log shall contain the following information:

- **Unique Identifier** — An identifying number assigned to the hazard by the FGTS. FDOT may also assign its own unique identifier.
- **Date Identified** – This is the date the hazard was identified by the FGTS.
- **Source** – This field indicates the mechanism used to identify the hazard, i.e., operator report, near-miss, accident investigation, results of internal safety or security audit, rules compliance or training program; maintenance failure, facility or vehicle inspection, trend analysis, formal hazard analysis.
- **Hazard Description** – The FGTS must provide a brief narrative summary of the hazard, including specific details such as that the hazard is, where it is located, and various other contributing factors. It may reference other formal documentation that provides further detail.
- **Hazard Analysis** – The FGTS should include information about the identification, review, evaluation, and response to the hazard. This field may be updated during the hazard investigation and/or throughout the hazard tracking period.
- **Hazard Rating** – This is the hazard analysis rating determined by the FGTS.
- **SSO Reportable** – This is a yes/no response: Was the hazard reportable to FDOT within the 24-hour window?
- **CAP Developed** – This is a yes/no response: Has a CAP or have CAPs been developed? This field should be updated as the investigation progresses.
- **Responsible Person/Department** – This field is applicable when a CAP has been developed. The FGTS must provide the specific name of the person responsible for implementing the CAP and the associated internal FGTS department the responsible person works in.
- **CAP Details** – When applicable, the specific actions of the CAP should be provided in this space.
- **Target Completion Date** – When a CAP or other mitigation is determined, this is the date by which the FGTS expects to complete the actions

- **Actual Completion Date** - This is the date the FGTS actually completed the recommendations and actions.
- **Status** – This column contains the current state of the hazard. Status conditions may include
  - “Open” – The hazard investigation is in progress.
  - “Complete” – The FGTS has finished the hazard investigation and submitted the final investigation report to FDOT.
  - “Closed” – FDOT reviewed and accepted the final investigation report.
  - Other status descriptions may be used by FDOT, as appropriate.
- **Date Verified by FDOT** – This is the date that FDOT accepted and approved the final hazard investigation report.
- **Additional columns** – As necessary, the FGTS and/or FDOT may add columns to the tracking matrix to provide additional information regarding the hazard, the investigation, the CAPs, and so on.

The FGTS must submit its initial Hazard Tracking Log to FDOT for review and approval. Once the log is approved, the FGTS must maintain this log and provide the most current version to FDOT via email or in hard copy via standard mail by the fifth business day of each month. The FGTS may formally request an extension to this monthly deadline in writing via email. The FGTS may modify an existing CAP due date, approach, assignee, or other elements, and shall notify FDOT in writing or via email prior to submittal of the following month’s Hazard Tracking Log. The FGTS shall not submit the Hazard Tracking Log with incorrect or outdated information. FDOT will review the Monthly Hazard Tracking Log and advise the FGTS safety point-of-contact about any questions or requests for additional information. FDOT may also review the log with FGTS safety personnel as part of the recurring SSO Program activities, including site visits, teleconferences, or other meetings.

#### 6.4 Notification of Unacceptable Hazards

An FGTS shall notify FDOT of all hazardous conditions that affect the immediate safety or security of the rail system. At a minimum, the FGTS shall notify FDOT within 24 hours (and preferably within two hours) of “High” and “Serious” hazardous conditions that meet the criteria set forth in the Hazard Assessment/Resolution Matrix contained in Section 6.5 below.

FDOT is not responsible for assigning severity/probability ratings to hazardous conditions. Therefore, to ensure that the FGTS appropriately notifies FDOT of all hazardous conditions affecting rail safety or security that are not necessarily assigned the severity/probability ratings meeting the above criteria, the FGTS shall include in its hazard log and hazard management process all hazardous conditions, incidents, occurrences, and discoveries that meet the criteria listed below:

- Incidents involving individuals working in the transit agency-controlled right of way that are investigated by the transit agency.
- Malfunctions of safety-critical systems that could result, or have resulted in catastrophic or single-point failure.

- Broken or missing safety-critical equipment, infrastructure, or systems that could result, or have resulted, in employee or passenger injury, or damage to property.
- Discoveries of systemic or patterns of employee non-compliance with rules and procedures.
- Rail transit vehicle collisions with fixed objects on the mainline or in the yards.
- Near miss of rail vehicles.
- Grade crossing warning system activation failure.
- Speed restriction or track closure due to track or facility damage.
- Fire or smoke on the track, on a vehicle, or in a facility.
- Broken or loose wheel or axle.
- Fallen or dragging rail vehicle equipment
- Split switch without derailment
- Train uncoupling in passenger service.
- Signal violation or overrun.
- Unauthorized train encroachment or overrun into work zone.
- Vehicle door openings on the wrong side, off station platforms, or during train movement.
- Incapacitated operator in passenger service.
- Exposed energized electrical conductors or equipment that can be contacted by passengers or employees.
- Employee or patron electric shock.

The FGTS must notify FDOT of incidents listed above within one business day, rather than in the next hazard log submission. Each FGTS must ensure that it has effective processes to identify and record hazards in the categories listed above, including hazard trending/analysis and employee reporting of hazards. Each FGTS should assess the implementation of this identification in an ongoing manner and during internal safety reviews; FDOT will informally assess this identification as well as effective mitigation measures in its ongoing review of hazard logs and formally during triennial safety and security audits.

## **6.5 Investigation, Evaluation, and Analysis of Unacceptable Hazards**

The FGTS must investigate a hazard reported to FDOT as unacceptable in accordance with the provisions specified by the FGTS in its SSPP. The FGTS must maintain a file of identified hazards, and this file must be made available to FDOT for review and evaluation, upon request. Investigation and evaluation procedures, including those associated with the safety department and any committees that may have safety responsibility, should be detailed in this section. These two steps frequently involve both investigations of severity and frequency as well as detailed discussion between FGTS personnel to assess the impact of a hazard.

The analysis component of this section should detail the methodology used to categorize and prioritize the identified hazards. In this section, the transit system should define a primary quantitative-qualitative methodology for hazard analysis, such as Military Standard 882, presented in the table below. (Military Standard 882 is a popular method for hazard analysis in the transit industry. Other methods may be used, so long as the FGTS can demonstrate that appropriate personnel are familiar with the method and can apply it appropriately and consistently.) This methodology, as well as any other internal FGTS procedures, should be used to establish the severity and probability of occurrence for each hazard.



**Figure 1. FGTS Risk Assessment Matrix**

		SEVERITY			
		1. Catastrophic	2. Critical	3. Marginal	4. Negligible
PROBABILITY	A. Frequent	High	High	Serious	Medium
	B. Probable	High	High	Serious	Medium
	C. Occasional	High	Serious	Medium	Low
	D. Remote	Serious	Medium	Medium	Low
	E. Improbable	Medium	Medium	Medium	Low
	F. Eliminated	Eliminated			
Resolution Requirements					
High *		Unacceptable	correction required		
Serious		Undesirable	correction may be required, decision by management		
Medium		Acceptable w/ review	with review and documentation by management		
Low		Acceptable	without review		
Eliminated		Acceptable	no action required		

Investigation, evaluation, and analysis will often require input from a comprehensive team of FGTS personnel. For more complicated hazards, more extensive analysis can be helpful in identifying and evaluating possible hazard scenarios.

**Hazard Control and Elimination:** Overall, the control and elimination section should identify FGTS priorities for hazard mitigation and elimination. The FGTS may emphasize classifications of high-frequency, high-severity hazards. It may also emphasize more permanent control and elimination measures such as design or equipment changes, versus procedure or training changes.

The control and elimination section should describe the process for hazard mitigation and elimination. The FGTS should describe a consistent methodology for minimizing hazards within its resources. This process should be grounded in an ongoing, consistent process and appropriate levels of intra-agency review. Hazard control and elimination may require separate discussions and descriptions relative to large projects and system modifications versus ongoing operations and maintenance.

Hazard analyses may result in CAPs that achieve the control and elimination of hazards. The FGTS must formulate, report upon, and resolve CAPs in accordance with all requirements in Section 10 of this SSO Program manual.

**Initial Investigation Report:** The FGTS must submit preliminary unacceptable hazard investigation report to FDOT within seven calendar days of the hazard being reported to the FDOT point-of-contact. The FGTS must transmit an electronic copy of the preliminary investigation report to the FDOT point-of-contact via email; however, other methods of submittal, such as paper copies sent via standard mail or faxes, may also be acceptable with prior approval from FDOT.

**Status Investigation Reports:** The FGTS shall submit a monthly status report to FDOT for each open unacceptable hazard investigation the investigation is complete. Depending on the severity of the hazard, FDOT may require status report updates on a more frequent basis. Monthly status reports must follow the predetermined FDOT format and must be submitted to by the 15<sup>th</sup> of each month, or on the next closest business day following the 15<sup>th</sup> if the 15<sup>th</sup> falls on a holiday or on a weekend day. The FGTS must transmit an electronic copy of the investigation status report to the FDOT point-of-contact via email; however, other methods of submittal, such as paper copies sent via standard mail or faxes, may also be acceptable with prior approval from FDOT. As necessary, the FGTS may submit a written request for an extension of the monthly status report deadline. FDOT will review the request and grant a formal, one-time extension for that month. Extension requests in subsequent months must be submitted to FDOT individually.

**Final Investigation Report:** Upon completing the investigation of an unacceptable hazard, the FGTS must prepare a final report that includes the following content, at a minimum:

- A description of the facts and sequence of events;
- A description of analytical methods used and a review and analysis of the facts, conditions, circumstances, and inferences regarding the people, procedures, equipment, facilities, and/or environmental factors relevant to the event;
- Conclusions/findings based on the analysis of facts;
- Identified contributing factors and a distinct statement of probable cause;
- Recommendations, including corrective action plans, if applicable (see Section 10); and
- Applicable appendices, including supporting documentation, drawings, photographs, interview transcripts, meeting notes, and so on.

The FGTS must submit the final report to FDOT for review and approval. The FGTS must transmit an electronic copy of the final investigation report to the FDOT point-of-contact via email. Within 30 calendar days of receiving a report designated as final, FDOT will review the report, using the process specified in Section 8 of this document.

Within 30 calendar days of acceptance of the FGTS investigation report, FDOT will issue written approval of the report to the FGTS. Written approval by FDOT will be provided using the FDOT online reporting system. FDOT will complete the online form indicating approval (or rejection with comments and requests for additional information) and FDOT will also provide an electronic copy of this form to the FGTS upon request. If FDOT does not accept the report, FDOT shall communicate in writing the area(s) of disagreement or concern that require modification by the FGTS. The report will not be considered final until all conditions are met and FDOT approves the report.

**Corrective Action Plans (CAP):** As appropriate, the FGTS shall develop a formal corrective action plan to correct those elements or activities identified as deficient or in need of remediation as a result of the hazard investigation. In addition, FDOT may, during the course of an investigation, identify immediate corrective actions to avoid or minimize the reoccurrence of the unsafe condition or address a related, systemic problem. Procedures associated with development, submission, review, and approval of

corrective action plans are the subject of Section 10 of this document. At any time during an investigation, FDOT may request a full briefing from the FGTS regarding the known circumstances of the investigation, including corrective actions.

**FDOT Investigation of Hazards:** FDOT reserves the right to conduct an independent investigation of any identified unacceptable hazard. A description of the FDOT investigation process is provided Section 8 of this document. Once FDOT determines it will conduct an independent investigation of a reported hazard, FDOT shall inform the FGTS in writing no later than seven calendar days following receipt of the initial report. FDOT will advise the FGTS of the following:

- investigation processes;
- identity of individual(s) conducting the investigation; and
- tentative schedule of investigation elements.

The FGTS shall assist FDOT investigators by providing required information and resources necessary for conducting the investigation.

FDOT shall complete an investigation report that includes a description of activities, findings, and identified causal factors. FDOT shall complete and submit the report to the FGTS within 30 calendar days after completion of the investigation. The FGTS shall prepare a CAP and submit it to FDOT within 15 days of receipt.

**Hazard Tracking and MAP-21:** In accordance with Safety Management System principles and associated guidance that may be issued by the FTA, each FGTS will be required to collect a higher volume and greater scope of safety data related to transit operations and maintenance activities. These data will be gathered from many of the same departments it is obtained from currently; however, the depth of information and the frequency with which data is collected will increase. Safety Department staff at each FGTS must play a larger role in data gathering and analysis, as well as coordinating this process internally with FGTS departments.

FDOT will work with each FGTS to analyze this increased volume of safety data across the system and highlight areas of concern that may become hazards or are trending towards unsafe conditions. Each FGTS must create a process for securely storing this data, as well as processes for regularly assessing trends and communicating with FGTS departments regarding any issues or concerns resulting from this analysis. FDOT will review and approve the process developed by each FGTS to meet this requirement.

## 7 Accident/Incident Notification, Investigations, and Reporting

### 7.1 Objective

This section addresses the requirements in place for the notification, investigation, and reporting of events meeting the thresholds specified in FTA's 49 CFR Part 674.39(b), and in Appendix A to 49 CFR Part 674: Notification and Reporting of Accidents, Incident, and Occurrences.

### 7.2 Minimum Requirements

All accidents, as defined by 49 CFR Part 674 or meeting the thresholds outlined in this section below, must be investigated. It is the responsibility of the FGTS to maintain current contact information (email address and phone numbers) for the FDOT representative that receives initial notifications. The FGTS must also maintain current contact information provided by the FTA and the NTSB for event notification. The FGTS must notify FDOT of a reportable event via telephone and the FDOT SSO Program Online Document Management System (DMS) Internet website. For non-reportable events, the FGTS must notify FDOT via telephone and/or email as soon as possible following the event. The FGTS shall notify the SSOA of an event by telephone, regardless of the time of day. If FGTS is unable to contact the FDOT point of contact by phone, the FGTS must e-mail a notification to the FDOT point of contact.

