

**2010 Triennial On-Site Safety and Security Review
of Chicago Transit Authority
Rail Transit System**

Review Conducted by



Regional Transportation Authority



Transportation Resource Associates

CONFIDENTIAL

Final Report 9/27/10

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1. Introduction

The Federal Transit Administration (FTA), through its State Safety Oversight Final Rule (49 CFR §659, effective 1997 and revised effective 2006), requires that states with specified rail fixed guideway systems conduct regular safety and security oversight of those systems. The Chicago Transit Authority's (CTA) rail system is covered under the Regional Transportation Authority's (RTA) State Safety Oversight Program.

The FTA's rule requires that designated state safety oversight agencies perform an on-site safety and security review of rail transit fixed guideway systems once every three years. This report documents the methodology, observations, and results of RTA's triennial review of CTA, conducted in May 2010 (previous reviews were conducted in 2007, 2004, 2001, and 1998).

The triennial review of CTA examined the transit agency's implementation of and compliance with its System Safety Program Plan (SSPP) and its Security and Emergency Preparedness Plan (SEPP). The RTA review team used the FTA's *Recommended Best Practices for States Conducting Three-Year Safety Reviews* as a basis, in part, for review criteria. Using this guidance, results of past RTA triennial reviews, and RTA's own published procedures, the review team developed specific checklists for all 21 SSPP elements and five SEPP elements prescribed by the FTA.

The RTA review team consisted of RTA staff as well as contract personnel from Transportation Resource Associates, Inc., and its subcontractor, Raul V. Bravo + Associates. Review activities began with a pre-review period of research, a request to CTA for certain background documents, and initial evaluation of plans and procedures. The review team then spent a two-week period on-site conducting interviews, field inspections, and follow-up document reviews. During each of the individual review sessions, RTA and CTA personnel discussed interim findings and observations and identified any immediate issues or problems. Upon conclusion of the on-site review, the team presented an exit briefing to CTA management that identified significant findings and observations and addressed any immediate questions from CTA personnel.

The review's findings, noted in each section of the report and compiled in Appendix A, identify two general types of issues:

1. Areas where CTA is not in compliance with existing requirements identified in FTA's State Safety Oversight Final Rule, RTA's *System Safety Program Standard and Procedures (revised September 15, 2006)*, and CTA's own SSPP, SEPP, plans, policies, or procedures.
2. Areas where CTA is in compliance with external requirements but review team members have identified opportunities to improve plans or procedures, or to enhance compliance with those documents.

Both types of findings require CTA to analyze and address the discrepancies noted through a written Corrective Action Plan (CAP). RTA will work closely with CTA in the review and approval of these CAPs, according to RTA procedures. RTA expects that CTA will address the first type of finding by revising plans, practices, or both. RTA will require CTA to either address the second type of finding by identifying its intended correction actions or providing sufficient analysis indicating why current practices are acceptable and appropriate.

The RTA review team would like to thank all personnel at CTA for their assistance in performing this review. The team highly appreciated their professionalism and cooperation in coordinating interviews, scheduling site visits, and providing documents.

2. Review Methodology

The review team included technical experts in rail transit safety, security, operations, vehicles, maintenance, and engineering. After the notice to proceed, the review team requested, received, and reviewed background documents in advance of the on-site reviews. Upon arrival on-site, the team conducted a two-week-long assessment that involved a kick-off meeting, interviews with CTA personnel, additional document and record review, system site visits and field inspections. Site observations focused on CTA’s compliance with and implementation of its SSPP and SEPP.

One of RTA’s responsibilities under its State Safety Oversight Program is to periodically review CTA’s SSPP and its SEPP versus RTA’s published standards and approve those plans as appropriate. CTA updated its SSPP and its SEPP and submitted them to RTA for review and approval just before this triennial review. This schedule was fortuitous. Triennial reviews such as this one typically result in findings and recommendations about contents of the SSPP and the SEPP. Because the SSPP and SEPP review process was coordinated with the on-site triennial review, any changes suggested by either review could also be coordinated.

For the on-site review, team members used checklists to compare CTA’s SSPP and SEPP to the program standards mandated by the FTA and RTA. The review team then measured compliance in the following areas:

SSPP	SEPP
<ol style="list-style-type: none"> 1. Policy Statement and Authority for SSPP 2. Goals and Objectives 3. Overview of Management Structure 4. SSPP Control and Update Procedure 5. SSPP Implementation Activities and Responsibilities 6. Hazard Management Process 7. System Modification 8. Safety Certification 9. Safety Data Collection and Analysis 10. Accident/Incident Investigations 11. Emergency Management Program 12. Internal Safety Audits 13. Rules Compliance 14. Facilities and Equipment Inspections 15. Maintenance Audits and Inspections 16. Training and Certification Program for Employees and Contractors 17. Configuration Management and 	<ol style="list-style-type: none"> 1. Identify the Policies, Goals, and Objectives for the Security Program 2. Process for managing Threats and Vulnerabilities 3. Identify controls in place to address personal security 4. Internal Security reviews 5. Update and Submittal of SEPP

SSPP	SEPP
<p>Control</p> <p>18. Local, State and Federal Requirements</p> <p>19. Hazardous Materials Programs</p> <p>20. Drug and Alcohol Program</p> <p>21. Procurement Process</p>	

As part of SSPP checklists 14 and 15, this triennial review included a detailed assessment of CTA’s ventilation equipment and emergency exits. The review included a site inspection of all CTA fans, louvers, blast shafts, and emergency exits in both the Dearborn and State Street subways to determine that they are functional, maintained and accessible. This contrasts with other safety and security areas, where records and sites are sampled, rather than reviewed in their entirety.

At the conclusion of the two-week on-site review, the review team presented preliminary findings to CTA. Team members also submitted follow-up questions and additional document requests to CTA. The final steps of the review itself involve the development of the draft report for CTA to review. The review team will then publish a final report that will consider and, as appropriate, incorporate CTA comments.

3. System Description

The Chicago Transit Authority (CTA) is the second largest public transit system in the United States. The CTA fleet includes approximately 2,000 buses and 1,180 rapid transit cars that service the city of Chicago and 40 surrounding suburbs. The CTA organization structure includes several Divisions that report directly to the CTA President. Each Division manages the various aspects that make up the system. CTA Divisions include: Transit Operations; Administration; Safety, Security, and Risk Compliance (SSRC); Technology; Infrastructure; Development; Finance; Treasury; and General Counsel.

The Safety, Security, and Risk Compliance Department is managed by a Chief Safety and Security Officer. The SSRC department is then divided into two groups, each led by a General Manager for Safety and Risk Compliance and Security. The SSRC department prepares and maintains the CTA SSPP, SEPP, identifies hazards, collects safety and security data, investigates accidents and incidents, conducts internal safety and security audits, and interfaces with the RTA oversight program.

Rail Transit Service

CTA rail transit services consist of eight lines that serve approximately 650,000 riders on a typical weekday, according to the CTA website, and provide access to both of Chicago's major airports. The CTA rail system contains 144 stations along approximately 224 route-miles of mainline revenue track, including elevated, subway, and ballasted roadbed. The eight rail lines are:

- **Red Line (Howard – Dan Ryan):** approximately 22 miles from Howard Street on the north end to 95th/Dan Ryan at the south end. The Red Line includes the State Street subway in the downtown area, services 34 stations, and is the most heavily used rail line in the CTA system.
- **Purple Line:** operates both a “purple line shuttle” service and weekday express from Howard Street to Belmont Ave., and then all local stops to the loop. The shuttle service covers approximately 4 miles between the Linden and Howard terminals, servicing nine stations. Express service to the loop covers approximately 15 miles and services eight rail stations.
- **Yellow Line (Skokie Swift):** nonstop shuttle service between the Skokie station and the Howard terminal, approximately 5 miles.
- **Blue Line:** approximately 28 miles from O’Hare International Airport in the northwest to the Des Plaines terminal in the western suburb of Forest Park. The line provides 24-hour rapid transit service via the Dearborn Street subway in the downtown area and services a total of 33 stations.
- **Brown Line:** approximately 10 miles between Kimball terminal in the northwest and the Loop, servicing 28 stations (including the nine Loop stations).

- Orange Line: approximately 11.5 miles between Midway International Airport in the southwest suburbs of Chicago and the Downtown Loop. The line services 17 stations (including the nine Loop stations).
- Green Line: approximately 20 miles from Harlem terminal in the western suburb of Forest Park to the Loop, and then south to the Garfield Station, at which the Green Line has two branches, one east to Cottage Grove, the other west to Ashland/63rd. The Green Line services a total of 29 stations. The oldest line in the CTA rail system, the Green Line is the only entirely elevated line in the system. Due to the longevity of the Green Line, it underwent a complete state-of-the-art rehab in 1996.
- Pink Line: approximately 11 miles from 54th and Cermak in the western suburbs and continuing through the Loop, servicing 22 stations. The Pink Line began operation in 2006 after a complete rebuild of the Paulina Connector, which had not been used in revenue for some time. The Pink Line was established as a trial for replacement of the Blue Line Douglas Branch operation. CTA determined that the Pink Line would permanently replace the Douglas Branch service in 2008.

4. System Safety Program Plan Implementation

4.1 Description/Overview

CTA revised its safety plan just before this triennial review. The review's findings and observations are based on the new plan revision unless otherwise noted. In tandem with this report, RTA also sent CTA a letter with comments and findings related to SSPP content.

The review team assessed implementation of safety activities as described in the Chicago Transit Authority Rail System Safety Program Plan, April 2010, Revision No. 6, and reviewed its compliance with RTA and FTA State Safety Oversight requirements. The SSPP outlines the procedures, requirements, organizations and responsibilities that are essential to ensure the safety of CTA employees, system customers, and the general public. The SSPP also explains the roles and relationships of CTA organizations to each other and to external federal, state and local regulatory agencies, including RTA.

In addition to verifying compliance with federal and state requirements, the review team also evaluated employee compliance in carrying out practices and procedures. Checklists used for this purpose are included at the end of this report. The elements reviewed for this portion of the assessment are primarily areas of the SSPP for which CTA safety personnel have direct responsibility or involvement. For each of these elements, the review assessed how well employees are performing safety functions and requirements identified by the SSPP and, where applicable, how the Safety Department interacts with other departments. Review team members conducted interviews with key personnel of departments responsible for each of the identified elements. In addition, CTA reviewed documents and records (including procedures, reports, databases, and meeting minutes) to determine what activities are taking place to meet SSPP requirements. Section 4.5 provides a listing of all personnel interviewed, facilities visited, and documents reviewed for this portion of the assessment. The assessment occurred at work locations that provided the opportunity to interview appropriate personnel, view project files and databases, and assess actual CTA practices. The individual checklists contain specific information concerning personnel interviewed for each element.