**Initial Notification: Accidents.** An FGTS must notify FDOT and the FTA (using the electronic reporting system as specified and required by 49 CFR Part 674.39(b)) within two hours of any safety or security event involving a rail transit vehicle or taking place on FGTS controlled property where one or more of the following accidents occur:

- Fatality, including all loss of life that occur on a transit property or are related to transit operations or maintenance, that occur within 30 days following the accident. This includes suicides.
- One or more persons suffering serious injury (Serious injury means any injury which: (1) Requires hospitalization for more than 48 hours, commencing within seven days from the date of the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second or third-degree burns, or any burns affecting more than five percent of the body surface.);
- Property damage resulting from a collision involving a rail transit vehicle;
- A collision between a rail transit vehicle and any other vehicle or person;
- A collision with an object that results in a serious injury or fatality;
- A grade crossing collision;
- A runaway train;
- Evacuation due to life safety reasons at any location, but also including, the offloading of passengers off any train into any non-station location, such as on the guideway, at grade, or along a street;
- Any derailment at any location, at any time, whatever the cause;;

- Any splitting or trailing of a switch regardless of the location or outcome, and including situations when the train remains fully railed.

**Initial Notification: Incidents.** Additionally, the FGTS must notify FDOT within two hours of the following incidents:

- Non-collision related damage resulting to equipment, rolling stock, or infrastructure that disrupts the operations of a FGTS;
- Low-speed collisions involving a rail transit vehicle that result in a non-serious injury or property damage;
- Damage to catenary, third-rail, or other power distribution equipment that disrupts operations;
- Fires that result in a non-serious injury or property damage;
- A personal injury that is not a serious injury;
- Hazardous material spills

**Initial Notification: Occurrences.** The FGTS must notify FDOT within 24 hours of:

- Close Calls and/or Near Misses; (see definitions)
- Non-collision related damage to equipment, rolling stock, or infrastructure that does not disrupt the operations of a transit agency
- Safety rule violations;
- Passenger self-evacuations
- Violations of safety policies;
- Vandalism or theft

**Notification Content:** Event notifications to FDOT must include descriptions of the following:

- Name and Job Title of person reporting accident, incident or hazardous condition
- Event Type (fatality, injuries, property damage, evacuation, derailment or other)
- Location, Time, Date
- Number of fatalities
- Number of injuries, including the type of injury if known
- Rail transit vehicle(s) involved (type, number)
- Other vehicle(s) involved (type, number)
- Property damage estimate (RTA shall attempt to report actual dollar amounts)
- If the event is NTSB reportable
- If the event is FRA reportable
- FGTS primary person conducting the investigation (name, title, phone numbers and email address)
- Physical Characteristics of the Scene
- Interview Findings
- Sequence of Events
- Probable Cause(s) and Contributing Factors
- Conclusions

- Recommendations and Corrective Actions
- Document Control Number
- Attachments that include all related reports (i.e., Service Quality, police, operator, witness statements, photographic evidence)

In the event that information is not yet available or not applicable, the FGTS shall identify its status in the initial notification and identify actions underway to gather and report such information.

### 7.3 Protocols for Reporting Accidents to Other Agencies

The FGTS are required to report accidents to other oversight agencies such as the FTA, FRA, NTSB, National Transit Database, et al. The requirements of this document do not obviate other reporting obligations.

**Reportable to FTA:** Any serious injury and/or fatal accident/incidents that are required to be reported to FDOT within two hours of the occurrence should also be reported to FTA by the FGTS with the same information listed above.

All accidents/incidents that meet the criteria of National Transit Database shall be sent to the National Transit Database by the FGTS. Any other minor but reportable to FTA accidents shall be recorded by the FGTS and entered into the accident database for inventory and annual report purposes.

In accordance with 49 CFR 674.33, the FGTS must provide notification to FTA of any reportable accident within two hours. The criteria and thresholds for accident notification and reporting are defined in a reporting manual developed for the electronic reporting system specified by FTA as required in 674.39(b) and in Appendix A of the FTA's final rule for 49 CFR 674.

The requirement that the FGTS report accidents to the FTA becomes effective once the FTA certifies FDOT as compliant with 49 CFR Part 674. FDOT shall share any FTA guidance it receives from FTA with the FGTS and work with the FGTS to develop new protocols and timeframes for implementation as needed.

**Reportable to NTSB:** Notification of any major accidents/incidents that meets the requirement of reportable threshold for the NTSB shall be sent to the NTSB by the FGTS within the NTSB's specified timeframe. The FGTS shall ask the NTSB within three days after the accident/incident occurrence whether NTSB intends to investigate the accident/incident and inform FDOT about the NTSB's decision.

**Reportable to FRA:** Any FGTS that shares access with the FRA jurisdiction tracks must notify the FRA of any serious injury and/or fatal accidents that occur within the shared track segment consistent with 49 CFR 225.9. The FGTS must notify the FRA immediately when events that meet the reportable threshold for the FRA occur. For any and all accidents/incidents that are subject to FRA notification requirements, the FGTS shall also immediately notify FDOT and the FTA.

## 7.4 Investigation and Reporting Requirements

The purpose of accident investigation is to gather and assess facts in order to determine cause(s); and to identify corrective measures to prevent recurrence. The FDOT SSO Program accident investigation will occur according to one of the following models (or, less frequently, a combination of these models):

- FDOT conducts investigation;
- FGTS authorized to conduct investigation;
- Other oversight agency conducts investigation; or
- Joint investigation of FDOT and FGTS.

In each case, the goal of FDOT investigation efforts will be to identify root and contributing causes for incidents and accidents, and to identify steps to minimize the likelihood of future accidents or incidents. FDOT has the primary responsibility for all investigations. Investigation reports are not final until adopted as such by FDOT.

As part of this general authorization to use the FGTS investigation process, FDOT must first review and approve the transit agency Accident Investigation Procedures (AIP) as a part of the annual SSPP approval process. FDOT will also audit the implementation and effectiveness of the FGTS AIP through the triennial audit process and ongoing oversight efforts.

## 7.5 FDOT Investigations

FDOT may choose to conduct an independent investigation of any event meeting the thresholds specified in Section 7.2. Any investigation conducted by FDOT shall be in accordance with the approved FGTS investigation procedures and this Manual.

FDOT shall inform the FGTS of its intention to conduct an investigation or participate in an investigation of a reported event as soon as practicable. FDOT shall advise the FGTS as to the personnel who will be conducting the investigation, and provide a preliminary schedule. In conducting its investigation, FDOT will, at a minimum, perform the following activities:

- Assign a team of qualified personnel to investigate the accident (off and on-site). The team will include individuals with technical expertise in the type of accident being investigated and will be trained in accordance with the Public Transportation Safety Certification Training Program.
- The FDOT on-site team will wait until the FGTS and/or other emergency response personnel have secured the area before commencing its on-site accident investigation. FDOT may request that the FGTS hold the accident scene to the maximum extent feasible until the arrival of the FDOT on-site team representatives.
- The FDOT team will assess physical evidence of the accident scene including: damage and debris analysis; skid mark analysis; and the use of measurements, diagrams and photographs. They will also document the environmental and physical factors of the accident scene.
- As part of the investigation FDOT will assess compliance with operating rules and procedures; conduct follow-up interviews (if required); analyze employee records and the

results of post-accident drug and alcohol tests; and conduct vehicle and equipment inspections.

FDOT must issue a final investigation report within 30 calendar days of the conclusion of the investigation. The FGTS shall review the final investigation report, and within 15 calendar days after receiving it, submit a corrective action plan to FDOT for review and approval.

FDOT will not investigate every accident, but rather will largely delegate investigation responsibility to the transit agency, which must comply with notification and reporting requirements outlined above. FDOT may participate in the investigation process. The terms of participation and coordination shall be specified in the FGTS SSPP and in the investigation procedures and must concur with the requirements set forth in this Manual and 49 CFR Part 674.

## 7.6 FGTS Authorized to Conduct Investigation

Unless FDOT decides to conduct its own investigation (and informs the FGTS of that decision), FDOT formally authorizes the FGTS to conduct its own investigation of the accident and utilize that accident investigation to serve as the FDOT investigation. An authorized representative of FDOT may also participate as a member of the FGTS accident investigation team or committee. FDOT representative(s) may also attend the accident review meetings.

In conducting an accident investigation, the FGTS must provide the materials listed below to FDOT on the following schedule:

- **Notification:** Basic information about the reportable accident must be transmitted to FDOT during the notification process, as described in the FDOT current Accident Notification procedure noted in Section 7 above.
- **Preliminary Written Report:** As soon as possible after the accident/incident, but within two business days, the FGTS must email preliminary written information, including any accident investigation summary information, preliminary reports from field personnel, and other available information.
- **Investigation Status Report:** The investigation report prepared by the FGTS must be submitted to FDOT within 30 calendar days following the completion of the investigation. However, if the investigation cannot be completed within 30 days of the accident/incident, the FGTS must prepare and submit monthly status investigation reports by the 15<sup>th</sup> of each month. The status investigation reports at a minimum shall include:
  - Minutes of any meeting held by an investigation committee or contractor;
  - Disclosure of any immediate corrective actions the FGTS has planned or completed;
  - Principal issues or items currently being evaluated; and
  - Overall progress and status of the investigation.

**Briefings:** At any time during an investigation, the FGTS shall be prepared to provide a full briefing on the known circumstances of the event, status of FGTS or NTSB investigation, and investigation activities to the FDOT and FTA.



- **Draft Final Accident Report:** At the conclusion of its investigation, and within 30 days of the accident, the FGTS safety department must transmit to FDOT a Draft Final accident report. If the FGTS requires additional time to complete its investigative activities, then it must request additional time from FDOT in writing. FDOT will work with the FGTS to close open accidents with consideration of needed investigative processes, including (but not limited to) transportation investigations, derailment reports, police investigations, medical examiner reports, and other required materials to close an accident investigation.

## 7.7 Investigation Report Development, Review, and Adoption

Except as noted above regarding status reports, the investigation report prepared by the FGTS must be submitted to FDOT within 30 calendar days following the completion of the investigation. The Draft Final Report must contain the following information, at a minimum:

- Executive summary
- Sequence of events, including a comprehensive description of injuries, fatalities, and property damage with estimated dollar value
- Clear description of events before, during, and after the accident/incident
- Findings and analysis, including investigation activities
- Description of the investigation process and methodology
- Description of post-accident/incident testing and research conducted
- Conclusions, including any findings
- Probable and contributory causes
- Recommendations to prevent reoccurrence
- Supporting analysis to defend any recommendations made
- Short- and long-term actions
- Changes to rules, policies, or procedures
- CAP(s) to address any findings resulting from the investigation.

The FGTS may include more information, based on FGTS investigation procedures or external recommendations (such as the American Public Transportation Association (APTA)'s Rail Transit Accident/Incident Investigation standard, RT-OP-S-002-02). Likewise, FDOT may request more information in order to clarify or evaluate circumstances about a particular incident or about incident trends.

Upon receipt of the FGTS investigation report, FDOT shall review the report. In the event that FDOT does not agree with the description of the investigation, the identification of primary and contributing causes, or the findings of the report, FDOT shall communicate in writing to the FGTS the area(s) of disagreement or concern. FDOT shall work with the FGTS to address these issues. If the FGTS does not concur with the FDOT area(s) of disagreement, the FGTS may submit a written dissent from the FDOT report. The FGTS dissent may be included in the final investigation report, at the discretion of FDOT. In the event that agreement cannot be reached on these issues, FDOT shall issue its own investigation report.

FDOT shall review the CAP portion of the FGTS accident investigation report following the procedures described in Section 10 of this SSO Manual.

## 7.8 NTSB Investigations

The NTSB may investigate a reportable event to achieve its primary function to promote transportation safety. In such case, the NTSB is responsible for the investigation; the determination of facts, conditions, and circumstances; the cause or probable cause or causes; and recommendations to reduce the likelihood of recurrence. In cases of an NTSB investigation, FDOT shall support the NTSB as a member of its Party System.

In the event of an NTSB investigation, the FGTS shall provide timely briefings to FDOT on NTSB activities including meetings, interviews, requests for data, functional testing, examination of equipment, and the results of drug and alcohol tests. The FGTS shall provide FDOT with a copy of all written correspondence to the NTSB concerning a reportable event or investigation, and also shall provide FDOT a copy of all NTSB reports and any recommendations concerning the event or its investigation, upon receipt by the RTA. FDOT shall assist the NTSB by providing any requested information.

If the NTSB releases preliminary findings and recommendations, FDOT may participate in any discussions and reviews with the FGTS and the NTSB. FDOT and the FGTS shall review the NTSB findings, draft, and final reports and make a determination of whether or not to adopt the NTSB recommendations. Should the FGTS adopt the NTSB recommendations, the FGTS shall implement the findings and each corrective action plan must be submitted to FDOT following the procedures described in Section 10 of this Manual.

## 7.9 Other Investigations

49 CFR Part 674.35(d) authorizes the FTA Administrator to conduct an independent investigation of any accident or an independent review of the FDOT or the FGTS findings of causation of an accident. The FGTS and FDOT shall cooperate to the maximum extent practicable with the FTA in the case of such an investigation.