4.2 Responsibility and Current Situation

The department with overall responsibility for coordination and oversight of SSPP implementation activities is the Safety & Risk Compliance Department (Safety Department), headed by General Manager Sara Schwanke, within the Office of Safety, Security and Risk Compliance, led by Chief Safety & Security Officer Amy Kovalan. Safety Department has direct responsibility for SSPP content, implementation of specific safety requirements, and coordination of safety responsibilities of other departments as outlined in the SSPP. The following is a description of each of the SSPP sections reviewed, based on content specified in the review checklists.

Chapter 1 – Rail Safety Policy Statement: The CTA Rail Safety Policy Statement, endorsed by the CTA President, delegates authority to the Chief of Safety and Security. The current plan was approved and signed March 30, 2010. Senior management is apprised of and involved in safety issues on a regular basis through the bi-weekly Senior Staff Meeting for review and discussion of performance measures and safety policy and objectives. The President’s Chief of Staff also meets with the Chief of Safety and Security and/or General Manager of Safety and Risk Compliance weekly. Safety Department and senior management are collaboratively involved in safety decisions. Safety Department is represented on all management committees by either the Chief of Safety and Security or the General Manager of Safety and Risk Compliance. Documentation provided for this review confirms these activities.

Chapter 2 – Purpose, Goals and Objectives: This chapter of the SSPP broadly defines safety goals and objectives, promoting and incorporating safety at CTA. There are no specific numeric value targets identified, but reports do include statistical information that provides monthly comparisons and trends. CTA senior management is responsible for developing and monitoring the goals and objectives. Monitoring is accomplished through a Performance Management System, which tracks injuries, accidents, safety violations, safety training, and investigations. Reports are generated, distributed, and reviewed monthly at Senior Staff/Executive Committee meetings. Compliance with the *RTA System Safety Program Standard and Procedures (Revised September 15, 2006)* should be included in the list of purposes of the SSPP.

Chapter 3 - Management Structure: The organizational structure described includes all functions necessary for the operation and maintenance of CTA rail vehicles, facilities, and systems. Organization charts are provided in SSPP Appendix B, including all functions reporting to the CTA President and additional charts for the Safety, Operations, Infrastructure, and Vehicle Maintenance organizations. The safety function is appropriately independent from other functions and reports directly to the President. The Chief of Staff (not shown on the organization chart) reports to the President and may interact directly with positions reporting to the President on behalf of the President. The Safety Department’s role at CTA is described as monitoring and overseeing safety activities performed by other departments to identify and address risks. SSPP Chapter 5 describes in detail the tasks performed by Safety and other departments.

Chapter 4 - SSPP Control and Update Procedure: This chapter describes the process for revising the SSPP. The Safety Department is responsible for SSPP development, review, and updating. An annual review is required. All departments review proposed changes. Safety notifies RTA annually, either indicating that no changes were made or requesting that RTA review and approve a revised SSPP. Specific time periods are established for the review and approval process. However, the chapter does not describe or reference a change control and distribution process for revising the SSPP. There should be a procedure that assures all SSPP copies previously distributed to organizations and personnel are replaced with the most recent approved version. Also, some

organizational changes affecting training responsibilities are not reflected in the most recent SSPP update.

Chapter 5 - SSPP Implementation – Tasks and Activities: This chapter describes activities required to implement the SSPP. A good description of responsibilities of the Safety Department is provided in a table (Figure 5-1) listing individual task descriptions assigned to each of six management sections within the safety organization. Each section lists and describes tasks, indicating the scope and frequency of the activity performed. There are some discrepancies between Figure 5-1, which does not include tasks of the Training and Safety Observation or Risk Compliance sections, and the organization chart, which does not include the Industrial Hygiene function. Key safety responsibilities are also listed for eight other CTA departments, but operations and maintenance training are not included in the list of responsibilities. A safety task responsibility matrix, which is not specifically required, is not used to identify responsibilities.

This chapter also describes the committees and meetings where Safety Department and other departments jointly review and discuss safety issues, performance, and procedures. Descriptions do not indicate how often meetings occur. In addition to typical responsibilities for hazard management, safety data and investigations, the Safety Department has additional responsibilities including safety training, contractor and employee safety observations, MSDS approval, and an extensive program of scheduled inspections for stations, maintenance facilities, subway tunnels, and elevated walkways. Examination of documentation provided for this review indicates that responsibilities are being performed as required and described by the SSPP. The documentation and review also confirm the active, collaborative involvement of safety and other CTA departments to perform safety responsibilities as described in the SSPP.

Chapter 6 - Hazard Management Process: The description of the hazard management process identifies all departments with safety responsibilities. The Safety Department has a particularly prominent role in facilitating and monitoring this process. Most of the sources used to identify hazards are connected with activities performed by Safety Department. The Safety Department is responsible for notifying RTA of hazards, maintaining a tracking log, overseeing the development and implementation of corrective action by other departments, and coordinating with RTA for CAP review, approval and updates. Safety Department's Inspections and Investigations Section plays a significant role in hazard identification through the performance of regularly scheduled inspections of stations, rail facilities, shops, elevated walkways, and subway tunnels. Most sources for identifying hazards are listed in SSPP Chapter 6; additional sources are listed in Chapter 9 for data collection and analysis, but not recognized for hazard identification as they should be. A process is available to employees (the Safe Line telephone reporting system) to report hazards anonymously to the Safety Department. Chapter 6 describes the system being used for non-emergency safety issues, while Chapter 9 indicates it is for reporting unsafe conditions. The Safe Line log shows up to four reports a month. Safety Department has written guidelines for responding to Safe Line reports. There are no SOPs, bulletins or forms used to heighten employee awareness or provide a formal

process (other than Safe Line) for hazard reporting. Employees are required by a rule (R8.34 or General Safety Rule 40) to notify the controller or a supervisor/manager concerning defects, dangerous conditions or unsafe conditions or practices.

The hazard management process is active and has been used to analyze findings from audits, inspections and investigations, signal system performance, and incident trends, such as safety violations, train berthing and derailments. A new process is being developed to identify, analyze, and track systemwide hazards using a Hazard Management Log. It is a collaborative process involving Safety Department, Operations, Maintenance, Training, Facilities, and Power & Way. The log, managed by Safety Department, provides a tracking process, describing hazards, responsibility, risk assessment, RTA notification, and CAP status. This chapter describes coordination with RTA for hazardous condition reporting, CAP approval and quarterly status updates. Documentation provided for this review, including hazard analysis reports and the Hazard Management CAP log, indicates an active hazard management program compliant with the SSPP.

Chapter 7 – Rail System Modifications: Rail Engineering and Technical Services modifies and manages facilities modifications, which run through the CTA’s web-based project management system, ProjectNet. ProjectNet allows for real-time project collaboration and provides access to project issues, information requests, team directories, meeting minutes, drawings, reports, specifications and other project documentation. In addition, all documents, testing bulletins, acceptance and safety certificates are stored and can be reviewed at any time for any project.

Rail Engineering and Technical Services issues a modification bulletin and submits it to several groups (including Safety Department) for comments, followed by discussion and ultimate approval by the Rail Operations Committee. The modification is applied on one or two rail cars, followed by testing, any required hazard mitigation, and approval by the Chief Operating Officer based on a recommendation of the Rail Operations Committee.

Chapter 8 - Safety Certification: CTA’s Safety Certification Program Manual describes the process used to verify that all facilities, equipment and services of the rail system incorporate all safety and security requirements before being placed into passenger operations. This includes design, construction and start-up of rail operations or services. A multi-departmental Safety Certification Committee, including Safety Department, is responsible for implementing CTA’s Safety Certification Program Plan. To date, CTA has only performed Safety Certification for the Brown Line project, and only for the construction phase.

Chapter 9 - Safety Data Collection and Analysis: This chapter of the SSPP describes the collection and analysis of safety data. Data collection, trend analysis and reporting is performed by Safety Department’s Data Analysis & Audit Section. Statistics on accidents, incidents, injuries, and illness are collected, and reports are generated monthly. Reports include trends by department/function, location and category. Safety Department

maintains databases for incidents/investigations and safety inspections. Analysis and reporting to senior management – including presentation and discussion at senior staff meetings – occurs quarterly. Data analysis and reporting is also performed for hazard assessments, safety violations, derailments and train berthing. Organizations from which data is obtained include Safety Department, Control Center, Rail Operations, Maintenance and Power & Way. Safety Department is also responsible for monthly reporting to NTD and annual reporting to OSHA. The SSPP provides a good description of this function, and actual practice is in compliance with the SSPP requirements.

Chapter 10 - Incident Notification, Investigation and Reporting: Safety Department is responsible for the investigation process. Other departments participate in the investigation process to provide technical assistance as needed. All procedures and requirements are well documented. The process includes notification of a safety specialist on duty by the Control Center when an incident occurs, and determination of the need for on-scene investigation by Safety Department. The criteria for determining the need for a safety investigation are documented in CTA Safety Incident Investigation Guidelines (Revised April 28, 2009). Investigation thresholds, requirements for internal/external notification, comprehensive investigation procedures, and requirements for report content and corrective action are documented in CTA Procedure for Accident and Incident Investigation (Revision #1, November 2006). The documentation is thorough and conforms to SSPP requirements. The Procedure includes requirements for RTA notification and NTD reporting, but does not include the SSPP requirements for CAP submission to RTA, approval by RTA or quarterly status reporting to RTA. A CAP Recommendations log for RTA Reportable incidents is used to provide quarterly status updates to RTA. Accident investigations are performed by Safety Department's Inspections and Investigations section. Investigation report and CAP information are managed and tracked in the Investigations Database. There is a log of CAP Recommendations to track responsibility and status for corrective actions. The process for communication of and response to recommendations is documented in Administrative Procedure #1901, Response to Safety Incident Investigations. This procedure specifies time period requirements for issuing and responding to reports, but the time period required for CAP development in response to recommendations is not clear. Review of final and preliminary accident reports indicated compliance with documented procedures and SSPP requirements.