Depending on the event, another oversight agency such as the FRA, National Transit Database, and so on, may conduct an investigation of the accident utilizing its own procedures and personnel. FDOT and the FGTS will provide to the investigation team the resources and information necessary to conduct the investigation in an effective and efficient fashion.

FDOT may or may not conduct a separate and distinct investigation. Should FDOT opt to conduct its own investigation, it will inform both the external investigating agency and the transit agency. In any case, FDOT will provide to the external investigation team any information necessary to conduct the investigation in an effective and efficient fashion. FDOT must review the other oversight agency's final report and either formally adopt it as its own or prepare its own report.

When an external agency such as NTSB or FTA issues an investigation report for an event at the covered transit agency, FDOT will work with the FGTS to incorporate that agency's findings into CAPs as necessary, utilizing the CAP process contained in his document.

### **7.10 Joint Investigation by FDOT and FGTS**

The FGTS and FDOT may choose to conduct a joint investigation of the accident. The FGTS and FDOT may use the FGTS procedures, FDOT procedures, or a combination of the two procedures to investigate the accident. The procedures to be used must be established prior to the investigation and agreed upon by both the transit agency and FDOT.

### **7.11 Confidentiality of Investigation Reports**

To the extent allowed by law, the State of Florida may withhold an investigation report that may have been prepared or adopted by the FDOT SSO Program from being admitted as evidence or used in a civil action for damages resulting from a matter mentioned in the report. In addition, to protect the confidentiality of investigation reports, access to both electronic and paper copies of such reports is controlled at the FDOT SSO project offices.

## 8 Accident Investigation Procedures

The following are the procedures that FDOT will use in the event that it conducts an independent accident investigation. In most cases, the rail transit agency will conduct the investigation on behalf of FDOT.

### 8.1 Training and Qualification for FDOT Investigative Personnel

Pursuant to 49 CFR 674.35, all personnel or contractors that conduct investigations on behalf of FDOT will be trained to perform their functions in accordance with the Public Transportation Safety Certification Training Program. When the SSO program is certified as MAP-21 compliant, FDOT will not permit its personnel or contractors to conduct investigative activity without verifying each individual maintains the requisite training or certification.

### 8.2 Initial FDOT Response

If FDOT elects to conduct an independent accident investigation, it will notify the rail transit agency of this decision, and will request that the accident scene or materials be held, if needed.

If FDOT's accident investigation will occur parallel to a rail transit agency field investigation, FDOT will inform the transit agency's on-scene commander as to the name and contact information of FDOT's Lead Investigator. The FDOT Lead Investigator will initiate, coordinate, and conduct an independent on-site investigation of accidents/incidents. If the scene cannot be secured, or if FDOT's decision to conduct an independent investigation comes after the scene has been cleared, FDOT may request certain measurement and field data from the rail transit agency.

The FDOT Lead Investigator may also elect to utilize data from the rail transit agency's investigation, including technical data for which the transit agency has greater expertise or access. FDOT also may seek corroboration or verification of certain rail transit agency data, depending on its nature and source.

Examples of technical data or expertise that FDOT may acquire from outside sources such as the transit agency include inspection, testing, and operational assessment of the following:

- Signals
- Track
- Power
- Communications
- Vehicle and Equipment

### 8.3 Accident/incident on-site data development

The FDOT Lead Investigator's four objectives when initially responding to an accident scene will be:

- To secure the scene and work with transit agency personnel to ensure mutually agreeable procedures and evidence collection.
- To preserve short term and long term physical evidence.
- To develop preliminary sequence of events to determine what happened.

- To identify employees, passengers, and other eyewitnesses to obtain preliminary statements and contact information.

Once an event occurs, short term information becomes quickly perishable as an accident scene is recovered (e.g. equipment or obstructions are moved or re-arranged, equipment controls are re-positioned, witnesses disappear, etc.) The primary task of on-site data collection is to prioritize the retrieval of such perishable information.

**Photographs of the scene:** Upon arrival on the accident scene, the FDOT Lead Investigator will arrange to have the scene photographed as soon as possible from a panoramic view, preferably before the accident scene is disturbed. This panorama should include camera photographic shots of the involved vehicle(s) in full view, nearby infrastructure features, and any evident significant obstructions, objects, or conditions. If possible, accident scene photographs should be taken using a '4-point compass' method. The entire scene should be photographed from multiple vantage points. The photographer should attempt to provide sufficient depth-of-field to show relative positioning of objects and subjects for later comparison with diagrams.

Arrange to have specific objects or subjects photographed as soon as possible from both normal periphery and close-up views, preferably before the accident scene is disturbed. The photographer should attempt to ensure appropriate depth-of-field to sufficiently record subject material. These photographs should attempt to include, at a minimum:

- Each vehicle involved, exterior four sides, including number
  - Each vehicle involved, interior compartment
  - Each vehicle involved, operating control compartment
  - Resting position of wheels if off track, including evidence of sanding
  - All visible points of vehicle damage
  - Evidence of wheel marks on rail
  - All visible points of infrastructure damage
  - Any visibly evident contributing obstructions, objects, or conditions
  - Position of casualties, if stationary
- Any other subject that appears out of the ordinary

**General information upon arrival:** The following information at a minimum should be collected upon arrival at the incident site:

- Location, including as many specifics as possible such as mileposts, catenary pole numbers, grade crossing or interlocking name, etc.
- Date and time of occurrence
- Time of arrival of FDOT Lead Investigator
- Visibility (dawn, day, dusk, dark)
- Weather (clear, cloudy, rainy, foggy, snowing, sleeting)
- Approximate temperature

- Status of transit agency investigation and incident command

**Eyewitness information:** Obtain eyewitness information as quickly as possible. Information should include:

- Name, address, telephone number
- Witness category (employee, passenger, bystander, etc.)
- Status of witness (observer or principal involved in accident)
- Brief description or account of what was or was not observed

**Vehicle condition at scene:** Document the damage and condition of the vehicle(s), including the following:

- Car body condition (visible damage)
- Positions of all operator controls (controller & brake handles, headlight and other switches, air gauge readings, etc.)
- Wheels/axles/trucks/sanders
- Brake systems – friction, electric (dynamic), track
- Door positions or other entry/exit location conditions
- Headlights, marker lights, indicator lights status

**Vehicle dynamics:** Document evidence relative to vehicle travel/speed to include, as a minimum, the following:

- Work with transit system personnel to ensure event log data (where in service) is secured
- Identify wheel marks on track
- Identify evidence of sanding
- Identify evidence indicating area of contact/collision
- Determine line-of-sight distances
- Ensure arrangement to secure recorded communication data

**Infrastructure and environmental conditions:** Document the damage and condition of the infrastructure and environmental conditions. Checklist items should include, at a minimum, the following:

- Damage (observable) to track, signals, bridges, structures, buildings, other infrastructure equipment or machinery
- Damage (observable) to crossing protection apparatus, if relevant
- Roadway approaches, visible pedestrian approaches (unauthorized or otherwise), if relevant
- Evidence (observable) of recent environmental alteration (washout, landslide, etc.)
- Evidence (observable) of recent miscreant alteration (vandalism)
- Point of Derailment, Collision, or Other Incident

**Diagramming the scene:** Sketch the scene, as appropriate, regarding the relative location of track(s), vehicle(s), signals, equipment, apparatus, buildings, bridges, other structures. Include

noteworthy landmark features, such as roadways, waterways, pathways, flora, etc. Diagram alignment should be relative to geographic north.

**Measuring the scene:** Indelibly mark points of reference in the field (e.g. paint or chalk markings). Document the correlation of points of reference with resting positions of objects or subjects. Use feet as a standard unit of measure.

**Casualty factors:** Document the current status of all known casualties, including:

- Injuries – total number, personal information (if possible)
- Fatalities– total number, personal information (if possible)
- Identification of responder units that treated or transported casualties
- Identification of hospitals where casualties were transported

**Toxicological factors:** FDOT Procedures, and the Federal Transit Administration (49 CFR Part 655, “Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations”) require the transit agency to conduct toxicological testing.

Inquire with transit agency supervision as to which individuals will be tested. Note these as well as any other personnel involved in the incident that will not be tested.

#### 8.4 Accident/incident off-site data collection

Once the accident scene data have been obtained, the FDOT Lead Investigator may inform the rail transit agency incident commander that FDOT no longer requires the scene held.

The FDOT Lead Investigator should commence with off-site data collection, including:

- Gathering any remaining applicable non-perishable data.
- Gathering any interim research and analysis of data collected on scene.
- Outlining any possible preliminary incident causes or contributing factors.

In the aftermath of an accident, long term information that is non-perishable must be collected (e.g. operational speeds and conditions, maintenance and inspection records, damage estimates, etc.) The primary task of off-site data collection is to coordinate documentation to support evaluation of system, vehicle, and employee performance.

**Coordination and provision of technical assistance/expertise:** Coordinate needed post-accident research and analysis with the transit agency and any other response agencies that may be involved in the accident. The FDOT Lead Investigator may rely on rail transit agency personnel for specialized technical support as needed.

**Vehicle and component performance:** One or all of the following parameters may be relevant to the investigation and should be reviewed, as appropriate:

- **Inspections/tests:** The FDOT Lead Investigator will coordinate with FDOT personnel or contractor personnel to conduct and/or review post-accident inspections/tests on

vehicles as needed to determine if pre-existing conditions contributed to the accident. Applicable components to be tested should include, as a minimum, the following:

- Operator controls
  - Wheels/axles/trucks/sanders
  - Braking systems friction, electric (dynamic), track
  - On-board signal/speed control systems
  - Communication system
  - Lights
  - Whistle/horn/gong
- **Vehicle test specifications:** Obtain any necessary specifications, manufacturer's test values, etc., to verify that data shown on the vehicle inspection(s) are appropriate and within tolerances.
  - **Maintenance history:** Research and obtain prior maintenance history of vehicle or vehicles to determine if any significant conditions or performance levels existed prior to the accident. Identify relevant maintenance protocols and recommended maintenance/inspection frequency. Identify actual maintenance and inspection activities performed as documented in maintenance files. Photocopy records if possible, or record important data such as the dates performed, results, anomalies, etc.
  - **Data comparison:** Compare systems performance data (inspections/tests, maintenance history) vs. prescribed engineering limits/specifications to determine if there were any contributing factors to the accident.

#### Vehicle dynamics:

- **Event log data** – Work with rail transit agency personnel to obtain and interpret event log data to determine actual vehicle performance prior to and at the time of the event.
- **Communication data** – Recover recorded radio or other communication data to determine if flow of information is of significance.

#### Infrastructure system performance:

- **Inspections/tests** – The FDOT Lead Investigator should conduct, witness, review, and/or document timely post-accident inspections/tests on infrastructure as needed to determine if pre-existing conditions contributed to the accident. Infrastructure components to be tested should include, at a minimum or as applicable, the following:
  - Track structure
  - Traction power system
  - Signal systems
  - Routing systems
  - Buildings and other structures
  - Bridges
  - Grade crossing protection apparatus
  - Other equipment or machinery



- **Event log data** – Recover data from any off-vehicle event recorders such as signal system event recorders or other software driven records systems.
- **Manufacturer or system normal values** – Obtain any engineering specifications, drawings, manufacturer information, or other data needed to compare infrastructure inspection/test results with intended values and performance.
- **Maintenance history** – Research the prior maintenance history of infrastructure and systems to determine if any significant conditions or performance levels existed prior to the accident. Identify relevant maintenance and inspection protocols and frequency. Photocopy relevant inspection documentation, or identify maintenance and inspection activities performed and record important data such as the dates performed, results, anomalies, etc.
- **Data comparison** – Compare systems performance data (inspections/tests, maintenance history) vs. prescribed engineering or manufacturer limits/specifications to determine if there may have been any contributing infrastructure/systems factors to the accident.

**Operational Conditions and Factors:**

- **Rail transit agency operating instructions** – Identify all applicable transit operating instructions for the type and location of the accident.
  - Operating rules, procedures, and special instructions
  - Maximum authorized speed and speed restrictions
  - Operating signs and locations
  - Wayside signal locations and aspects capable of being displayed
  - Bulletins or other special operating orders in effect at time of accident
  - Automatic signal systems in effect (train control, cab signals, interlockings, automatic block, etc.)
  - Any special operating conditions
  - Any verbal or informal instructions in place at the time of the accident
- **Other operating instructions** – Obtain and research applicable federal and state rules/regulations to determine compliance and effect on accident dynamics. As applicable, these should include, as a minimum, the following:
  - Federal Railroad Administration regulations, if applicable
  - Motor Vehicle Code
  - Operating standards and practices
  - Equipment standards
  - Qualification/certification level requirements
  - Inspection/maintenance standards
  - Safety standards and practices

**Interviews and outside reports:**

- **Primary interviews** – The FDOT Lead Investigator should conduct detailed face-to-face interviews as needed to determine sequence of events leading up to and at time of the

accident. If possible, make an audio record of the interview and obtain interviewee signature. Interviews should include, at a minimum or as applicable:

- Operators or crew members
- Other employees directly or indirectly involved in the sequence of events
- Non-employee accident principals
- Passengers
- Bystander witnesses
- **Secondary interviews** – Obtain any interview data conducted by other independent sources.
- **Supervisory reports** – Obtain applicable supervisory reports of investigation.
- **Outside agency reports** – Obtain applicable reports of investigation prepared by outside agencies and police.

**Documenting human factors:**

- **Employee records** – Research employee records for performance history or incidents relating to accident dynamics. These records should include, but are not limited to, the following:
  - Operating and safety practices compliance
  - Qualification/certification levels and experience
  - Training and continuing education history
  - Accident/Incident history
  - Toxicological and medical history
  - Attendance/discipline history
- **Fatigue factors** – Research and document employee hours of service before the accident occurred. This should include the following:
  - Time employee reported for duty
  - Elapsed time from on-duty time until time of accident
  - Break periods before accident
  - Available off-duty hours before reporting for assignment
  - Number of consecutive days worked prior to day of accident
  - Nature of off-duty activity prior to accident
- **Fitness for duty** – Research and document the employee’s fitness for duty. This should include the following:
  - Pre-existing medical conditions
  - Results of transit agency toxicology tests

**Follow-up casualty factors:**

- **Contacting hospitals and verifying casualties** – Contact hospitals to verify casualties. Obtain the following:
  - Number
  - Identities
  - Severity (injuries vs. fatalities [if possible, obtain Medical Examiner reports])

- **Trespasser events** – Conduct additional research for trespasser events. Research the following:
  - Police reports related to indications of suicide or foul play
  - Medical Examiner toxicological reports
- **Potential injury dynamics/survival factors** – Investigator should document vehicle, infrastructure, or operating conditions that could have contributed to the casualties, or increased their severity.

**Follow-up toxicological factors:**

- **Testing results** – Obtain results of post-accident toxicological testing.
- **Testing determination** – Obtain determination of toxicological significance, if available.

**Reconstruction:** As considered relevant, reconstruct the accident dynamics and sequence of events based upon all data developed from on-site investigation and off-site research. Establish facts that were contributory to the accident. Fact-finding should include, as a minimum, the following categories:

- Actual vehicle performance
- Actual infrastructure performance
- Actual employee performance
- Mathematical calculations
- Scale drawings/diagrams
- Photographic evidence

**Analysis:** When all readily obtainable information is assembled, the FDOT Lead Investigator should ensure that all existing evidence is evaluated and make a general determination as to the contributing factors and probable cause of the accident. As applicable, the following information should be included:

- All other supervisor's individual reports
- Interview reports
- Technical reports (vehicle, infrastructure, other)
- Outside agency reports
- Data contained on records, if applicable
- Hand-written statements
- Event log data
- Radio/communication tapes and/or transcripts
- Maps, drawings, or diagrams
- Photographs or videos

The FDOT Lead Investigator should keep in mind that the investigation might not have reached the final stage. Future evidence may surface which could change the determination of probable cause.

**Preparing reports and recommendations:**

- **Summary report** – The FDOT Lead Investigator should prepare a summary report detailing the data and analysis to support a determination of the stated cause, as well as any recommended corrective actions, where needed.
- **Draft report, review, and finalization** – FDOT will submit a Draft Final accident investigation report to FGTS within 30 days after the accident date. Within 15 days after receiving the report, FGTS will review this report and respond to FDOT with any comments regarding accuracy, analysis, or recommendations in the report. FDOT will consider the comments for revisions to the report, which will become the Final Report to be completed within 15 days after receipt of FGTS comments.

After FDOT finalization of the report, issued by the SSO Program Manager signing the report as adopted, a copy of the final signed and adopted report will then be returned to FGTS's Chief Safety Officer. This final report will serve as FDOT's final accident/incident investigation.

- **Accident/incident report sections** – At a minimum, the accident/incident report should include the following sections:
  - Executive Summary
  - Investigative activities
  - Sequence of events
  - Prior to the accident/incident
  - The accident/incident
  - Subsequent to the accident/incident
  - Findings/analysis
  - Conclusions
  - Probable cause
  - Contributory causes
  - Recommendations for corrective action to prevent recurrence

**Evidence retention:** In the event that FDOT possesses of any evidence or materials that belong to the rail transit agency, FDOT will handle such evidence in accordance with rail transit agency policy or request and in full compliance with Florida's public records laws. Any FDOT photographs, reports, measurements, sketches, etc., shall be retained with the accident investigation file for not less than seven years.

**Corrective action plans:** The FDOT Lead Investigator and the FDOT State Safety Oversight Program Manager will ensure that the rail transit agency develops, implements, and tracks appropriate corrective actions in accordance with Section 10 of the FDOT Procedures and Standards.

## 9 Triennial On-Site Safety and Security Audits

### 9.1 Objective

This section addresses the FDOT SSO Program procedures for triennial audits to be performed on-site at the FGTS. This audit determines the extent to which the FGTS is implementing its SSPP and SEPP, the effectiveness of the SSPP and SEPP, and whether the FGTS should update its SSPP and SEPP.

### 9.2 Minimum Requirements

As specified in 49 CFR Part 674.27 at least every three years, FDOT must conduct an on-site audit of the FGTS implementation of its SSPP. FDOT may conduct this audit in a single audit of all areas of the SSPP or in an on-going manner over the three-year timeframe. In addition to the FTA-required audit of FGTS compliance with the SSPP, FDOT also requires an audit of the implementation of the SEPP. FDOT may conduct SSPP- and SEPP-based audits simultaneously.

In conducting the audit, FDOT shall establish a review team of personnel who are trained in accordance with the Public Transportation Safety Certification Training Program, and prepare a schedule, procedures, and a checklist to guide the review process.

At the conclusion of the audit, FDOT shall prepare and issue a report containing findings and recommendations, which analyzes the effectiveness of the SSPP and SEPP and identify any necessary updates. Corrective actions required as a result of this audit shall be managed through the process described in Section 10 of this document.

FDOT will identify three types of findings during a triennial safety and security audit:

- **Deficiency:** A Deficiency finding refers to an instance where the FGTS is not operating in compliance or accordance with an applicable internal or external written requirement, including, but not limited to, this Manual;; the FGTS SSPP; the SEPP, and referenced FGTS plans, policies, and procedures. Deficiencies may be safety- or security-critical in nature; however, some findings may be related to a deficiency in the content or material reviewed.
- **Area of Concern:** An Area of Concern finding of compliance with recommendation refers to a condition whereby the FGTS may technically be in compliance with applicable internal and external requirements; however, there may be no appropriate written plan, policy, or procedure in place, or the existing plan, policy, or procedure is not appropriate, or is not written in accordance with applicable industry practices or adopted standards. Alternatively, such a finding of compliance with recommendation may constitute a resource or organizational issue preventing the allocation of sufficient resources to system safety or security activities.
- **Observation:** Where applicable, FDOT may also provide remarks based on the professional judgment of the review team and its knowledge of industry best practices. These noteworthy Observations may highlight areas in which the FGTS maintains an exemplary policy, practice, or procedure. The Observation may also describe

opportunities for potential improvements. FDOT does not require the FGTS to develop a formal, written CAP to address each Observation. The decision to formulate CAPs or to otherwise respond to the comments and notes contained in Observations rests entirely with the FGTS.

If FDOT conducts a triennial audit of a FGTS in an ongoing process over a three-year cycle, FDOT shall produce and submit a cumulative and comprehensive report covering the completed triennial safety and security audit at the conclusion of the cycle.

### 9.3 Process and Procedure

**Pre-Audit Preparations:** FDOT shall notify the FGTS of the audit, no less than 60 calendar days before the audit will occur. The notification shall include a draft schedule for the audit and a list of documents requested for preliminary review. This schedule shall include checklists to guide the audit, the dates of an optional pre-review meeting between FDOT and the FGTS, the review, preparation of a draft report, delivery of the draft report to FGTS, and the issuance of a final report.

FDOT shall review in detail the SSPP, SEPP, and referenced and supporting procedures and materials. FDOT may request additional information, procedures, or documentation. These requests may be transmitted via email.

FDOT will identify:

- The safety and security requirements to be reviewed;
- The applicable reference documents that establish the acceptance criteria for those requirements; and
- The method of verification.

FDOT shall transmit review checklists to the FGTS at least 30 calendar days prior to the start date of the audit. FDOT or the FGTS may request a pre-audit meeting for clarification of any questions and concerns.

**On-Site Audit:** FDOT shall conduct an entrance meeting with the FGTS to resolve any outstanding issues and verify the schedule. The review shall include, at a minimum:

- **Rules Review:** A review of the operating rules, bulletins, maintenance rules, and procedures to determine if the appropriate departments review and update them on a regular basis, if the appropriate departments distribute them to appropriate personnel, if the FGTS offers appropriate training, and if the FGTS documents and tracks this process;
- **Records Review:** A review of FGTS records for evidence of implementation of the SSPP and referenced or supporting rules and procedures. Records reviewed and/or sampled may include, but are not limited to: training records, internal safety audit reports, maintenance inspection reports, records related to drug and alcohol testing, control center and other operations management logs, hazard logs, procurement and contract documentation, and minutes of safety-related meetings;

- **Interviews:** Discussions with senior management and other agency personnel to assess their knowledge and verify their understanding of the agency's safety program and gauge their commitment to the safety program; and
- **Field Observations and Inspections:** Observations of operations, training, and maintenance activities to ensure that the safety program is implemented consistent with the SSPP, SEPP, and associated rules and procedures

**Draft and Final Triennial Audit Reports:** Following the completion of the on-site audit, FDOT shall prepare a draft report that addresses all elements reviewed during the audit. At a minimum, this draft report will provide:

- Verification that the SSPP and SEPP are integral parts of the FGTS overall management, engineering, operating, and maintenance practices and/or identification of deficiencies or areas requiring improvement.
- Verification that the FGTS reviews the SSPP and SEPP, at a minimum, on an annual basis in order to ensure that each document remains up-to-date and/or identification of deficiencies or areas requiring improvement.
- Verification that the FGTS regularly monitors compliance with the SSPP and SEPP, through a continuous and on-going internal safety and security audit process and/or identification of deficiencies or areas requiring improvement.
- Verification that the FGTS identifies potentially serious conditions, hazards, threats and vulnerabilities and assurance that methods to eliminate, control, and mitigate the conditions are implemented and/or identification of deficiencies or areas requiring improvement.
- Verification that the FGTS conducts investigations following established procedures and/or identification of deficiencies or areas requiring improvement.
- Verification that the FGTS implements its emergency preparedness programs and/or identification of deficiencies or areas requiring improvement.
- Verification that specific activities and tasks identified in the SSPP and SEPP are being carried out as specified in these plans and/or identification of deficiencies or areas requiring improvement.

FDOT shall deliver the draft report to the FGTS no later than 60 calendar days after the conclusion of the on-site review. The FGTS then has a 30-calendar day period to conduct a factual review and provide comments to FDOT. In the unlikely event that additional time is needed for the factual review, the FGTS may submit a written request for up to a 14-calendar day extension of the factual review period along with justification for the request. The written extension request must be signed by the accountable executive, and FDOT will provide written approval of the extension request to the FGTS, provided that the FGTS demonstrates good cause for the extension (such as weather delays, natural disasters, governmental entity coordination delays, or other technical problems not within the control of the FGTS).

Upon receipt of the FGTS factual review, FDOT shall make all necessary revisions to the draft report and issue a final report within 30 calendar days. The final report shall contain findings identified during the audit period and recommendations to the FGTS for developing appropriate formal CAPs in response to the findings.

Upon receipt of the final report, the FGTS shall have 30 calendar days to develop CAPs that address each finding. FDOT will review each proposed CAP and either approve the CAP or request FGTS modifications to the CAP. Upon final acceptance and approval of all triennial audit CAPs, FDOT and the FGTS will track the implementation of each CAP according to the process specified in Section 10 of this SSO Manual.

FDOT shall transmit final triennial audit reports to FTA.



## 10 Corrective Action Plans

### 10.1 Objectives

This section addresses the FDOT procedure to ensure that each FGTS develops and implements CAPs to address hazards, deficiencies in the FGTS's implementation of its SSPP or SEPP, audit findings, or other recommendations specified by FDOT, in a manner that is compliant with the requirements outlined in 49 CFR Part 674.37.

### 10.2 Minimum Requirements

The FGTS must develop CAPs for the following:

- Results from investigations in which identified causal factors are determined by the FGTS or FDOT as requiring corrective actions
- Findings from Internal Safety and Security Reviews
- High and serious safety and security hazards, findings, or deficiencies
- Findings from triennial audits or ongoing audits, inspections, or observations
- Hazards or deficiencies identified from internal and external safety and security audits/reviews performed by the FGTS, FDOT, or from the hazard management process

Each CAP must contain the following elements:

- An identification number;
- The source event;
- A hazard or finding summary;
- The planned activities or actions to resolve the finding;
- The FGTS department and individual(s) responsible for implementing the CAP; and
- The estimated implementation date.

FDOT may require the FGTS to provide a list of interim milestones for CAPs with an implementation date greater than three months. In the event that the NTSB conducts an investigation, the FGTS and FDOT shall review the NTSB findings and recommendations to determine whether or not the FGTS should develop a CAP.

The FGTS shall establish a formal CAPs management process. This process, at a minimum, must identify FGTS personnel responsible for maintaining the CAPs tracking matrix, monitoring the implementation status of CAPs, compiling and submitting monthly status updates to FDOT, and ensuring assigned FGTS personnel adhere to the CAPs process. The FGTS shall review this process as necessary and apply appropriate updates to ensure compliance with this SSO Manual and with FGTS plans, policies, and procedures, including the SSPP.

### 10.3 Notification

The FGTS shall develop a CAP with the intent of addressing the hazard or deficiency identified as a result of an accident investigation, the hazard management process, internal and external safety and security audits/reviews, or other FDOT recommendations.

The FGTS shall submit the CAP to FDOT for approval within 30 calendar days after the need for a corrective action plan is identified. Depending on the complexity of the issue requiring corrective action, and at FDOT's discretion, additional time may be granted to prepare the CAP.