Chapter 12 - Internal Safety Review: Internal Safety Reviews (ISRs) or Audits are performed by Safety Department to determine if the SSPP is being appropriately and effectively implemented. In accordance with CTA's Internal Safety Review Procedures, the ISR is a monitoring function independent of the specific departments that have rail system safety related responsibilities. All 21 elements of the SSPP are required to be reviewed at least once over a three-year period. Safety Department develops checklists, notifies departments being reviewed in advance, and requests documentation. After the ISR is conducted, corrective action plans are developed for any deficiencies. An annual report is submitted to RTA documenting CTA's ISR activities for the previous year.

Chapter 17 - Configuration Management: Configuration Management (CM) involves the process of authorizing and documenting changes to the rail system to assure that safety and security are properly addressed, and that there is an accurate record of the current configuration of safety and security-critical systems, equipment, and facilities. CTA approaches control of the changes made and the resulting configuration for two functions – rail facilities and rail vehicles – in slightly different ways. Facility changes are the responsibility of Engineering, and vehicle changes are the responsibility of Rail Engineering and Technical Services. Both groups use the input and review of several CTA departments, including Safety Department, to assure that the different group interests are considered.

Chapter 18 – Compliance with Local, State and Federal Requirements: This chapter describes CTA compliance with safety requirements of external agencies. With respect to employee and contractor safety, two types of programs are identified. One is for personnel working on or near rail right-of-way, and the other references OSHA requirements for occupational and construction safety. The SSPP description does not indicate how compliance is monitored and enforced by CTA, nor does it directly identify responsibility for this function. The Safety Department’s Construction and Engineering section oversees the safety of construction activities, reviews contractor safety programs, and develops safety procedures for contractors and employees as described in Figure 5-1 of the SSPP. Safety Department’s Training and Safety Observation section provides OSHA construction and industrial training for employees, supervisors, and managers as described in SSPP Chapter 16. This Safety Department section also conducts observations of work activities for OSHA compliance. Chapter 16 also describes Rail Safety Awareness Training for employees and contractors. OSHA compliance is also monitored during quarterly inspections of facilities and shops, performed by Safety Department’s Inspections and Investigations section. Safety Bulletins for shop/occupational safety are issued and updated. Safety Department personnel also perform observations for work zone rule compliance. The review team verified compliance with these requirements through observation of Safety Department activities and documentation. Safety Department personnel provided re-instruction to workers after observing issues of minor non-compliance. PPE requirements for all job classifications are developed by the Safety Department’s Senior Industrial Hygienist (Figure 5-1). Collectively, the SSPP describes the personnel and programs responsible for training, procedures, and oversight of contractor and employee safety. Inclusion or reference of this activity in Chapter 18 could help clarify how CTA assures compliance with external work safety regulations for employees and contractors.

Chapter 19 - Hazardous Material Programs: This chapter of the SSPP describes CTA’s hazardous materials program. The Environmental Affairs section of the Facilities Management department has primary responsibility for the program. Safety Department responsibilities include MSDS review, approval, and file maintenance performed by the Senior Industrial Hygienist (described in SSPP Chapter 21), hazardous materials/response training performed by Training and Safety Observation (described in Chapter 16 with an outdated reference to the Training and Instruction department), and performance of

quarterly compliance checks during shop inspections performed by the Inspections and Investigations section (documented by Safety Inspection Checklists for facilities).

Environmental Affairs develops rules, procedures and SOPs for hazardous material handling, storage and spill response, while Safety Department conducts training. All shops must have at least one person on duty trained in hazardous material response when the shop is open. Each shop has an Emergency Response and Spill Control Plan, developed by Environmental Affairs and Safety Department, updated every three years. Environmental Affairs performs an environmental inspection of each shop twice a year, documented by a checklist with comments, findings, and corrective action status. Environmental Affairs is notified of hazardous material spills through the Control Center, performs required external notifications, and manages spill response through an on-call contractor.

Safety Department (Senior Industrial Hygienist) performs all MSDS review and approval and maintains a central hard copy file of all approved MSDS. Electronic access to all current, approved MSDS is available on-line at all shop facilities. Purchasing and Warehousing controls purchase and delivery of all MSDS materials based on approval status as described under SSPP Chapter 21. Employees are trained by Safety Department's Training and Safety Observation section. MSDS compliance is verified through quarterly inspections performed and documented by Safety Department's Inspections and Investigations section. Contractor use of MSDS must be documented in the Contractor Safety Plan with compliance reviews done by the Safety Department.

CTA has a comprehensive, well coordinated process for hazardous material handling, control and compliance verification. The significant involvement of the Safety Department should be incorporated in the SSPP description of this program.

Chapter 21 - Purchasing: This chapter describes CTA requirements for procurement of hazardous materials and safety-sensitive equipment. The Purchasing and Warehousing department has primary responsibility for this function. Safety Department's Senior Industrial Hygienist performs MSDS review and approval, analysis of all hazardous materials for replacement with non-hazardous substitutions, and development of PPE requirements for working with hazardous materials. There is a documented procedure (CTA Purchasing Procedures for Hazardous Material) assuring MSDS review and approval by Safety Department and compliance with OSHA and USDOT container and label requirements. Purchasing and Warehousing receives all requisitions, requests and verifies MSDS approval by Safety Department, controls delivery to specified CTA facilities and performs inspection of product and paperwork at points of delivery. Material storage and handling remain under Purchasing and Warehousing control at warehouses and shop stock rooms which are managed by Purchasing and Warehousing personnel. All deliveries are electronically tracked for procedure compliance, which is tied to contract approval and payment.

Purchasing and Warehousing Quality Assurance performs product inspections. An electronic system (Oracle) codes and tracks all items. Delivered items requiring inspection are held in a controlled area until inspected. Inspections are performed according to specifications developed by Engineering Technical Services or Tech Support. Safety Department participates in the review of specifications. Inspections include verification that any required manufacturer certifications are provided. Quality Assurance controls all delivered items until the inspection process is complete and all issues preventing approval are resolved. The electronic system prevents payment until inspection requirements are met and delivered items are accepted.

The procurement process, as described in the SSPP and explained during the review, has the proper controls, procedures and coordination among the personnel responsible to assure compliance with CTA hazardous material and quality assurance requirements.

4.3 Assessment

The assessment of each SSPP element consisted of interviews with personnel responsible for and involved in the implementation of that SSPP element. These personnel are identified in each of the element checklists. Additionally, the RTA review team conducted a review of documentation applicable to the element. Documentation consisted of rules, procedures, manuals, plans, SOPs, forms, reports, meeting agendas/minutes and on-line database/reporting systems. The narrative provided for each element in Section 4.2 includes a discussion of CTA's implementation of that element. The CTA SSPP, in general, provides a good description of CTA's safety programs in compliance with RTA requirements. CTA procedures and practices generally are in conformance with the SSPP. Findings and recommendations regarding individual elements of the RSSPP are provided in the next section (Section 4.4).

4.4 Findings

As noted in the introduction to this report, RTA reviewed a revised draft of CTA's System Safety Program Plan before and during this triennial review. A separate set of plan content-related comments was transmitted to CTA in letter format. Some additional SSPP comments resulting from additional, more detailed review are included below. Most findings in this section, however, relate to SSPP implementation and associated processes.

SS-1: The safety certification process, as described in the CTA SSPP, needs to be reexamined to ensure appropriate thresholds are in place, and that departments, including Safety & Risk Compliance, have appropriate levels of safety certification responsibility. During its 2007 triennial review, RTA found that CTA needed additional detail in its safety certification process, including clearer thresholds for when the safety certification process is implemented. CTA's own internal audits have also found the need for more robust safety certification process. Finally, SSPP Page 25 states that Power & Way Engineering chairs the Safety and Security Certification Committee

(SSCC). RTA recommends that this role should be the responsibility of Safety & Risk Compliance, in order to ensure the process remains focused on safety.

SS-2: Chapter 6 of the SSPP describes the Safe Line hazard identification source as being used for non-emergency safety issues, while Chapter 9 describes it for reporting unsafe conditions. Consider developing an SOP or bulletin for Safe Line and other mechanisms for employee identification and reporting of hazards to promote employee awareness, consistency and understanding of the hazard management process and reporting function.

SS-3: A policy and procedure should be established and implemented for updating CTA's Rail Design Criteria to reflect the latest transit industry standards (e.g., APTA Rail Safety Standards). It should also reflect lessons learned from recent project implementation. CTA's current Design Criteria were last updated in 1996.

SS-4: CTA's SSPP describes the requirements for developing and tracking corrective actions based on recommendations of an investigation report, but does not document CAP development responsibilities and timelines for the departments affected by and responsible for CAP implementation (e.g., operating or maintenance departments, etc.). While CTA Safety has a good process for corrective action development, the current SSPP (and current practice) does not fully incorporate non-Safety departments into the CAP development process. CTA should provide a clearer expectation for non-Safety departments and their roles in this area, as well as the timelines and processes involved in CAP development.

SS-5: There is inconsistency among timelines for required incident notification. Administrative Procedure #1901, Response to Safety Incident Investigations, (updated January 25, 2010), section 3.3, specifies that a draft report be forwarded to affected departments within 60 days of an incident. Procedure for Accident and Incident Investigation, Revision #1 (November 2006), section 9.2, requires that a draft report be completed in a timely period. It is recommended that the 60-day requirement be used in place of the "timely period" for consistency.

SS-6: Consider updating the CTA Procedure for Accident and Incident Investigation to include SSPP requirements for coordination with RTA regarding CAPs.

SS-7: CTA's hazard management process does not sufficiently incorporate and coordinate with the RTA State Safety Oversight Program. CTA Safety and RTA SSO personnel should work together to analyze their current interaction for on-site and follow-up hazard management activities. This analysis should include a review of current coordination levels, and discrete, achievable steps both agencies can take to increase cooperation and coordination in these areas.

4.5 Related Open Findings from Previous Triennial Reviews

SS-10: CTA should work with RTA to develop acceptable definitions of what projects are subject to the SSC process.

This open finding from the 2007 triennial review was incorporated into the above 2010 finding SS-1.

4.6 Bibliography

Personnel Interviewed

- Peter Ousley, Chief of Staff
- Amy Kovalan, Chief of Safety & Security
- Chris Bushell, Chief of Infrastructure
- Jeanette Martin, Chief Operating Officer
- Dennis Mondero, Chief Administrative Officer
- Sara Schwanke, General Manager of Safety & Risk Compliance
- David Wright, Manager of Inspections & Investigations (Safety)
- John Plante, Senior Manager of Emergency Preparedness (Safety)
- Jessica Rio, Manager of Data, Analysis & Audit (Safety)
- Bob Burns, Manager of Training & Safety Observation (Safety)
- Christine Bravi, Manager of Risk Compliance (Safety)
- Stephen Kiraly, Data Management Analyst (Safety)
- Kevin Vogt, Construction Safety (Safety)
- Paris Galmore, Inspections & Investigations (Safety)
- Tom Drozd, General Manager of System Maintenance – Shops & Facilities
- Kevin Lockney, Chief of Facilities Initiatives
- Mike Turbov, Machinist Foreman – North Side
- George Domingez, Manager – Kimball Shop
- Chuck Webber, Environmental Affairs
- Edward Miller, Senior Industrial Hygienist (Safety)
- Adrian Cabral (Safety)
- Scott McAleese (Engineering)
- Erin Carsele (Power & Way)
- Mark Ehmgig, General Manager of Warehouse Operations
- Geoffrey Urban, General Manager of Purchasing
- Humberto Perez Jr, Coordinator of Quality Inspection – Materials
- Harry Paller, Manager of Specifications & Inspections
- Patrick Hughes, Manager of Warehousing & Purchasing
- James Harper, Chief Engineer
- Leah Dawson, Chief of Capital Construction Financials, Power & Way

- Michael Goff, ProjectNet Manager, Chicago Transit Partners
- Christer Bohman, QA/QC Manager, Chicago Transit Partners
- Robert Wittmann, General Manager, CTA Construction

Facilities Visited

- CTA Offices, 567 W. Lake Street, Conference Rooms 4B and 5B, Safety Department
- Green Line, 59th Street Junction (derailment investigation)
- Red Line, Cermak/Chinatown Station (modifications)
- Brown Line, Sedgwick elevated structure (600 volt cable replacement)
- Green Line, Tower 18 (work zone rule compliance)
- Brown Line, Fullerton Station (work zone rule compliance)
- Brown Line, Belmont Station (construction safety compliance)
- Orange Line, Tower 12 (work zone rule compliance)
- Brown Line, Kimball Shop (employee safety, hazardous materials)
- Red Line Grand Station (rehabilitation construction safety compliance)
- Red Line North/Clybourn Station (rehabilitation construction safety compliance)
- Green Line between Clinton and Ashland (structural column relocation safety compliance)
- Red Line at North/Clybourn Station (track walker rule compliance)
- Green Line between Clinton and Clark/Lake (work zone rule compliance)

Documents Reviewed: Procedures, Plans

- Chicago Transit Authority Rail Safety Program Plan, April 2010 Revision 6
- Rail System Rule Book – January 1, 2009
- Standard Operating Procedures 7037-43, 7045-47, 7049-50, 7075, 7083, 8065, 8099, 8111, 8130-31, 8149, 8200, 8209, 8226
- List of Safety Bulletins 1001- 6007
- CTA 2010-2014 Proposed Capital Improvement Program
- CTA FY 2011-2012 Capital Improvement Program Solicitation, April 7, 2010
- CTA Safety Certification Program Plan Manual for Major Capital Improvement Projects on the Rail System, March 2005
- CTA Safety Certification Program Plan for the Ravenswood (Brown) Line Expansion Project, May 2005
- CTA Internal Safety Review Procedure, March 2008
- CTA Safety Manual for Contract Construction On, Above or Adjacent to the CTA Rail System, March 2010
- CTA Design and Rehabilitation Criteria Manual Table of Contents, November 15, 1996

- CTA Design and Rehabilitation Criteria Manual Chapter 17 – Safety and Security, November 15, 1996.
- Capital Program Management Program Management Procedures, Configuration Management, P120, December 2009
- Capital Program Management Program Management Procedures, Web-based Project Management System Records Management, P103, January 2010

Documents Reviewed: Project Design and Safety Certification

- Safety Design Review Log (as of February 2010)
- Brown Line Expansion Project Safety Construction Completion Certificate with Construction/Testing Verification (for 12 stations), 2008

Documents Reviewed: Committees, Meetings

- Rail Reliability Task Force Agenda, April 30, 2010
- Bi-weekly Safety, Security and Risk Compliance Meeting, April 27, 2010
- Internal Rap Session Safety Agenda
- Agenda – Safety Captain Committee January 25, 2010
- Agenda – Rail reliability Task Force, May 28, 2010
- Action Items for Rail Reliability Task Force, May 14, 2010

Documents Reviewed: Safety Data

- CTA Monthly Performance (Scorecard)
- Safety Performance Measures Matrix: 2010
- Flash Report, April 29, 2010 (Senior Staff presentation)
- 2010 Rail Station Injuries Report
- 2009 Rail Station Injuries Report
- OSHA Recordable CTA IOD's, YTD March 2010
- System Safety Employee Safety Concern Response Guidelines
- Safety Reporting Line – Log

Documents Reviewed: Inspections, Audits

- Track Maintenance Audit, March 25, 2010
- Safety Inspection – Linden, January 25, 2010
- Safety Inspection – Rosemont Rail Shop, April 28, 2010
- Subway Inspection – O'Hare Subway Tollway Tunnel, November 12, 2009
- CTA Annual Safety Audit Annual Report 2007
- CTA Annual Safety Audit Annual Report 2008
- CTA Annual Safety Audit Annual Report 2009

- Environmental Audit – Kimball Rail Shop, May 11, 2009, and October 14, 2009
- Open CAP Status Spreadsheet Related to 2007 Triennial Review
- Construction Safety Observation Form
- Construction Safety Observation Tracking Spreadsheet

Documents Reviewed: Investigations

- CTA Safety Incident Investigation Guidelines, Revised April 28, 2009
- CTA Procedure for Accident and Incident Investigation, Revision #1 (November 2006)
- Administrative Procedure #1901, Response to Safety Incident Investigations, January 25, 2010
- Accident Investigation Reports: 12/12/09, 1/14/10, 2/7/10, 2/16/10, 3/25/10
- NTD Internet Reporting – Major Incident Summary 2008, 2009, 2010 as of May 3, 2010
- Investigations Database – Instructions
- CAPS Recommendations – RTA Reportable 1/6/09 - 1/14/10
- CAPS Recommendations Report (for incidents) 1/14/10 - 4/6/10

Documents Reviewed: Hazard Management

- Hazard notification and updates to RTA, AF800/AF500 track circuits: October 16, 2009, and April 15, 2010
- Hazard notification and updates to RTA, train berthing: 7/11/08, 10/31/08, 4/8/09, 4/14/10
- Berthing Analysis, November 19, 2009
- Derailment Analysis, October 15, 2009
- Rail Safety Violation Analysis, March 5, 2010
- Hazard Management Log

Documents Reviewed: Worker Safety

- Rail Safety Training Program, May 2009
- Emergency Response Plan for 54th Rail Shop, April 2007
- Emergency Response and Spill Control Plan for Kimball Rail Shop, January 2008
- Personal Protection Equipment for CTA Employees According to Job Title, July 2009
- Environmental Inspection (Form)
- CTA Purchasing procedures for Hazardous Material
- MSDS Approval of April 27, 2010 (sample)

- Instruction Memo dated July 14, 2009 – accessing MSDS sheets from IPC or MMIS workstations.

4.7 References

The following evaluation criteria were used to review the SSPP and assess implementation:

- Requirements identified in the *RTA System Safety Program Standard and Procedures (revised September 15, 2006)*
- FTA State Safety Oversight Final Rule (49 CFR 659)
- *FTA Recommended Best Practices for States Conducting Three-Year Safety Reviews*
- CTA SSPP, Rule book, SOPs and other SSPP-referenced documents and procedures

5. System Security

5.1 Description/Overview

The System Security review provides an assessment of CTA security programs, plan, policies, processes and actual practices with respect to CTA's compliance with security standards promulgated by RTA. This review included an evaluation of CTA's System SEPP. The CTA Office of Security, a component of the Safety, Security & Risk Compliance Department (Safety Department), oversees and manages security operations for CTA property and also controls, maintains and provides updates to the SEPP.

5.2 Responsibility and Current Situation

The CTA Office of Security is headed by the Chief Security Officer, Mr. Daniel C. Hall. Within the department and reporting to the Chief of Security are the Manager of Facilities, Security, and the Manager of Investigations, Security. The Chief Security Officer reports to the Chief Safety & Security Officer, Ms. Amy Kovalan, who in turn directly reports to the CTA President, Mr. Richard Rodriguez.

The CTA Office of Security, through an intergovernmental agency agreement, relies on the Chicago Police Department (CPD) Public Transportation Section (PTS) to provide law enforcement for CTA. The Public Transportation Section, under the direction of Commander John Graeber, provides between 65 and 70 CPD officers and nine police supervisors who work in a voluntary, special employment capacity, providing daily law enforcement services for CTA. CPD Public Transportation Section deployment is split roughly in half between rail transit and bus operations. Officers are deployed in plainclothes and uniformed assignments that may be directed, fixed post, and K-9 as required by circumstances and events. Police patrols for CTA lines in Oak Park and Evanston are provided by the Oak Park and Evanston Police departments, respectively, under the same intergovernmental agency agreements. CPD develops all crime statistics for submission to the National Transit Database crime reporting system required for mass transit. CTA law enforcement is supplemented by contract security guards and K-9 services provided by Securitas and their security subcontractor, Star Detective Agency.

5.3 Assessment

For this assessment, the reviewers examined the CTA System Security and Emergency Preparedness Plan (SEPP). The reviewers also interviewed personnel from the CTA Office of Security, including Daniel Hall, CTA's Chief Security Officer; Phynillia Woodward, Manager of Facilities, Security; Commander John Graeber, Chicago Police Department; and numerous additional members of the Chicago Police Department Public Transportation Section throughout the assessment.

The CTA Office of Security, in conjunction with the Chicago Police Department Public Transportation Section and CTA's security contractor Securitas, provide an effective program for ensuring security on the CTA system. The CTA security program could be

enhanced with modifications to the CTA SEPP. The following findings will provide additional details.