The FGTS shall immediately take emergency corrective actions to ensure safety of the system without FDOT approval. The FGTS shall notify FDOT via email and/or telephone of the emergency corrective actions within 48 hours. FDOT will review the emergency corrective actions within two calendar days and provide interim approval via email and/or telephone. FDOT will provide formal approval of the emergency CAP(s) (or review with comments and recommendations for alternate and/or additional actions) within 5 calendar days. FDOT shall subsequently monitor, track, and verify completion of the emergency corrective action(s) pursuant to Section 10.5.

#### **10.4 Corrective Action Plan Review and Approval**

Following the receipt of a formal finding by FDOT, or in response to an internal FGTS finding or recommendation, the FGTS shall develop a CAP according to the process outlined above. The FGTS shall submit each CAP in writing to FDOT for review and approval. For CAPs generated as the result of an accident, incident, or hazard investigation, the FGTS shall provide the CAPs as part of the final investigation report. As part of the investigation report review, FDOT will review and approve CAPs in conjunction with the overall investigation report approval, and FDOT will provide written approval to the FGTS. In the case of audits or other source events that may generate CAPs, the FGTS shall provide the proposed CAPs to FDOT using the approved CAPs tracking matrix. FDOT will review each CAP within 15 calendar days of receipt and indicate approval in writing and in the appropriate space on the CAPs tracking matrix.

In the event FDOT does not immediately accept a CAP, FDOT will provide feedback to the FGTS in writing and suggest revisions that will make the CAP acceptable. The FGTS shall submit a revised CAP no later than 15 calendar days following the request for revision.

In the event that FDOT and the FGTS dispute the recommendations, findings, or enforcement of a CAP, FDOT shall allow the FGTS 30 calendar days to submit its reasoning in writing. FDOT shall review the reasoning and issue final direction to the FGTS regarding the CAP within seven calendar days.

#### **10.5 Monitoring, Tracking, and Verification of Closure**

Throughout the CAP implementation period, FDOT will monitor progress through frequent contact with the FGTS by conducting teleconferences, scheduled on-site inspections, and unannounced on-site activities, among others. FDOT may request a status report on a CAP at any time.

The FGTS shall utilize and maintain a CAPs tracking matrix, which contains all CAPs that must be monitored and approved by FDOT. The CAPs tracking log shall include all CAP elements listed in Section 10.2 above, as well as the current status of the CAP and spaces for monthly updates and comments by the FGTS and FDOT. It shall be the responsibility of the FGTS to maintain the accuracy of the CAPs tracking log, including a current implementation date, responsible persons, and the approach to completing the corrective action. In the event that changes to these parameters are required, the FGTS shall propose and request an update to these elements, and FDOT shall review and approve the updates.

The FGTS shall submit the CAPs tracking matrix to FDOT each month by the fifth business day via email or hard copy via standard mail. Prior to each monthly submission, the FGTS shall review all open CAPs and provide a brief progress update. The FGTS shall indicate any CAPs that have been completed and provide appropriate documentation with the monthly submission to demonstrate completion. Upon receipt of a proposed CAP for closure, FDOT shall review the supporting documentation to ensure the CAP was implemented according to the approved plan and in accordance with this SSO Manual and the FGTS SSPP or other applicable FGTS plans, policies, or procedures.

FDOT shall verify that the FGTS satisfactorily implemented the CAP and provide a determination of closure in writing. FDOT will verify the satisfactory implementation of a CAP by one or more of the following methods, as applicable: records reviews, on-site inspections, unannounced site visits, observations, photographs, review of submitted documents, interviews with staff responsible for implementing the CAP(s), written FGTS requests for review and closure based on obsolescence of the CAP or if the existing CAP has been replaced by a newer CAP(s), and so on, at the discretion of FDOT. FDOT will indicate the closed status and the date of closure verification. It is important to note that only FDOT may verify closure of a CAP.

## 11 SSO Program Reporting

### 11.1 FDOT Reporting to FTA

In conformance with the FTA SSO rules, FDOT must make specific, initial, annual, and periodic reports to the FTA. All submissions to FTA must be submitted electronically using a reporting system specified by FTA. The objective of these reporting requirements is to provide the FTA with information regarding the operation of the Florida SSO Program. These reporting requirements are identified as follows.

**Initial certification under 49 CFR 674.** Before April 15, 2019, the FTA must certify that the FDOT SSO Program meets the requirements of MAP-21 (49 U.S.C. 5329(e)) and that it is “adequate to promote the purposes of 49 U.S.C. 5329, including, but not limited to, the National Public Transportation Safety Plan, the Public Transportation Safety Certification Training Program, and the Public Transportation Agency Safety Plans.”

**Annual submission under 49 CFR 674.** Once FDOT is certified by the FTA as MAP-21-compliant, before March 15 of each year (or as otherwise directed by FTA), FDOT must submit the below information to the FTA. FDOT will continue to conduct security oversight but will only be required to submit information on safety and emergency management activities to the FTA.

FDOT shall provide the following information to the FTA:

- The name and address of the State Safety Oversight Program Manager;
- The names and addresses of the transit agencies subject to SSO jurisdiction under 49 CFR Part 674;
- The SSO Program Standard/Manual; and
- Certification that the FGTS SSPPs have been developed, reviewed, and approved.

Before March 15 of each year, FDOT shall submit the following to FTA:

- 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 and CAPs from triennial safety audit activities and whether a triennial safety audit was completed since the last annual report was submitted, in accordance with 49 CFR Part 674.31.
- The SSO program standard manual and supporting procedures, including any revisions implemented during the preceding year.
- Certification that FDOT reviewed and approved any changes or modifications to the rail transit agency SSPP, and the FGTS and FDOT are compliant with the requirements of 49 CFR Part 674.
- Evidence that all applicable FDOT and contractor personnel successfully completed the requirements of the Public Transportation Safety Certification Training Program, or if in

progress, the anticipated completion date of the training, in accordance with the requirements of 49 CFR Part 674.39.

With its Annual Submission, FDOT must certify to the FTA that it complied with the requirements of 49 CFR Part 674. FDOT shall submit this certification electronically to FTA using a reporting system specified by FTA. FDOT shall maintain a signed copy of each annual certification, subject to audit by FTA.

FDOT shall forward status reports, information on hazardous conditions, CAPs, or other program information to the FTA upon request.

After an audit of the SSO program by the FTA, FDOT may be required to respond to specific findings of non-compliance or areas of compliance with recommendations. The FGTS may also be required to respond to FTA recommendations resulting from an SSO program audit.

## 12 Other FDOT Reviews

In addition to the review areas listed below (Safety and Security Certification Programs, System Expansions and Modifications, and SSPP Readiness Reviews), FDOT may initiate a review of a particular subject matter area in response to a given accident, incident (including near-misses), or hazardous condition, or trend pattern in a safety-related area. Such reviews and studies may result in a final report containing findings and recommendations that shall be subject to the CAP process described in Section 10.

### 12.1 Authority to Conduct Inspections

The FDOT SSO Program Manager or authorized designee, including contractors, has the authority to conduct inspections on FGTS property, including unannounced inspections. Inspections by FDOT SSO Program personnel may involve field review observations of routine operations aboard FGTS vehicles; informal discussions with Operators and Supervisors in the field; visits to FGTS stations and facilities; records or database reviews; or observations of FGTS workers along the right-of-way. The FDOT SSO Program reserves the right to conduct an observation or inspection in response to any identified hazard, potential hazard, reported concern for safety, or area of non-compliance with the FGTS safety or security rules and procedures.

As a general rule, FDOT SSO Program personnel must refer to the FGTS Rulebook and associated procedures to assess compliance during operations reviews and inspections. With respect to unexpected circumstances or a potential conflict of interest, FDOT will contact the FGTS safety manager in advance of performing any inspection that would require access to the right-of-way or FGTS property that is not open to the public. FDOT personnel and any contractors will abide by FGTS rules and personal protective equipment requirements when accessing FGTS property.

When FDOT SSO Program personnel observe potential areas of non-compliance, hazardous conditions, or other issues in the course of an inspection, FDOT will convey the information in writing (or by telephone for items requiring immediate attention) to the FGTS safety manager for follow-up as appropriate.

### 12.2 Ongoing Inspections/Observations

As a routine oversight activity, FDOT personnel will conduct riding observations on-board FGTS vehicles, visit rail stations, and visit FGTS maintenance facilities. During these reviews and inspections, FDOT personnel may speak informally with FGTS frontline personnel and supervisors. The intent of these visits and observations is to conduct ongoing assessments of rule compliance, employee training, safety and security-related conditions, and to generally keep apprised of the workings of the transit system. For inspections and observations that involve accessing restricted areas, FDOT personnel will coordinate with FGTS Safety or another relevant department.

FDOT will document any deficiencies, rule violations, or potential hazards observed during a routine observation/inspection and transmit its findings via e-mail or memo to the FGTS safety manager for reference and for follow-up as warranted. Should conditions warrant (i.e. a high or serious hazard or

potentially systemic issue is observed), FDOT may require the FGTS to develop a formal CAP in accordance with the process in Section 10 of this document.

### **12.3 Special Studies and Investigations**

FDOT may conduct audits and special studies of issues related to the safety and security of the FGTS at its discretion, as directed by the FTA or NTSB, or in accordance with an APTA recommendation. This may include maintenance and operations areas beyond those prescribed in the SSPP or SEPP elements under 49 CFR 674. Additionally, FDOT may initiate an audit of a particular subject matter area in response to a specific allegation of non-compliance, accident, incident, near-miss, hazard, or trend/pattern in a safety- or security-related area. Such audits and studies may result in FDOT-issued findings that shall be subject to the CAP process outlined in this SSO Manual.

To the extent applicable and practicable, FDOT will adhere to the triennial audit procedures outlined in Section 9 of this document, including advance notification and draft report transmission to the FGTS. However, exigent circumstances may require a more expedited timeline, which FDOT would formally communicate to the FGTS.

As with triennial audits, FDOT will coordinate with FGTS safety and/or security points-of-contact to arrange document reviews and personnel interviews. The FGTS will be given the opportunity to review and comment on FDOT's written report prior to its finalization. While FDOT reserves the authority to conduct unannounced, independent inspections, FDOT views such an approach as an exceptional practice that would only be undertaken as deemed necessary by the Program Manager. If the activity requires access to areas not accessible to patrons, FDOT will work with the FGTS safety or security points of contact to ensure awareness and follow appropriate FGTS protocols on-site. In all cases, FDOT will abide by the FGTS requirements for training and/or certification to access specific FGTS facilities such as the light rail right-of-way.

### **12.4 Reviews of Safety and Security Certification Program**

An FGTS must develop and maintain a Safety and Security Certification (SSC) program to ensure that safety and security concerns, hazards, threats, and vulnerabilities are adequately addressed prior to passenger operations for New Starts and subsequent major projects to extend, rehabilitate, or modify an existing system, or to replace vehicles and equipment.

FDOT shall provide review and oversight of the SSC process. The FGTS shall submit SSC plans and documents to FDOT for review and comment on all projects subject to the SSC process. FDOT shall participate in SSC-related meetings and document reviews, and may issue specific findings, guidance, and/or other directives to the FGTS in order to address safety and security issues related to certifiable items.

### **12.5 Reviews of System Expansions and System Modifications**

FDOT shall review major system modifications and expansions, and other projects that have a significant safety or security impact, from design and construction, through testing, certification, pre-revenue and revenue operations phases.

The following list includes types and examples of expansions or modifications that the FGTS shall submit to FDOT for review:

- New starts or system expansions
- Major reconstruction of existing lines
- Major redesign and installation of system components
- New or significantly reconstructed maintenance and operating facilities
- New vehicle procurements or mid-life overhauls
- Other projects deemed to have significant safety implications, including projects implemented by others that have a direct impact on the RTA operations

FDOT may review all development phases or applicable projects including:

- Project planning
- Preliminary engineering
- Final design
- Procurement
- Construction
- Operations and maintenance procedures and plans
- Training
- Testing
- Certification
- Pre-revenue Operations
- Start-up

An FDOT review may include each of these phases, so that any safety- and security-critical issues can be resolved as early as possible, to avoid or minimize the need for retroactive modification. FDOT expects that this approach will allow the FGTS to resolve safety and security issues in a timely manner, so as not to delay the project implementation schedule.

In reviewing each phase of a major system expansion or modification, FDOT shall focus its resources on providing an independent review of safety- and security-critical system elements and activities, in addition to the more general aspects of a project that could affect the safety and security of existing operations.

The materials FDOT may review throughout such a project may include:

- Planning studies (that evaluate alternatives and define a project's scope)
- Design criteria and standards
- Design documents including plans and specifications
- Safety Certification plans
- Project Management Plans (PMPs – required on major FTA-funded projects)
- Configuration Management plans
- Construction plans and schedules
- Operating changes and plans during project construction
- Transportation and maintenance operating procedures
- Training programs and procedures



- Integrated test program
- Emergency procedures
- System safety and security reviews
- Security plans

Within 60 days of FDOT completing the review of a particular project phase, FDOT shall issue a draft report detailing its findings and recommendations. The FGTS shall provide any comments within 30 calendar days of receipt. FDOT shall issue the final report within 30 days of receipt of FGTS comments.

FDOT may continue to review each phase of the project until project completion. Throughout the project and upon completion, FDOT shall review all applicable safety- and security-related documents for compliance with the FGTS SSPP, SEPP, configuration management policy, and/or other applicable procedures and policies; this SSO Manual, and applicable sections of 49 CFR Part 674.