5.4 Findings

SEC-1. The CTA SEPP needs to be re-formatted and rewritten to fulfill RTA's September 2006 System Safety Program Standard and Procedures (revised September 15, 2006), Section 4, "System Security Plan General Requirements." RTA has five requirements for the SEPP that are listed on page 15 of the SSPS; of the requirements, No. 1 is addressed as required; No. 2 and No. 4 are not addressed by the CTA SEPP; and requirements No. 3 and No.5 are not complete and are only partially addressed. The CTA security plan's compliance with the five elements required by RTA is as follows:

1. RTA Element: Identify the policies, goals, and objectives for the security program endorsed by the agency's chief executive.
Compliance: Addressed – page 3 of the 2010 security plan.
2. RTA Element: Document the rail transit agency's process for managing threats and vulnerabilities during operations, and for major projects, extensions, new vehicles, and equipment, including integration with the safety certification process.
Compliance: Not addressed. Pages 39 – 45 relate to this topic but do not specifically address the requirement and needs to be revised.
3. RTA Element: Identify controls in place that address the personal security of passengers and employees.
Compliance: Partially but not completely addressed and needs to be revised; §§ 4.3 – 4.6, pages 29 – 34.
4. RTA Element: Document the rail transit agency's process for conducting internal security reviews to evaluate compliance and measure the effectiveness of the system security plan.
Compliance: Not addressed.
5. RTA Element: Document the rail transit agency's process for making its system security plan and accompanying procedures available to the oversight agency for review and approval.
Compliance: Partially but not completely addressed and needs to be revised; § 12.3, page 54. Plan states that Chief of Security controls the document, but provides no specific mention of SSO.
6. CTA's security plan appears to be titled System Security Program Plan on the cover, while the first section heading (p.7) and several subsequent references use "Security & Emergency Preparedness Plan."
7. On final revision, CTA needs to ensure that the figures and tables references are consistent between the security plan table of contents and the body of the document.

CTA has been provided with RTA's *System Safety Program Standard and Procedures (revised September 15, 2006)*, as well as additional guidance including FTA's *Public*

Transportation System Security and Emergency Preparedness Planning Guide, January 2003.

SEC-2: CTA has been unable to ensure that its Securitas and Star Detective Agency contract security personnel consistently complete CTA's Rail Safety Tour training. One way to address this issue may be for CTA to explicitly disallow Securitas/Star Detective Agency contract security guards, and any other non-qualified security personnel, from entering the right-of-way under any circumstances. This may affect SEPP content and would need to be addressed appropriately.

SEC-3: CTA's SEPP does not identify a process, procedure, or methodology for conducting threat and vulnerability assessments. CTA has had three Threat & Vulnerability Assessments (TVA) conducted over the last five-year period, with the most recent being conducted in late 2006 by Office for Domestic Preparedness (ODP) under the Port Mass Transit Technical Assistance Program. Each assessment used a different methodology. CTA uses the TVA results as the basis for identifying threats, vulnerability and relative risk. Included in this strategy is planning for risk reduction, identification of terrorist threat, likely attack scenarios, asset vulnerability, and terrorist attack impact result. This risk profile provides a foundation for an evaluation of relative risk between attack scenarios for all critical assets of CTA. Additionally, the TVA provides the basis for matching security grant opportunities and capital security investments based on current threats and vulnerabilities. While the ODP TVA methodology was used for conducting the 2006 TVA, CTA does not identify a process, procedure, or methodology in its SEPP for conducting TVA. Also, the methodology CTA decides to use for TVA needs to be updated on an annual basis to identify current threats and vulnerabilities and overall risk reduction based on capital security expenditures and security enhancements and improvements.

SEC-4: CTA's program for emergency response, including procedures and drills, does not sufficiently incorporate coordination with RTA and the other regional transit agencies. An examination of CTA's current security plan and recent draft revisions, as well as review of procedures and recent drills, indicate that CTA could do more to coordinate with other area transit agencies. CTA should establish and coordinate involvement with RTA, Metra, and Pace in its emergency response planning, procedures, and drills. CTA should provide the invitations to RTA and also send a commitment letter that states the continued invitation to RTA, Metra, and Pace.

5.5 Bibliography

Documents Reviewed

- CTA System Security Program Plan, April 2010 Revision
- Office for Domestic Preparedness, 2006 Threat Vulnerability Assessment (Output information)

Persons Interviewed

- Mr. Daniel C. Hall, Chief of Security, CTA
- Ms. Phynillia Woodward, Manager of Facilities, Security, CTA
- Commander John Graeber, Public Transportation Section, Chicago Police Department
- Lieutenant Clark Schroeder, Public Transportation Section, Chicago Police Department
- Lieutenant John Wittenberg, Public Transportation Section, Chicago Police Department

Facilities Toured

- CTA Headquarters, 567 West Lake Street, Chicago
- On-board and station observations of CTA Rapid Transit Lines, various locations

5.5 References

Evaluation Criteria

- RTA System Safety Program Standard (SSPS), September 2006 Revision
- FTA Public Transportation System Security and Emergency Preparedness Planning Guide, January 2003
- Office for Domestic Preparedness, Port Mass Transit Technical Assistance Program
- Department of Homeland Security Presidential Directive 7

6. CTA Operations Rules Compliance

6.1 Description/Overview

Rules compliance comprises the processes used by CTA to develop, maintain and ensure compliance with rules and procedures that affect the safe operation of the CTA rail system. This review area encompasses CTA's internal processes and procedures for the review and update of operating rules and procedures, the techniques used to assess the implementation of and compliance with operating rules and procedures, the means by which CTA measures the effectiveness of its rule compliance and enforcement activities, and the process for analyzing trends in overall rule compliance and the incorporation of potential rules and procedures compliance issues and problems into the hazard management program. This review area also included overall observations of train operations, supervision and control.

6.2 Responsibility and Current Situation

CTA Rail Operations is responsible for the operation of the CTA rail system. Ed Cook is the Vice President of CTA Rail Operations. Rail service delivery is divided among three line service groups – Brown/Green/Orange (General Manager: Marlene Taylor), Blue/Pink (General Manager: Richard Newton), and Red/Purple/Yellow (General Manager: Ronald Ester). Each line service group includes Transportation Managers, Rail Supervisors and Customer Service Supervisors, who in turn oversee Rapid Transit Operators (RTOs). Transportation Managers are responsible for conducting efficiency testing and other everyday managerial tasks along the lines. Administrative Managers are responsible for such activities as recordkeeping and the collection of rule compliance data from Supervisors and Transportation Managers. Universal Rail Supervisors report to Transportation Managers and are responsible for overseeing rail operating personnel (RTOs, towermen) as well as Customer Assistants located in rail system stations. RTOs operate CTA trains and are generally cross-trained to also perform flagman and yardman functions.

In addition to the line groups, train movements are generally monitored and controlled at the CTA Control Center, headed by General Manager Kelly Brookins. The Control Center General Manager is assisted by additional management level staff members, who in turn oversee the Rail Controllers. The Rail Controllers are responsible for the rail system and are joined in the Control Center by Bus Controllers, Customer Assistant Controllers and Security Controllers.

CTA Rail Operations also includes the Operations Oversight group, headed by General Manager Bruce Nelson. Operations Oversight is responsible for the review and update of CTA's operating rules, procedures, and Rail Service Bulletins and Temporary Bulletins.

In general, the reviewer found CTA Rail Operations to be structured appropriately and to have appropriate processes in place to complete all necessary tasks. However, not all of

these processes appeared to be formalized (see Findings below). CTA appeared to have appropriate processes in place to address major (safety-critical) rule violations (such as violating a signal, improper berthing, derailments, collisions, incorrect routes, coupling violations, cell phone usage, and improper door operation), and this process is well-documented in CTA's Efficiency Testing Procedures. But a review of records revealed that CTA does not appear to document lower-level rule violations in a manner that allows for the analysis of trends in overall rule compliance.

6.2 Assessment

The RTA review team conducted this assessment through interviews with CTA Rail Operations managers and front line employees, including managers from the three line service groups, the Control Center, and CTA Operations Oversight. The review team also reviewed a sample of employee records, including approximately 500 Rail Operator Check forms across approximately 30 RTO personnel records. The team conducted field observations of CTA rail operating rule compliance, and observed CTA Supervisors performing their duties. RTA observed Control Center operations and reviewed Control Center logs.

6.3 Findings

ORC-1: Based on a review of over 500 RTO Operations Check forms from a sample of 30 RTOs from the three line groups, it appears that CTA Rail Supervisors are not monitoring RTOs effectively for compliance with all operating rules and procedures. Of the 500 RTO Operations Check forms reviewed, approximately 10 noted something other than "Operated Correctly." Meanwhile, two review team members noted several minor rule compliance issues while performing independent field observations for RTO rule compliance (see the attached checklist for details). It will always be easier for outsiders and persons unknown to CTA Operators to spot violations. Still, the consistently good results from CTA Supervisors' audits suggest the rules check program needs to be expanded and diversified to ensure a more accurate assessment of actual operations. CTA should expand the program to include clearer expectations of what areas are to be reviewed, how frequently they are to be checked, and so on, to ensure the process is valid and useful.

CTA does appear to catch the most severe rules and procedures violations (described above), and these are adequately addressed by CTA Rail Operations management; appropriate persons throughout CTA are made aware of such issues (including Safety Department personnel). Additionally, there appears to be a process in place to ensure that trends in high-level rules violations are addressed through actions like changes to rules and procedures, bulletins, and reinstruction, and appropriate managers and personnel from the Safety Department appear to be aware of these issues.

However, CTA should analyze how it can better ensure that Supervisors are noting all observed instances of non-compliance with rules and procedures for the purposes of data collection and analysis (and not just discipline) so that trends in low-level rule

compliance issues can also be addressed at the executive level through training, changes to rules, procedures, and bulletins, and the ability of managers to focus supervisions on problem areas. Trends in lower-level rule violations (such as failure of an RTO to stand while proceeding through an interlocking or entering a station) may not pose an immediate safety risk, but may point toward growing problems in overall rule compliance. Additionally, Supervisors may be observing such rule violations by RTOs, and even providing verbal feedback to RTOs in such cases. However, it is difficult for CTA management to conduct appropriate analysis of rule compliance without such seemingly minor rule violations being documented every time. None of the Rail Operations Check forms denoted the rule violations outlined in CTA's Efficiency Testing Procedures, which suggests that Supervisors are not independently recording such violations outside of the context of an Efficiency Test, when they are accompanied by Managers in observing RTOs and other personnel.