### **12.6 Reviews of Threat and Vulnerability Assessments**

FGTS shall provide results of Threat and Vulnerability Assessments (TVAs) to FDOT according to the process described in Section 5, Internal Safety and Security Reviews. Assessment reports must be provided to FDOT within 30 days of completion, although an additional annual submission is not required. For each finding from a TVA, the FGTS must develop a formal CAP as described in this document in Section 10. The FGTS may include these findings in its overall CAP process or may create a separate log for security-related findings. FDOT will review and approve security-related CAPs according to the requirements in Section 10.

### **12.7 Review of Safety Data and Agreement on Safety Performance**

In addition to regular reviews of FGTS safety data, under MAP-21, FDOT and each FGTS will work together and with other FGTS operational staff to create safety performance goals for specific indicators, such as training and certification qualifications, worker's compensation claims, recurring maintenance issues, and other system information. These goals will be established upon FTA promulgation of categories for data collection under MAP-21, as well as actions to be taken by FDOT in the case that FGTS safety performance is not meeting established goals. FDOT will be required to review and approve FGTS proposals for key performance indicators. Each FGTS will share data at least on a quarterly basis with FDOT regarding key performance indicators and other safety critical information.

## Part 2. FGTS Not Subject to Chapter 53 of title 49 Section 5329 United States Code

### CONFLICT OF INTEREST

No individual or entity may provide services to both FDOT and a FGTS when there is a conflict of interest or an appearance of a conflict. A conflict of interest occurs when an individual or entity performing work for a FGTS or FDOT is unable, or potentially unable to render impartial assistance or advice on the development or implementation of the standards and provisions of this Manual, or to objectively perform such work without bias. A third-party contractor to FDOT or a FGTS may not have an unfair competitive advantage over other contractors. Each contractor is subject to full disclosure on all present and potential conflicts of interest in its activities or relationships prior to being awarded a contract with FDOT or a FGTS.

### 1.1 System Safety Program Plan (SSPP)

#### 1.1.1 Minimum Requirements

Each FGTS shall develop, adopt, implement, and maintain a written SSPP that complies with this Manual. The adopted SSPP shall include at a minimum:

- (1) A policy statement, signed and dated, by the Chief Executive of the FGTS that endorses the safety program and describes the authority that establishes the SSPP.
- (2) A clear definition of the goals and objectives for the safety program and stated management responsibilities to ensure that they are achieved.
- (3) An overview of the management structure of the FGTS, including: (i) an organization chart; (ii) a description of how the safety function is integrated into the rest of the FGTS organization; and (iii) clear identification of the lines of authority used by the FGTS to manage safety issues.
- (4) The process used to control changes to the SSPP, including: (i) specifying and documenting an annual assessment of whether the SSPP should be updated; and (ii) required coordination with FDOT and timeframes for submission, revision and approval.
- (5) A description of the specific activities required to implement the system safety program, including: (i) tasks to be performed by FGTS safety function, by position and management accountability, specified in matrices and/or narrative format; and (ii) safety-related tasks to be performed by other FGTS departments, by position and management accountability, specified in matrices and/or narrative format.
- (6) A description of the process used by the FGTS to implement its hazard management program, including activities for: (i) hazard identification; (ii) hazard investigation, evaluation, and analysis; (iii) hazard control and elimination; (iv) hazard tracking; and (v) requirements for on-going reporting to FDOT relating to hazard management activities and status.
- (7) A description of the process used by the FGTS to ensure that safety concerns are addressed in modifications to existing systems, vehicles, and equipment, which do not require formal safety certification but which may have safety impacts.
- (8) A description of the safety certification process required by the FGTS to ensure that safety concerns and hazards are adequately addressed prior to the initiation of passenger

- operations for any new starts project and subsequent major projects to extend, rehabilitate, or modify an existing system, or to replace vehicles and equipment.
- (9) A description of the process used to collect, maintain, analyze, and distribute safety data, to ensure that the safety function within the FGTS receives the necessary information to support implementation of the system safety program.
  - (10) A description of the process used by the FGTS to perform incident notification, investigation and reporting, including: (i) notification thresholds for internal and external organizations; (ii) investigation process and references to procedures; (iii) the process used to develop, implement and track corrective actions that address investigation findings; (iv) reporting to internal and external organizations; and (v) coordination with FDOT.
  - (11) A description of the process used by the FGTS to develop an approved, coordinated schedule for emergency management program activities, which include: (i) meetings with external agencies; (ii) emergency planning responsibilities and requirements; (iii) process used to evaluate emergency preparedness, such as annual emergency field exercises; (iv) after action reports and implementation of findings; (v) revision and distribution of emergency response procedures; (vi) familiarization training for public safety organizations; and (vii) employee training.
  - (12) A description of the process used by the FGTS to ensure that planned and scheduled internal safety reviews are performed to evaluate compliance with the SSPP, including: (i) identification of departments and functions subject to review; (ii) responsibility for scheduling reviews; (iii) process for conducting reviews, including the development of checklists and procedures and issuing of findings; (iv) review of reporting requirements; (v) tracking the status of implemented recommendations; and (vi) coordination with FDOT.
  - (13) A description of the process used by the FGTS to develop, maintain, and ensure compliance with rules and procedures having a safety impact, including: (i) identification of operating and maintenance rules and procedures subject to review; (ii) techniques used to assess the implementation of operating and maintenance rules and procedures by employees, such as performance testing; (iii) techniques used to assess the effectiveness of supervision relating to the implementation of operating and maintenance rules; and (iv) process for documenting results and incorporating them into the hazard management program.
  - (14) A description of the process used for facilities and equipment safety inspections, including: (i) identification of facilities and equipment subject to regular safety-related inspection and testing; (ii) techniques used to conduct inspections and testing; (iii) inspection schedules and procedures; and (iv) description of how results are entered into the hazard management process.
  - (15) A description of the maintenance audits and inspections program including identification of the affected facilities and equipment, maintenance cycles, documentation required, and the process for integrating identified problems into the hazard management process.

- (16) A description of the training and certification program for employees and contractors, including: (i) categories of safety-related work requiring training and certification; (ii) a description of the training and certification program for employees and contractors in safety-related positions; (iii) process used to maintain and access employee and contractor training records; and (iv) process used to assess compliance with training and certification requirements.
- (17) A description of the configuration management control process, including: (i) the authority to make configuration changes; (ii) process for making changes; and (iii) assurances necessary for formally notifying all involved departments.
- (18) A description of the safety program for employees and contractors that incorporates the applicable local, state, and federal requirements, including: (i) safety requirements that employees and contractors must follow when working on, or in close proximity to, FGTS controlled property; and (ii) processes for ensuring the employees and contractors know and follow the requirements.
- (19) A description of the hazardous materials program, including the process used to ensure knowledge of and compliance with program requirements.
- (20) A description of the drug and alcohol program and the process used to ensure knowledge of and compliance with program requirements.
- (21) A description of the measures, controls, and assurances in place to ensure that safety principles, requirements, and representatives are included in the FGTS procurement process.

### 1.1.2 Review and Approval of SSPP

**Initial Submittals** - A new FGTS shall make an initial submittal of a SSPP to FDOT at least 180 calendar days before beginning passenger service operations. FDOT will approve the initial SSPP as part of the project safety certification process.

**Department Requested Submittals** - FDOT shall require changes to a SSPP based on revisions to this Manual, audit results, on-site reviews, investigations, or changing trends in event data. Upon receipt of a written notification from FDOT for SSPP modifications, the FGTS shall submit a revised SSPP to FDOT within 30 calendar days.

**FGTS Initiated Updates** - In the event the FGTS modifies its SSPP as result of a review, the FGTS shall submit the modified SSPP, and any subsequently modified procedures, to FDOT for review and approval within 30 calendar days of the effective date of the change. The FGTS shall document its review of the SSPP and submit its SSPP electronically.

### 1.1.3 Annual Review of SSPP

Each FGTS shall conduct an annual review of its SSPP and update it as necessary to ensure that the SSPP is current at all times. The FGTS shall complete the review for the previous calendar year and submit a revised SSPP to FDOT by March 1. Each revised SSPP submitted to FDOT by a FGTS shall include a text or tabular summary that identifies and explains proposed changes and includes a time frame for completion of the associated activities. Upon approval of modifications, FDOT will issue to the FGTS written approval of its SSPP within 30 calendar days.

## 1.2 Safety Reviews

### 1.2.1 Internal Safety Reviews

The FGTS shall develop procedures and shall document the process for the performance of on-going internal safety reviews. The internal safety review procedures shall, at a minimum:

- Describe the process used by the FGTS to determine if all identified elements of its approved SSPP are performing as intended.
- Ensure that all elements of the SSPP are reviewed in an on-going manner and completed over a three-year cycle. The three-year cycle commences on the date of the most recently approved SSPP, with the intention of completing at least one-third of the elements each year.

The FGTS shall permit FDOT to participate in these reviews at FDOT's request. To protect the independent nature of the review, the FGTS unit (e.g., department, division) in charge of the review shall not be the unit in charge of implementing the items being reviewed.

### 1.2.2 Annual Safety Report

The FGTS shall annually submit an **Annual Safety Report** documenting internal safety review activities and the status of subsequent findings and corrective actions. The FGTS shall submit its report no later than March 1 of each year for the prior calendar year. The FGTS annual safety report must be accompanied by a formal certification, signed and dated, by the chief executive of the FGTS, indicating that the FGTS is in compliance with its SSPP. If the FGTS determines that findings from its internal safety reviews indicate that the FGTS is in noncompliance with its SSPP, the chief executive must identify the activities the FGTS will take to achieve compliance. FDOT will review and approve the annual safety report. The FGTS shall submit its **Annual Safety Report** electronically

### 1.2.3 3 YEAR SAFETY REVIEW

At least every three (3) years, beginning with the initiation of FGTS passenger operations, FDOT will conduct an on-site review of FGTS implementation of its system safety program plan. At the conclusion of the review cycle, FDOT will prepare and issue a report containing findings and recommendations resulting from that review, which, at a minimum, will include an analysis of the effectiveness of the system safety program plan and a determination of whether it should be updated.

### 1.2.4 Scheduling and Conducting 3 Year Safety Review

FDOT will develop and maintain a schedule of 3-year safety reviews of each FGTS. FDOT will schedule the 3-year safety review of a FGTS with notification taking place at least 60 calendar days in advance, and FDOT will notify the FGTS in writing. The FGTS shall formally acknowledge the notification in writing. FDOT will schedule a pre-review meeting with the FGTS for clarification of any questions and concerns, and coordination of daily schedules with the FGTS. In addition, FDOT will schedule an entrance meeting with the FGTS to resolve any pre-review issues, if any. FDOT will conduct the on-site safety review using checklists developed from the approved SSPP. FDOT

will transmit these checklists to the FGTS at least 30 calendar days prior to the start date of the review.

### **1.2.5 SSPP ANNUAL MONITORING PROGRAM**

All FGTS are subject to an on-site evaluation of each FGTS compliance, with its SSPP and implementing procedures, at least once each year. SSPP annual monitoring program reviews will be conducted on-site and followed up with a written report within 30 calendar days of completing the exercise. Annual monitoring program reviews will be focused on specific implementation or compliance aspects of the SSPP determined by FDOT.

## **1.3 Hazard Management Process**

### **1.3.1 Minimum Requirements**

FDOT requires each FGTS to develop and document in its SSPP a process to identify and resolve hazards for new projects, extensions, or modifications of existing systems, operational or environmental changes, or from hazards discovered during reviews, audits, inspections, and investigations.

The hazard management process must, at a minimum:

- (a) Define the FGTS approach to hazard management and the implementation of an integrated system-wide hazard resolution process;
- (b) Specify the sources of, and the mechanisms to support, the on-going identification of hazards;
- (c) Define the process by which identified hazards will be evaluated and prioritized for elimination and control;
- (d) Identify the mechanism used to track through resolution the identified hazard(s);
- (e) Define the minimum thresholds for the notification and reporting of hazards to the FDOT and
- (f) Specify the process by which the FGTS will provide on-going reporting of hazard resolution activities to FDOT

### **1.3.2 Hazard Identification, Assessment, and Resolution**

For each hazard that the FGTS has identified in its hazard management process, the FGTS shall document on a Hazard Worksheet the processes it used to identify, investigate, assess, and resolve the hazard, including:

- How the hazard was recognized and reported.
- A description of the hazard and the immediate corrective action(s) taken.
- Using the risk assessment method documented in the SSPP, a determination the initial risk assessment, based on the probability and severity of the hazard if nothing was done.
- Results of the investigation, including the circumstances, events, and causal factors leading up to the hazard.
- Additional corrective action that was or will be done to reduce the probability and/or severity of the hazard (including schedule and responsibility).

- Using the risk assessment method documented in the SSPP, a final risk assessment, based on the likelihood of the hazard to occur and its likely severity when the proposed corrective action/resolution is in place.

The FGTS shall maintain a file of worksheets and associated documents for all hazards discovered by or reported to the FGTS. The file is intended to facilitate future reviews and trend analysis by the FGTS and FDOT.

### **1.3.3 Notification**

In the event the FGTS determines that the final risk assessment of the hazard is “unacceptable” using the criteria and assessment process in its SSPP, the FGTS shall notify FDOT within 24 hours or by 5:00 p.m. on the next regular working day following the determination of the unsafe condition as “unacceptable”. The FGTS shall transmit an electronic copy of the Hazard Worksheet.

### **1.3.4 Investigation of Hazards**

The FGTS or its contractor shall investigate a hazard reported to FDOT as unacceptable in accordance with the provisions in this Manual and each FGTS’ own event investigation procedures. The FGTS shall maintain a file of hazards reported to FDOT and make these files available to FDOT for review and evaluation upon request.

#### **1.3.5 Initial Investigation Report**

The FGTS shall submit to FDOT the initial report of its investigation of a hazard within 7 calendar days of the hazard being reported to the FGTS. The FGTS shall transmit an electronic copy of the *Initial Investigation Report* to FDOT.

### **1.3.6 Status Investigation Reports**

The FGTS shall submit to FDOT status reports of hazard investigation at least monthly until the investigation is completed. The FGTS shall transmit an electronic copy of the status report to FDOT.

### **1.3.7 Final Investigation Report**

Upon completing the investigation of a hazard, the FGTS shall prepare and submit to FDOT for review and approval a final report that includes a description of activities, findings, identified causal factors, hazard analysis, and corrective action plan. The FGTS shall transmit an electronic copy of the final investigation report to FDOT. Within 30 calendar days of receiving a report designated as final, FDOT will review the report. Within 30 calendar days of acceptance of the FGTS investigation report, FDOT will issue to the FGTS written approval of the report. In the event that FDOT does not accept the FGTS report, FDOT will communicate in writing the area(s) of disagreement or concern. The report shall not be considered final until all conditions are met and the report is approved.

### **1.3.8 Corrective Action Plans**

The FGTS shall develop a CAP to correct those elements or activities identified as deficient or unacceptable. In addition, FDOT may, during the course of an investigation, identify required hazard analysis and corrective actions to avoid or minimize the reoccurrence of the unsafe condition or address a related, systemic problem. (CAPs are the subject of Section 1.8 of Part 2 of

this Manual.) At any time during an investigation, FDOT reserves the right to request a full briefing from the FGTS on the known circumstances of the investigation, including hazard analysis and CAPs.

### **1.3.9 FDOT Investigation of Hazards**

FDOT reserves the right to conduct independent hazard analysis or investigations of identified unacceptable hazards. Any investigation conducted by FDOT or its contractor shall be in accordance with the approved FGTS investigation procedures. FDOT will inform the FGTS in writing of its intention to conduct an investigation of a reported hazard no later than seven calendar days following receipt of the FGTS initial report. FDOT will advise the FGTS of the following:

- Investigation processes,
- Identity of individual(s) conducting the investigation, and
- Tentative schedule of investigation elements

The FGTS shall assist FDOT investigators by providing required information and resources necessary for conducting the investigation.

FDOT or its contractor will complete an investigation report that includes a description of activities, findings, identified causal factors, hazard analysis and a CAP, as applicable. The report will be completed within 30 calendar days after completion of the investigation.

## **1.4 Notification of Reportable Events**

### **1.4.1 Requirements**

The FGTS shall notify FDOT within 2 hours of any safety event involving a rail transit vehicle or taking place on FGTS controlled property where one or more of the following occurs:

- (a) A fatality at the scene; or where an individual is confirmed dead within 30 calendar days of a transit-related incident;
- (b) Injuries requiring immediate medical attention away from the scene for one or more individuals;
- (c) Property damage to FGTS vehicles, non-FGTS vehicles, other FGTS property or facilities, and non-FGTS property that equals or exceeds \$25,000;
- (d) An evacuation due to life safety reasons;
- (e) A collision at a grade crossing;
- (f) A derailment at any location;
- (g) A collision with an individual on a FGTS right of way; or
- (h) A collision between a FGTS vehicle and a second FGTS vehicle or a FGTS non-revenue vehicle.

Each FGTS that shares track with a general railroad system and is subject to the Federal Railroad Administration (FRA) notification requirements shall notify FDOT within 2 hours of an incident for



which the FGTS must notify the FRA. Each FGTS shall notify FDOT within 2 hours of an incident for which the FGTS must notify the National Transportation Safety Board (NTSB).

#### 1.4.2 Information

The following information shall be provided by the FGTS in the initial notification of the event. If the information is not pertinent to the event, the item should be identified on the **Initial Notification Form** as “non-applicable” (N/A).

- Name and Job Title of person reporting and name of FGTS
- Event Type (fatality, injuries, property damage, evacuation, derailment or other)
- Location, Time, Date
- Fatalities
- Injuries
- Rail transit vehicle(s) involved (type, number)
- Other vehicle(s) involved (type, number)
- Property damage estimate
- NTSB reportable
- FRA reportable
- FGTS primary person (i.e., Chief Investigator) conducting the investigation (name, title, phone and fax numbers, email address)
- Description of the event
- Implemented and/or planned corrective actions

The FGTS shall provide additional information at FDOT’s request. The FGTS shall maintain a current list of contact information for all primary and alternate Department contact personnel, including delivery street addresses, websites, email addresses, and fax, telephone, and cell phone numbers.

### 1.5 Investigations of Reportable Events

The FGTS shall investigate any reportable event meeting the criteria described in *Section 1.6.2*.

#### 1.5.1 FGTS Investigation

The FGTS or its contractor shall investigate each event reported to FDOT in **Section 1.4** above in accordance with the procedures in the approved FGTS Investigation Procedures. The FGTS shall maintain a file of investigated events and shall make these files available to FDOT for review and evaluation upon request.

#### 1.5.2 Status Investigation Reports

The FGTS shall prepare and submit monthly status investigation reports until the investigation is completed. The status investigation reports at a minimum shall include:

- Minutes of any meeting held by a FGTS ad hoc reportable event investigation committee or contractor,
- Disclosure of any immediate corrective actions the FGTS has planned or completed,

- Principal issues or items currently being evaluated, and
- Overall progress and status of the investigation.

At any time during an investigation, the FGTS shall be prepared to provide a full briefing on the known circumstances of the event, status of the FGTS or NTSB investigation, and investigation activities and status of any planned or completed corrective actions.

### 1.5.3 Final Investigation Report

Upon completing the investigation, FGTS systems shall prepare and submit to FDOT a final report that includes a description of activities, findings, identified causal factors, CAP and hazard analysis, as applicable. The FGTS may transmit an electronic copy of the **Final Investigation Report**.

FDOT will verify receipt of the **Investigation Report** within 30 calendar days of receiving a report designated as final.

### 1.5.4 FDOT Investigations of Reportable Events

All FGTS are subject to the conduct of independent investigations by FDOT or FDOT participation in FGTS investigations for any reported event. Any investigation conducted by FDOT or its contractor shall be in accordance with the approved FGTS investigation procedures. FDOT will inform the FGTS of its intention to conduct an investigation or participate in a FGTS investigation of a reported event no later than 7 calendar days following receipt of the FGTS initial report. FDOT will advise the FGTS of the following:

- Investigation processes,
- Identity of individual(s) conducting the investigation, and
- Tentative schedule of investigation activities.

The FGTS shall assist FDOT investigators by providing required information and resources necessary for conducting the investigation. FDOT or its authorized contractor will complete a report that includes a description of investigation activities, findings, identified causal factors, and a CAP. The report will be completed within 30 calendar days after completion of the investigation.

### 1.5.5 NTSB Investigations

The NTSB may investigate a reportable event to achieve its primary function to promote safety in transportation. In such case, the NTSB is responsible for the investigation; the determination of facts, conditions, and circumstances; the cause or probable cause or causes; and recommendations to reduce the likelihood of recurrence. In the event of an NTSB investigation, the FGTS shall be responsible for timely notifying and providing information to FDOT on NTSB activities including meetings, interviews, requests for data, functional testing, examination of equipment, and the results of drug and alcohol tests. The FGTS shall provide FDOT with a copy of all written correspondence to the NTSB concerning a reportable event or investigation, and also shall provide FDOT a copy of all NTSB reports and any recommendations concerning the event or its investigation, upon receipt by the FGTS. FDOT will assist the NTSB by providing information

requested about the FGTS critical practices and other matters as appropriate. If the NTSB releases preliminary findings and recommendations, FDOT is authorized to participate in any discussions and reviews with the FGTS and NTSB. FDOT and the FGTS will review the NTSB findings, draft, and final reports and make a determination of whether or not to adopt the NTSB recommendations. Should the NTSB recommendations be adopted, the FGTS shall implement the findings.

#### **1.5.6 Confidentiality of Investigation Reports**

The FGTS shall release public records upon request, subject to the exemptions provided in Chapter 119, Florida Statutes, or other state law.

### **1.6 CAP Process**

#### **1.6.1 Minimum Requirements**

The FGTS shall develop a CAP for the following:

- Results from investigations in which identified causal factors are determined by the FGTS or FDOT as requiring corrective actions; and
- Hazards or deficiencies identified from external safety and security reviews performed by the FGTS or FDOT

Each CAP shall identify the action to be taken by the FGTS, an implementation schedule, and the individual or department responsible for the implementation. The CAP shall be submitted to FDOT for review and approval. In the event that FDOT and the FGTS dispute the need, findings, or enforcement of a CAP, FDOT will allow the FGTS 30 calendar days to submit its case. FDOT will then issue final direction to the FGTS regarding the CAP. In the event that the NTSB conducts an investigation, the FGTS and FDOT shall review the NTSB findings and recommendations to determine whether or not a CAP should be developed by the FGTS. If a CAP is required either by the NTSB or FDOT the FGTS shall develop it. The FGTS shall provide FDOT the following information regarding the CAP:

- Verification that the corrective action(s) has been implemented as described in the CAP or that a proposed alternative action(s) has been implemented. The FGTS shall inform FDOT concerning any alternative actions for implementing a CAP.
- Monthly reports detailing the status of each corrective action(s) not completely implemented as detailed in the CAP.

The FGTS shall specify requirements in its hazard management process for development of corrective action plans to address identified hazards.

#### **1.6.2 Notification**

The FGTS shall develop a CAP with the intent of addressing the hazard or deficiency. The FGTS shall submit the CAP to FDOT for approval within 30 calendar days, or longer at FDOT's discretion, depending on the complexity of the deficiency. Each CAP shall include the following information:

- Identified hazard or deficiency,
- Planned activities or actions to resolve deficiency or hazard,

- FGTS department(s) responsible for implementing corrective actions, and
- Scheduled completion dates for implementation.

## Appendix A: Applicable State Legislation

### **341.06 Transit safety standards; inspections and system safety reviews —**

(1)(a) The department shall adopt by rule minimum safety standards for governmentally owned fixed-guideway transportation systems and privately owned or operated fixed-guideway transportation systems operating in this state which are financed wholly or partly by state funds. Standards must be site-specific for fixed-guideway transportation systems and shall be developed jointly by the department and representatives of the affected systems, giving full consideration to nationwide industry safety norms relating to the development and operation of fixed-guideway transportation systems.

(b) Each fixed-guideway transportation system shall develop a safety program plan that complies with established standards and shall certify to the department that the plan complies with the standards. Following certification to the department, the fixed-guideway transportation system shall implement and comply with the plan during the development and operation of the system. Each fixed-guideway transportation system shall verify annually in writing to the department that it has complied with its adopted safety program plan.

(c) Before beginning passenger service operations, a fixed-guideway transportation system must certify in writing to the department that the system is safe for passenger service. Further, before a fixed-guideway transportation system the operations of which have been suspended as a result of noncompliance with established standards returns to service, the system must certify in writing to the department that the system is safe for passenger service.

(d) If a fixed-guideway transportation system does not comply with paragraph (b) or paragraph (c) or if, upon certification by a fixed-guideway transportation system, the department has good cause to believe that the system is not complying with its adopted safety program plan or is not safe for passenger service, the department may conduct a review of the system for safety compliance. Upon completion of its review, the department shall provide a copy of the review report to the affected system. Any adverse findings and any corrective actions required and the time allowed for such actions must be stated in the report. If at any time continued operation of the system, or a portion thereof, poses an immediate danger to public safety, the system operator shall suspend affected system service until corrective action is taken. If the system operator fails to take corrective action or fails to suspend service when immediate danger to the public exists, the department may require the affected system service to be suspended.

(2)(a) The department shall adopt by rule minimum equipment and operational safety standards for all governmentally owned bus transit systems and privately owned or operated bus transit systems operating in this state that are financed wholly or partly by state funds, all bus transit systems created pursuant to chapter 427, and all privately owned or operated bus transit systems under contract with any of the foregoing systems. Standards for bus transit systems shall be developed jointly by the department and representatives of the transit systems. Each such bus transit system shall develop a transit safety program plan that complies with established standards and shall certify to the department that the plan complies

with the standards. Following certification to the department, the bus transit system shall implement and comply with the plan during the operation of the transit system.