CTA Rail Operations, Safety, and Rail Instruction should be able to use trends in rule compliance to guide the same changes to supervisory activities (i.e., focus on a certain rule or procedure for a period of time), training, and even rules and procedures that trends in "major" violations may cause. As such, CTA should analyze the duties, responsibilities and training of its Rail Supervisors and determine how it can utilize them more effectively to ensure full RTO compliance with all CTA operating rules and procedures, and to ensure that they document all observed instances (even minor occurrences) of rule violations, whether using the Rail Operations Check form or some other form. CTA should provide evidence of such an analysis and its results to RTA.

ORC-2: RTA observed that CTA uses an incoherent system to collect data from the results of Supervisor observations of RTOs, efficiency testing by Transportation Managers and Safety Department personnel, and observations by Rail Instruction personnel. At the time of the review, CTA management did not appear to have the capability to analyze this disparate data to effectively monitor trends in rules and procedures compliance across different sources. It is essential that management have the capability to use rule compliance data to influence supervisory activities, training, and the review and update of rules and procedures, as well as disciplinary issues.

RTA learned during the review that CTA is in the process of rolling out a new, more comprehensive database that will allow managers across CTA to analyze the results of all types of rule compliance and enforcement activities. Though CTA is to be commended for this effort, CTA should develop a formal plan, policy or procedure for this database that indicates such things as its purpose, how it will be utilized, what data must be entered, who will be responsible for analyzing the data and who will be responsible for maintaining the data. Formalization of this process will help ensure consistency of utilization of this information across the organization, and continuity among successive managers. CTA should submit a copy of such a plan, policy or procedure to RTA.

ORC-3: CTA's processes that guide the update of rules, procedures and bulletins (as well as the development of new ones) are not formalized. Although CTA has

processes in place to guide the review and update of rules, procedures and bulletins, (as well as the development of new ones), these procedures have not been formalized. In particular, CTA has a draft “Standard Operating Procedure Committee Description,” a draft “Rail System Rule Book Committee Charter,” and a draft “Rail Service Bulletin Process.” Each of these draft documents appears to be appropriate, but CTA should finalize them as formal plans, policies, or procedures to help ensure that the processes outlined therein are consistently followed. CTA should provide copies of the finalized versions of these documents to RTA.

6.4 Bibliography

Documents Reviewed

- Chicago Transit Authority Training and Instruction, Standard Operating Procedure Committee Description (Draft) T&I 03/08
- Rail Service Bulletin Process (Draft)
- Chicago Transit Authority Rail System Rule Book Committee Charter (Draft)
- CTA Transit Operations Standard Operating Procedures
- CTA Transit Operations General Information – Towerman Duties and Responsibilities
- CTA Transit Operations General Information – Universal Rail Supervisor Duties and Responsibilities
- CTA Rail Service Bulletins
- CTA General Bulletins
- Flash Report: Rail Safety Violations – May 2010 (sample printout of database of major safety violations used by Rail Operations)
- Rail Operator Check forms (in employee personnel records)
- Time Check forms (completed by Supervisors)
- CTA Rail Safety Violation and Retraining Request Form
- Lists of Customer Assistants, Switchmen, RTOs, Towermen who need to be observed by a Supervisor (sample)
- Sample Rail Efficiency Test results
- Sample of Employee Personnel Records, Employee Hours Lost/Corrective Action forms
- Sample of Special Occurrence Reports
- CTA Rail System Rule Book (2009 Edition – January 1, 2009)
- Sample Daily Station Checks and G-47-09 Cleaning of Rail Stations Efficiency Tests
- CTA Efficiency Testing Procedures

Personnel Interviewed

- Kelly Brookins, General Manager, Control Center
- Zerria Clark, Vehicle Operations Manager II – Blue & Pink Lines

- Kenneth Elam, Transportation Manager II – Red/Purple/Yellow Lines
- Ronald Ester, General Manager, Red/Purple/Yellow Lines
- Stephen James, Vehicle Operations Manager – Blue/Pink Lines
- Bruce Nelson, General Manager, Operations Oversight
- Richard Newton, General Manager, Blue/Pink Lines
- Marlene Taylor, General Manager, Brown/Green/Orange Lines
- Chris Fisher, Rail Supervisor
- James Ward, Rail Supervisor
- Jeff Gadomski, Program Specialist II
- Clifton Lloyd, Rail Controller

Locations Visited

- CTA Control Center
- O’Hare Terminal
- Forest Park Rail Operations Office
- Howard Terminal
- 95th/Dan Ryan Terminal
- Kimball Terminal
- Midway Terminal
- Line Operations – all lines

6.5 References

Evaluation Criteria

- CTA System Safety Program Plan
- CTA Rail Operations Rule Book
- CTA Transit Operations Standard Operating Procedures
- CTA General Bulletins and Rail Service Bulletins

7. CTA Facilities & Equipment Safety: Stations

7.1 Description/Overview

The assessment area for this task included the rail stations located within the CTA rail transit system. These rail stations handle a large number of passengers on a daily basis and they must be able to provide a safe environment for entrance to and exit from the system as passengers wait to board and alight the trains. For this to happen, reviews of the field conditions must be performed on a regular basis to ensure that safety hazards are identified and corrected in a timely manner. In addition, performance of regularly scheduled maintenance helps to ensure that a safe environment is provided for passengers and employees while reducing equipment failures.

7.2 Responsibility and Current Situation

The Facilities Maintenance Department (located at West Shops) within CTA is responsible for most inspection and maintenance of the rail stations. The Safety Department also performs regularly scheduled station walkthroughs and inspects for safety-related issues. CTA's Power & Way section is also responsible for certain electrical maintenance areas.

The Facilities Maintenance Department is comprised of approximately 300 employees, of which 260 are workers in various trades, including electricians, escalator servicemen, sheet metal workers, HVAC servicemen, sign fabricators, welders, machinists, carpenters, painters, bricklayers, and plumbers. Several areas of work that are outsourced to contractors include fencing, glazing, pest and pigeon control, landscaping, concrete, and asphalt. This department must maintain approximately 144 rail stations and equipment associated with approximately 224 miles of mainline track. Included in these stations are 159 escalators and 140 elevators that are maintained by escalator servicemen and an outside contractor, respectively.

As it currently stands, any CTA employee – such as a Customer Assistant (CA), rail janitor, or inspector – can identify and report safety issues, with the primary method being the creation of a work order. These work orders are called in to a service desk, where they are entered into a centralized electronic database that is used to schedule the work and track open and closed items. Any safety-related issues that deserve a rapid response are called in immediately upon discovery so that the hazard may be remediated as quickly as possible.

Elevators and escalators are tracked in detail, and daily and monthly reports are generated to track efficiency based upon service interruptions calculated on an hourly basis. For the month of March 2010, the hourly in-service rate for escalators was approximately 97 percent and 98 percent for elevators. This demonstrates that preventive maintenance is effective in playing a key role in maintaining such a high in-service percentage.

The Facilities Maintenance Department has instituted a “Deep Clean Initiative” that focuses on preventative maintenance on a station-by-station basis. This program assesses the current status of all stations through use of a rating system and focuses on addressing maintenance issues at the lowest-rated stations. The core team devoted to this task is composed of four to eight painters, four sheet metal workers, six to 10 electricians, and four carpenters. This staffing is also expanded on an as-needed basis to include up to four bricklayers, four machinists, two plumbers, and four HVAC servicemen. The team is scheduled to address issues at two stations per workday. Based upon the presentation provided by CTA, it appears that this program has not negatively impacted emergency and/or standard maintenance items throughout the system.

7.3 Assessment

The review team conducted interviews with senior staff to establish the current practices to provide a baseline comparison to the documented procedures and plans.

Field visits of three stations were conducted to review existing conditions of each type of station (one underground, one elevated, and one at-grade).

Maintenance and inspection records were reviewed to determine if inspections were taking place in accordance with the Facility Maintenance Plan.

7.4 Findings

STA-1: CTA needs to re-examine its electrical maintenance process and its application of that process to ensure that electrical distribution panels are consistently and properly secured. At Clinton Station on the Green Line, the janitor’s closet contained electrical panels that were not properly secured. One panel had a cover removed that was resting up against it on the floor, two panel boards did not have blanks installed where breakers used to be located (which allowed direct access to the bus bars), and a fourth panel was left open. No warning signage was present indicating work in progress at this location, and no electricians were observed working in the area.

STA-2: CTA needs to re-examine its electrical maintenance process and application of that process to ensure that electrical box covers are installed where appropriate. Electrical junction boxes were observed without covers installed in areas accessible to the traveling public. These boxes contained wires that appeared to be live and could cause injury to passengers. These areas were reviewed with CTA personnel on site.

STA-3: Station exit signage is inconsistent. Stations do not adhere to the same signage nomenclature for exit signs. Arrows are generally provided to show the direction to exits, but “Out” or “Exit” are used interchangeably. This could lead to confusion during an emergency when all passengers should be focused on following “Exit” signs to lead them safely out of the facility. The coloring of these signs is also inconsistent.

STA-4: CTA needs to re-examine its emergency telephones inspection and maintenance processes, especially relative to Red Line phone installations, which are inaccessible at platform level. The emergency telephones mounted within secure enclosures at the platform level at Sox-35th on the Red Line were not accessible, despite having the proper key to open. During an emergency, these phones may be a vital communication link. Without access to the interior of the phone boxes, it was impossible to determine if these phones were operating properly.

STA-5: Station inspections are not being performed in accordance with the current Facilities Maintenance Plan. Without the inspections referenced in the CTA Facilities Maintenance Plan, there does not appear to be a method to address issues that would have been identified during the missed inspections. Safety inspections are a good practice, but they do not cover all of the details and various reports currently referenced in the Facilities Maintenance Plan. There are station inspection forms located in Part 3, Section 1 of the plan that do not appear to be used, including “Inspection Checklist, Type B,” “Subway Station Inspection Report,” “Terminal Inspection Report,” and “Rail Station Inspection Record.” Actual practice and written plan need to be coordinated so they are in agreement.