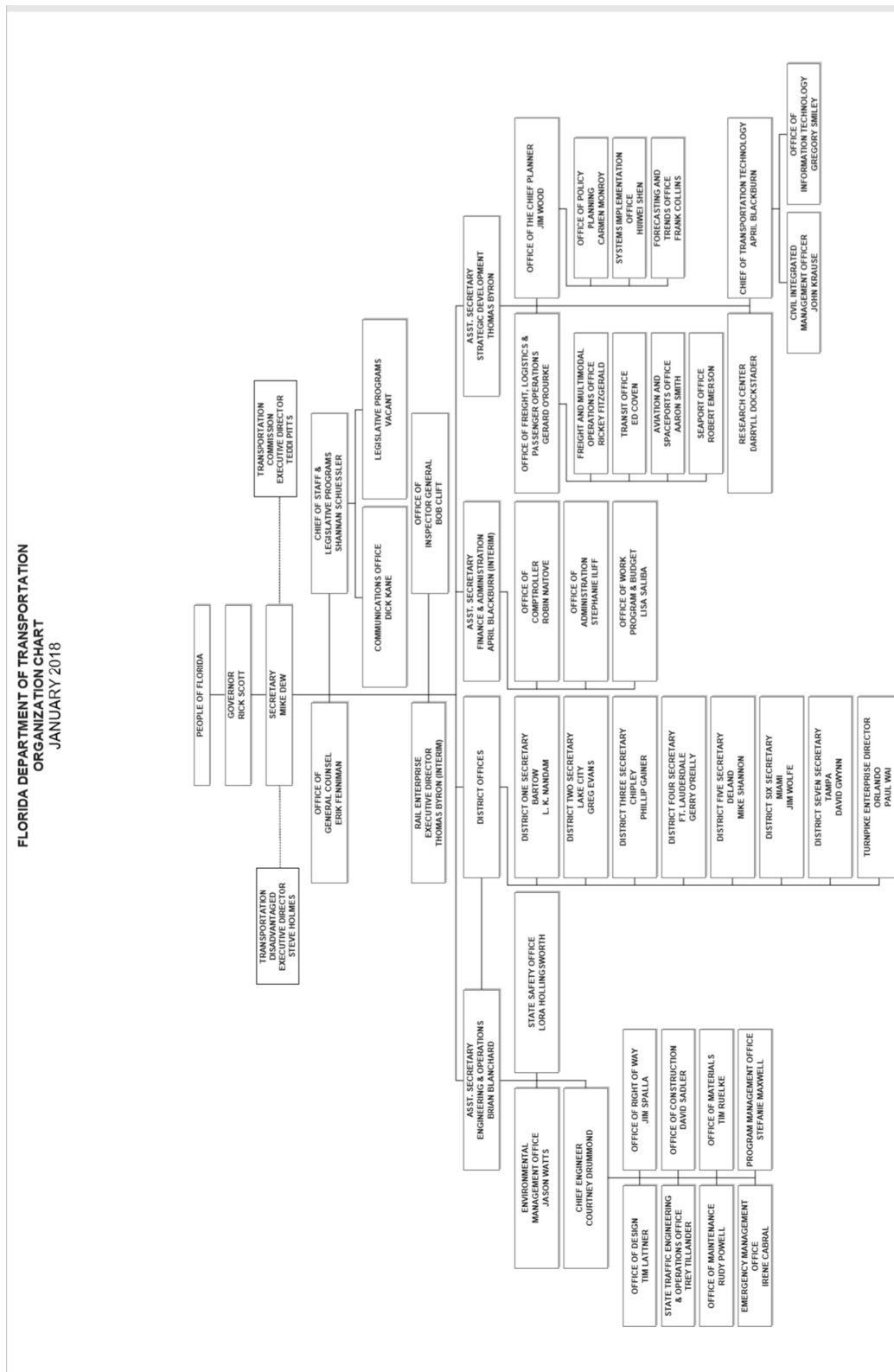
(b) Each bus transit system shall, as part of the safety program plan, require that all transit buses operated by the system be inspected at least annually in accordance with established standards. Qualified personnel of the bus transit system or public or private entities qualified by the bus transit system shall perform safety inspections. Each bus transit system shall certify annually in writing to the department that it has complied with its adopted safety program plan and, as part of that plan, that safety inspections have been performed by a qualified entity at least once that year on all transit buses operated by such system.

(c) If a bus transit system does not comply with paragraph (a) or paragraph (b) or if, upon certification by a bus transit system, the department has good cause to believe that the system is not complying with its adopted safety program plan or is not safe for passenger service, the department may conduct a review of the system for safety compliance. Upon completion of its review, the department shall provide a copy of the review report to the affected system. Any adverse findings and any corrective actions required and the time allowed for such actions must be stated in the report. If at any time continued operation of the system, or a portion thereof, poses an immediate danger to public safety, the system operator shall suspend affected system service until corrective action is taken. If the system operator fails to take corrective action or fails to suspend service when immediate danger to the public exists, the department may require the affected system service to be suspended.

**History.**—s. 6, ch. 84-340; s. 37, ch. 86-243.

---

# Appendix B: FDOT SSO Program Organizational Chart



## **Appendix C: SSPP Review Checklist**



<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSPP REVIEW CHECKLIST</b>						<b>SSO-02 03-06</b>
<b>FGTS:</b>  <hr/> <b>Plan Title:</b> <hr/>					<b>Date:</b>  <hr/> <b>Reviewers:</b> <hr/>	
No.	SSPP Checklist Item	Does Plan Contain or Adequately Provide for:	Included Y	N	Page Ref.	Comments
1	Policy Statement and Authority for SSPP	A policy statement signed by chief executive of the FGTS that endorses the safety program and describes the authority that establishes the SSPP				
2	Goals and Objectives	A clear definition of the goals and objectives for the FGTS safety program and stated management responsibilities to ensure that they are achieved				
3	Overview of Management Structure	An overview of the management structure of the FGTS, including: (i) an organization chart; (ii) a description of how the safety function is integrated into the rest of the FGTS organization; and (iii) clear identification of the lines of authority used by the FGTS to manage safety issues				
4	SSPP Control and Update Procedure	The process used to control changes to the SSPP, including: (i) specifying an annual assessment of whether the SSPP should be updated; and (ii) required coordination with the Department, including timeframes for submission, revision and approval				
5	SSPP Implementation Activities and Responsibilities	A description of specific activities required to implement the system safety program, including: (i) tasks to be performed by FGTS safety function, by position and management accountability, specified in matrices and/or narrative format; and				

<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSPP REVIEW CHECKLIST</b>					<b>SSO-02 03-06</b>	
<b>FGTS:</b>					<b>Date:</b>	
<b>Plan Title:</b>					<b>Reviewers:</b>	
No.	SSPP Checklist Item	Does Plan Contain or Adequately Provide for:	Included Y	N	Page Ref.	Comments
		(ii) safety-related tasks to be performed by other FGTS departments, by position and management accountability, specified in matrices and/or narrative format				
6	Procedure for Hazard Management	A description of the process used by the FGTS to implement its hazard management program, including activities for: (i) hazard identification; (ii) hazard investigation, evaluation and analysis; (iii) hazard control and elimination; (iv) hazard tracking; (v) system extensions, modifications, operational changes, or other changes within the FGTS environment; and (vi) requirements for on-going reporting to the Department regarding hazard management activities and status.				
7	Procedure for System Modification Review and Approval	A description of the process used by the FGTS to ensure that safety concerns are addressed in modifications to existing systems, vehicles, and equipment, which do not require formal certification but which may have safety impacts				
8	Procedure for Safety Certification	A description of the safety certification process required by the FGTS to ensure that safety concerns and hazards are adequately addressed prior to the initiation of passenger operations for New Starts and subsequent major projects to extend, rehabilitate, or modify an existing system, or to replace vehicles and equipment				
9	Procedure for Safety Data	A description of the process used to collect, maintain, analyze, and distribute safety data, to				


<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSPP REVIEW CHECKLIST</b>						<b>SSO-02 03-06</b>
<b>FGTS:</b>  _____					<b>Date:</b>  _____	
<b>Plan Title:</b>  _____					<b>Reviewers:</b>  _____	
No.	SSPP Checklist Item	Does Plan Contain or Adequately Provide for:	Included Y	N	Page Ref.	Comments
	Collection and Analysis	ensure that the safety function within the FGTS receives the information necessary to support implementation of the system safety program				
10	Procedures for Investigations	A description of the process used by the FGTS to perform incident notification, investigation and reporting, including: (i) notification thresholds for internal and external organizations; (ii) investigation process and references to procedures; (iii) the process used to develop, implement and track corrective actions that address investigation findings; (iv) reporting to internal and external organizations; and (v) coordination with the Department				
11	Emergency Management Procedure	A description of the process used to develop an approved, coordinated schedule for emergency management program activities, which include: (i) meetings with external agencies; (ii) emergency planning responsibilities and requirements; (iii) process used to evaluate emergency preparedness, such as annual emergency field exercises; (iv) after action reports and implementation of findings; (v) revision and distribution of emergency response procedures; (vi) familiarization training for public safety organizations; and (vii) employee training				
12	Procedure for Internal Safety Reviews	A description of the process used to ensure that planned and scheduled internal safety reviews are performed to evaluate compliance with the SSPP, including: (i) identification of departments and				

<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSPP REVIEW CHECKLIST</b>					<b>SSO-02 03-06</b>	
<b>FGTS:</b>					<b>Date:</b>	
<b>Plan Title:</b>					<b>Reviewers:</b>	
No.	SSPP Checklist Item	Does Plan Contain or Adequately Provide for:	Included Y	N	Page Ref.	Comments
		functions subject to review; (ii) responsibility for scheduling reviews; (iii) process for conducting reviews, including the development of checklists and procedures and issuing of findings; (iv) review of reporting requirements; (v) tracking the status of implemented recommendations, and (vi) coordination with the Department				
13	Procedures for Rules Compliance	A description of the process used by the FGTS to develop, maintain, and ensure compliance with rules and procedures having a safety impact, including: (i) identification of operating and maintenance rules and procedures subject to review; (ii) techniques used to assess the implementation of operating and maintenance rules and procedures by employees, such as performance testing; (iii) techniques used to assess the effectiveness of supervision relating to the implementation of operating and maintenance rules; and (iv) process for documenting results and incorporating them into the hazard management program				
14	Procedures for Facilities and Equipment Inspections	A description of the process used for facilities and equipment safety inspections, including: (i) identification of facilities and equipment subject to regular safety-related inspection and testing; (ii) techniques used to conduct inspections and testing; (iii) inspection schedules and procedures;				


<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSPP REVIEW CHECKLIST</b>						<b>SSO-02 03-06</b>
<b>FGTS:</b>  _____					<b>Date:</b>  _____	
<b>Plan Title:</b>  _____					<b>Reviewers:</b>  _____	
No.	SSPP Checklist Item	Does Plan Contain or Adequately Provide for:	Included Y	N	Page Ref.	Comments
		and (iv) description of how results are entered into the hazard management process				
15	Procedures for Maintenance Audits and Inspections	A description of the maintenance audits and inspections program including identification of the affected facilities and equipment, maintenance cycles, documentation required, and the process for integrating identified problems into the hazard management process				
16	Training and Certification Program for Employees and Contractors	A description of the training and certification program for employees and contractors, including: (i) categories of safety-related work requiring training and certification; (ii) a description of the training and certification program for employees and contractors in safety-related positions; (iii) process used to maintain and access employee and contractor training records; and (iv) process used to assess compliance with training and certification requirements				
17	Configuration Management Control Procedure	A description of the configuration management control process, including: (i) the authority to make configuration changes, (ii) process for making changes, and (iii) assurances necessary for all involved departments to be formally notified				

<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSPP REVIEW CHECKLIST</b>					<b>SSO-02 03-06</b>	
<b>FGTS:</b>					<b>Date:</b>	
<b>Plan Title:</b>					<b>Reviewers:</b>	
No.	SSPP Checklist Item	Does Plan Contain or Adequately Provide for:	Included Y	N	Page Ref.	Comments
18	Employee and Contractors Right-of-Way Safety Programs	A description of the safety program for employees and contractors that incorporates the applicable local, state, and federal requirements, including: (i) safety requirements that employees and contractors must follow when working on, or in close proximity to, FGTS controlled property; and (ii) process for ensuring the employees and contractors know and follow the requirements				
19	Hazardous Materials Program	A description of the hazardous materials program including the process used to ensure knowledge of and compliance with the program requirements				
20	Drug and Alcohol Program	A description of the drug and alcohol program and the process used to ensure knowledge of and compliance with program requirements				
21	Procurement Process	A description of the measures, controls, and assurances in place to ensure that safety principles, requirements and representatives are included in the FGTS procurement process				

## **Appendix D: SEPP Review Checklist**

		<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSEPP REVIEW CHECKLIST</b>			<b>SSO-21 03-06</b>
<b>FGTS:</b>				<b>Date:</b>	
<b>Plan Title:</b>				<b>Reviewed By:</b>	
No.	Does Plan Contain or Provide for:	Included		Page Ref.	Comments
		Yes	No		
1	Established written policy statement				
2	The security plans are updated to reflect anti-terrorist measures and any current threat conditions				
3	The security plans are part of an integrated system program, including regional coordination with other agencies, security design criteria in procurements and organizational charts for incident command and management systems				
4	The security plans are signed, endorsed and approved by top management				
5	The security program is assigned to a senior level manager				
6	Security responsibilities are defined and delegated from management to front line employees				
7	Operations and maintenance supervisors, forepersons, and managers are responsible for security issues under their control				
8	A threat and vulnerability assessment resolution process is established and used				
9	Security problems are identified and information is reported				
10	Background investigations are conducted on all new front-line employees				
11	Criteria for background investigations are established				
12	Security orientation or awareness materials are provided to all front-line employees				



		<b>SAFETY AND SECURITY OVERSIGHT PROGRAM SSEPP REVIEW CHECKLIST</b>			<b>SSO-21 03-06</b>
<b>FGTS:</b>				<b>Date:</b>	
<b>Plan Title:</b>				<b>Reviewed By:</b>	
No.	Does Plan Contain or Provide for:	Included		Page Ref.	Comments
		Yes	No		
13	Ongoing training programs on security procedures by work area are provided				
14	Public awareness materials are developed and distributed on a system wide basis				
15	Periodic audits of security policies and procedures are conducted				
16	Tabletop and functional drills are conducted at least once every six months and full-scale exercises, coordinated with regional emergency response providers, are performed at least annually				
17	Access to documents of security critical systems and facilities are controlled				
18	Access to security sensitive documents is controlled				
19	Background investigations are conducted of contractors or others who require access to security critical facilities, and ID badges are used for all visitors, employees and contractors to control access to key critical facilities				
20	Protocols have been established to respond to the Office of Homeland Security Threat Advisory Levels				