7.5 Bibliography

Documents reviewed

- Work Order Logs from May 2009 to April 2010
 - Clinton – Green
 - Lake – Red
 - 35th - Red
- Inspection Check List of Electric Elevators
- Escalator Inspection Routine
- Generator Preventive Maintenance Records
- Deep Clean Initiative Performance Management Session Presentation
- Safety Inspection – Rail Stations – 35th
- Work Order Log – Clinton - Green Line, 35th – Red Line, Lake – Red Line
- CA Reports – Clinton - Lake

Personnel interviewed

- Thomas Drozd - General Manager – CTA Facilities Maintenance
- Kevin Loughnane - Manager, Special Projects – CTA Facilities Maintenance, Construction and Engineering
- Erin Carsele - Project Manager – CTA Power & Way Maintenance, Construction and Engineering
- Kevin Vogt – Coordinator – System Safety
- Stephanie Shapira – Safety Inspector – System Safety

Locations visited

- Clinton – Green Line (elevated station)
- Lake Randolph – Red Line (underground station)
- Sox-35th – Red Line (at grade station)

7.6 References

- CTA Facilities Maintenance Plan, August 2006 revision
- APTA Standard for Station, Shop and Yard Inspection and Maintenance (APTA RT-S-FS-003-02, 7/26/04)

8. CTA Facilities & Equipment Safety: Structures

8.1 Description/Overview

The assessment area for this task included the elevated guideway and stations located within the CTA rail transit system. These structures support CTA's elevated trains and facilitate transportation of thousands of passengers daily. They must be able to support all of the dead and live loads associated with the trains and infrastructure to provide a safe environment for passengers and CTA employees. For this to happen, reviews of field conditions must be performed on a regular basis to ensure that safety hazards are identified and corrected in a timely manner. In addition, performance of regularly scheduled maintenance will help to ensure that a safe environment is provided for passengers and employees while trying to avoid equipment failures.

8.2 Responsibility and Current Situation

The Structure Department (located at West Shops), which falls under the Power & Way Maintenance Department, is responsible for inspection and maintenance of all structural supports, including elevated structures, elevated stations, station canopy supports, bridges (split inspection with City of Chicago in most cases), and subways.

The primary purpose of structure maintenance is to repair the elevated bridge decks and station structures. Currently, there are no major rehabilitation programs in progress. There are 46 total ironworkers devoted to structural maintenance steel repairs.

There are eight inspectors responsible for all structural inspections throughout the rail system. They operate in two-man crews using bucket trucks during elevated structure inspections. They are able to complete inspections of approximately seven spans per day. The ironworker foreman keeps a bent book that lists all the bents in sequential order and records when the inspections have been completed.

The foreman assigns work to the structural inspectors each morning. He collects all the field documentation and provides it to the senior engineer before it is transmitted with a cover letter to 567 West Lake Street to be logged into the electronic database.

The Rail Information Management System (RIMS) is the electronic database that is used to document structural maintenance issues. Inspections are performed on a two-year cycle. At the time of review, there was an inspection backlog of three months that was expected to be brought current by June or July of 2010. The senior engineer completes one field audit per week to ensure that structural defects are being performed and recorded in accordance with the RIMS Manual and the structure maintenance plan.

The structural inspections and steel repair are performed one subway line at a time from one end of the line to the other. This systematic workflow may be disrupted at times by the need for permits or street closures, especially in the downtown Loop area.

CTA's structural management and support staff at 567 West Lake Street performs spot checks to verify that the information on the inspection forms matches the information in RIMS. One complete inspection cycle is kept on site at West Shops until the next inspection cycle is completed.

The fabrication shop makes the components for steel repairs based on engineering drawings produced in-house. Field dimensions for these repairs are obtained from a separate measuring crew of two personnel. A protective coating is placed on new steel that is installed in the field. All new work makes use of A325 high strength bolts in lieu of the original rivets being replaced.

Subway inspections are performed on a six-year cycle. Viaducts are inspected on a two-year cycle. The City of Chicago performs bridge inspections and provides them to the 567 West Lake Street office when available. Inspectors were trained and certified in accordance with FHWA-NHI-130055 "Safety Inspection of In-Service Bridges" and FHWA-NHI-130078 "Fracture Critical Inspection Techniques for Steel Bridges."

At the time of the review, the system showed a total of 163,855 open defects. The breakdown of defects is as follows:

- Priority 1 – 368
- Priority 2 – 30,396
- Priority 3 – 126,395
- Priority 4 – 5,523
- Priority 5 – 1,173

There is no current painting program in place to address cleaning and recoating of steel with epoxy protective coating except in instances where lead paint abatement has been performed.

8.3 Assessment

A detailed review was performed of RIMS to verify that the system is working properly and that corrective action items were being performed. A random sampling of reports for all the rail lines was reviewed to verify that information recorded on the inspection forms matched the information located in RIMS.

Ironworkers were observed in the field to determine if proper safety procedures were being followed and repairs were being performed in accordance with the structure maintenance plan.

Inspectors were interviewed in the field to determine if proper documentation and safety procedures were being followed.

8.4 Findings

STR-1: There is no painting program being followed to mitigate structural deterioration of the structural steel supports. There is a painting program identified in the Facilities Management Plan that makes reference to structural steel painting, but it is not being followed. RTA made a similar finding during its 2007 triennial review. The review team understands that funding is the primary obstacle to a structural painting program; also, funding that would have been devoted to a painting program is largely being diverted to ongoing steel repair and replacement. This finding is resubmitted because RTA believes the issue is still important and merits CTA's attention and analysis.

STR-2: The RIMS computer system makes internal reporting somewhat difficult and is built on a computer platform that may not be viable over the long term. RIMS is a useful tool that is based on outdated technology. It does not provide an expedient way to print specific reports or enter data directly into the database in the field. It is noted that CTA plans to move to a new system when an evaluation of the proposed system is completed and funds are available.

STR-3: The use and flow of structural inspection and repair documentation is not adequately described in a standard operating procedure or similar document. A specific location at West Shops should be identified for the storage of the current cycle of inspection documents. The flow and storage location of documentation should be clearly defined for ready access by CTA personnel.

STR-4: The electronic database CTA currently uses to document structural maintenance issues has an inspection backlog of nearly three months. At the time of review, CTA was aware of the build up and expected to be current by June or July of 2010.

8.5 Related Open Findings from Previous Triennial Reviews

STR-2: A better painting program would reduce deterioration and the risk of a structural failure as well as reducing the cost of structural repairs.

This open finding from the 2007 triennial review was incorporated into the above 2010 finding STR-1.

8.6 Bibliography

Documents reviewed

- RIMS Inspection Forms – ID Numbers 4161220, 4160234, 4164591, 4162580, 4164581, 4164144, 4160266, 4160269, 4163021, 4163035, 4161964, 4161963, 4160455, 4162889, 4162887, 4144790, 4162022

- RIMS Inspection Forms – Bents EV1101, EV1606, EV1607, DG54096, SK312, SM695, SW222, EV6212, EV6401, CN1, CN11, HW2, HW4, RV601, GJ1001, GJ1027, GJ1028, DR2002
- Subway Inspections
- Bent Book
- National Highway Institute Course 130055 Sign-In Sheet
- National Highway Institute Course 130078 Sign-In Sheet
- Regular Structure Inspection Program – Updated June 18, 1993

Personnel Interviewed

- William Mooney – General Manager – CTA Track and Way Maintenance
- Dan Schiffer – Manager - Structure Maintenance
- Sam Muharram – Senior Engineer - Structure Maintenance

Locations visited

- West Shops
- North Main Line near Wellington Station – Bents 5094, 5093
- Ravenswood Line – north of north junction
- Lake Street on the Green Line – repairs to Bent 2448

8.7 References

- Rail System Safety Program Plan (RSSPP)
- Facilities Maintenance Plan
- Rail Information Management System (RIMS)
- Federal Highway Administration (FHWA)
- National Highway Institute (NHI)
- American Society for Testing and Materials (ASTM) A325

9. CTA Facilities & Equipment Safety: Subway Fans & Louvers

9.1 Description/Overview of the task

The State Street and Dearborn Street subways were designed and constructed with a system of fans, louvers and blast shafts that allow movement of air in and out of the subways. The blast shafts are simply vent shafts open to the subway. They are near the ends of stations and relieve the pressure caused by trains moving into stations. In most cases they include four openings — though sometimes more — about 4 feet by 6 feet each between the subway and the vent shaft.

There are several fans in the continuous-platform stations of each subway. These fans are reversible and thus allow air to be exhausted from the subway or introduced into the subway. In other areas of the subway, the fans are exhaust fans which only remove air from the subway. Associated with the exhaust fans are shafts with louvers which can be opened or closed. These shafts are just like the blast shafts except for the louvers. Each louver installation consists of four louver doors at four openings from the subway to the vent shaft. In most cases, a number of louvered shaft installations are associated with a particular fan and close automatically when the associated fan is activated.

The Power Controller is in charge of activating fans and louvers. Fans and louvers are operated through the SCADA system. (Individual fans and individual louver installations can also be operated locally.) Based on the on-site review, it appears that each fan and its associated louver installations can be operated only as a set, not individually.

As a part of the triennial review, RTA asked that a 100 percent review of all fans and louvers in the State Street and Dearborn Street Subways be conducted. In 1995, ICF Kaiser conducted a study to determine what steps would be necessary to comply with NFPA 130 smoke evacuation requirements. A summary of this study was requested by RTA as part of the Triennial Safety Review. CTA agreed to provide access to the document on-site only. Thus, RTA personnel reviewed it at CTA's offices.

9.2 Responsibility and Current Situation

Maintenance of the fan and louver system is the responsibility of two groups at the CTA. Power & Way is responsible for the electrical aspects of the system, and Facilities is responsible for the mechanical aspects of the system. A joint inspection is conducted every month.

Recently there has been renewed interest in the system as a means for the removal of smoke in case of fire in the subway. However, over the years, the system has been neglected, and several fans and the vast majority of louver installations are non-functional (according to the CTA's inspection records and as verified by observation). Most of the fan and louver equipment is the original equipment installed in the 1940s,

and except for water damage, it is in good condition. Unfortunately, the water damage is extensive because the equipment is subject to rainwater entering the shafts from street level.

To combat standing water, CTA currently is engaged in a program to open the drains in all fan, vent, and blast shafts. After all drains are opened, CTA intends to follow up with semi-annual drain cleaning to prevent standing water in the future.

CTA has also replaced a number of sets of rusted louvers with new stainless steel ones. The associated operating mechanisms have also been refurbished to produce functional louver sets.

9.3 Assessment

Over four review days, a team of RTA reviewers and CTA guides walked the entire length of CTA's two longest subways (Dearborn and State Street) and looked at each fan, and louver installation and blast shaft. The Power Controller (who operated the fans and louvers) was requested, by radio, to operate various fans and louvers. The team was more successful in getting fans turned on than in getting louvers operating. In fact, the team did not observe any louvers operate until the fourth day.

A visit to the Power Controller resulted in the observation that the Power Controller can not operate the louvers separately. It also appears that the Power Controller's indication of open or closed louvers is based on the position of one louver set. There are multiple louver sets for each subway fan. The Power Controller cannot verify proper louver operation for all sets, but rather must assume that all sets associated with a particular fan opened as commanded.

Additionally, a review of the ICF Kaiser Ventilation Study was performed to obtain information on the parameters considered during its development. Information directly from the study follows below.

CTA hired ICF/ Kaiser to:

1. Establish the capability of the present (1995) ventilation systems to control Smoke in Milwaukee/Kimball, O'Hare and HDR Connector Subways.
2. Determine the capacity of a direct replacement ventilation system to control smoke in the State and Dearborn Subways (one that maximizes the fan capacities in the existing locations without modification to the spaces).
3. Develop strategies (operating, construction, or other) to enhance the performance of that portion of the ventilation system for the State and Dearborn Subways that cannot directly meet smoke control expectations.
4. Evaluate the implementation strategies for the State and Dearborn Subways in terms of their cost effectiveness and make recommendations to CTA concerning the most practical way to proceed toward compliance with modern criteria.

5. Prepare an operating matrix for the recommended strategies to be used by the CTA Control Center personnel during emergencies that involve smoke.

Study Recommendations:

1. Meet NFPA 130 and critical velocity criteria.
2. Provide dual electrical feeders to all emergency fans.
3. Construct new fan shaft at Mautene/Milwaukee (Dearborn Subway).
4. Install airflow barrier at Old South Portal (State Street Subway).

Study Projected Costs (see cost summary document provided separately) **did not include the following items:**

- Construction management costs
- Site acquisition costs
- SCADA wiring & connections
- Environmental remediation
- CTA on-site staff
- Protection for vertically-installed fans
- Upgraded utility service

Summary:

- Existing ventilation system not designed to control fire-generated heat and smoke
- Project directed towards providing emergency ventilation capabilities
- Designs and costs will be refined during follow-on efforts

Executive Summary: NFPA 130 was used as the standard to provide the maximum air temperatures along an evacuation route and set the minimum requirements for a "critical velocity."

Subway fires were evaluated using the Subway Environmental Simulations (SES) program.

Method to evaluate the required upgrades was as follows:

- As-is conditions did not meet critical velocity (CV).
- Upgrade to 100k CFM fans did not meet CV.
- Addition of motorized louvers at vent and blast shafts did not meet CV.
- Size of fans was increased until CV was met.
- New fan shaft required.
- Airflow barrier required.

Fan Details:

- The fans simulated for this study were axial-flow fans with an internally mounted direct drive motor.
- Fans are reversible and controllable from CTA Central Control and the Fan Plant.
- Local control is capable of overriding Central Control.
- Local controls are isolated from the fans and outside the path of exhausting products of combustion.
- Central Control conditions annunciated:
 - a. Local control in command of fan operation.
 - b. Failure/malfunction preventing Central Control from exercising control of fan.
- Use of sound attenuators does not appear practicable based upon physical limitations of the fan plants.

Damper Details:

- Heavy-duty, industrial, parallel blade type.
- Can withstand temperature of 482 degrees Fahrenheit for one hour.
- Designed to withstand reversible loads created by the piston effect.
- Fan dampers to be interlocked to “open” when their respective fan is started.
- The “fail safe” or “power off” mode for fan dampers will be “open”.
- The “fail safe” or “power off” mode for louvers will be “closed”.
- Each damper will have two end switches for monitoring:
 - a. One for fully open.
 - b. One for fully closed.

System Controls:

- Primary control is at Central Control.

Electrical Details:

- Dual feeders from the nearest electrical service room unless a more economical routing from the utility company can be provided.
- Feeders routed in rigid metal conduit unless embedded conduit is available and usable.
- Waterproof convenience outlets and enclosed stainless steel fixtures provided at louver rooms and fan plants with power from panelboards located at the fan plant room.
- Most stations do not have spare breakers to feed new fans.

Equipment Installation:

- Housekeeping pads of minimum 4-inch height.
- Upgrade drainage.
- Installation and removal of equipment by work train. An evaluation of fan removal via shaft to be performed.
- Vibration isolation will be provided.

Design Conditions:

- Vehicle heat release rate of 27 million BTUs/hour.
- Maximum air temperature along the evacuation route of 140 degrees Fahrenheit or less.
- Minimum air velocity to be greater than critical velocity.

Conceptual Estimate Criteria:

- Includes:
 - Dearborn Street Subway
 - a. Upgrades to 24 existing fan/vent shafts.
 - b. 1 new fan/vent shaft.
 - State Street Subway
 - a. Upgrades to 28 existing fan/vent shafts.
 - b. 1 new airflow barrier at Old South Portal.
 - Howard-Dan Ryan Connector
 - a. Upgrades to 2 existing fan/vent shafts
 - Removal and replacement of 250 4' x 8' dampers
 - Hand mining of excavated rooms/spaces.
 - Work hours of 12 am – 5 am Monday through Friday.
 - Wage rates of 1.5 times standard rates.
 - Wages 40% higher based upon paying for a full 8-hour shift.

Access to the Parsons Brinkerhoff report on the fans, if it does exist, was unavailable for review as it could not be located.

9.4 Findings

SUB-1: Although CTA's program of drain cleaning addresses issues where it is implemented, the program needs to be accelerated to keep pace with standing water problems. The rooms at the bottoms of many blast, vent, and fan shafts had apparent clogged drains and standing water.

SUB-2: The rooms at the bottoms of many blast, vent, and fan shafts had apparently unused conduit and wire, some of which is under water, as well as stored

materials, accumulated debris, and trash, and should be cleaned out. CTA should also identify and remove unused conduit and wiring.

SUB-3: CTA should develop a plan to provide remote control function for existing louver systems. The Subway Emergency Fan Operating Procedure instructs the Power Controller to “open or close louvers [associated with non-operating fans] as necessary to pull the maximum amount of fresh air to evacuating customers and employees.” The Power Controller did not seem to have that SCADA functionality.

SUB-4: CTA should develop a plan to restore all fans and louvers to working condition. According to CTA maintenance records, six of 53 fans and 61 of 79 sets of louvers are non-functional.

SUB-5: An update to CTA ventilation studies should be completed to determine what steps and programs are necessary to bring CTA subways into compliance with current ventilation standards (e.g., NFPA 130). CTA should update its ventilation studies, obtain current cost figures, and determine the feasibility of instituting the study recommendations, either in whole or in part. There are many factors that need to be considered for an informed decision to be made.

- Change in material, labor, and equipment costs.
- Current field conditions including status of concrete walls, louvers, drainage, fans that may be salvaged, etc.
- Choice of galvanized louvers in lieu of stainless steel.
- Operational impacts during construction.

9.5 Bibliography

Documents Reviewed

- Ventilating the New Chicago Subway, Walter E. Rasmus, Subway Mechanical Engineer, Department of Subways and Superhighways, City of Chicago, reprinted from August 1943, Heating, Piping & Air Conditioning
- CTA Subway Emergency Fan Operating Procedure, February 3, 2008
- CTA Red Line State Street & Dan Ryan Subway Map, revised August 2008
- CTA Blue Line Dearborn Subway Map Rev. 08/08
- Monthly Fan and Louver Inspection Report, April 2009 through March 2010
- ICF Kaiser Ventilation Study

Persons Interviewed

- William Mooney, Jr. - General Manager, Power & Way Maintenance
- Tom Drozd - General Manager, System Maintenance
- Scott McAleese - Manager, Facilities Engineering and Technical Support
- Kelly Brookins – General Manager, Control Center
- Erin Carsele – Project Manger, Power & Way Maintenance

Locations Visited

- All State Street Subway fans, louvers, and blast shafts
- All Dearborn Street Subway fans, louvers, and blast shafts

9.6 References

- CTA System Safety Program Plan
- CTA Facilities Maintenance Plan
- CTA Subway Emergency Fan Operating Procedure, February 3, 2008
- National Fire Protection Association (NFPA) 130

10. Maintenance Audits & Inspection Program: Track

10.1 Description/Overview

CTA's Track section is part of the Power & Way Maintenance department, which is responsible for the inspection, maintenance and in-house construction of CTA's rail line track guideway. The group's responsibility includes rails, fasteners, plates, ballast, ties and special trackwork. The group is responsible for ensuring that the overall track system meets CTA's standards for safety and ride quality.

10.2 Responsibility and Current Situation

CTA's Track organization includes a Manager of Track Maintenance, James Blatz, and three Senior Track Engineers, Scott Brown, Dave Ellsworth, and Colleen Zinck. Within their three inspection territories, there are several Roadmasters (both I and II class) who coordinate and manage the efforts of Track Maintainers. Track Maintainers are responsible for visual inspection of CTA's track. (Maintenance and Construction activities, which are also split into reporting locations, were not reviewed separately, but they were reviewed as they relate to the safety-critical inspection activity.) The Track section reports to Power & Way General Manager William Mooney, Jr., and works closely with Manager II of Power & Way Carrie Wagener.

Track Maintainers work in pairs and physically walk all CTA track either once weekly for construction less than 10 years old, or twice weekly for older segments (most areas). The direction of inspection/travel and track inspected are alternated with each inspection. Generally, inspections are done during the 7:00 a.m. – 3:30 p.m. shift. A departmental standard operating procedure splits reporting locations and their Elevated rail lines into inspection territories. Inspection occurs over a floating four-week period before the schedule resets. The Maintenance of Way Information System (MOWIS) computer database is used to record track inspections, defects and maintenance items, and work orders.

Special trackwork inspections, including turnouts and similar hardware, are scheduled for once yearly. This is a concentrated inspection, performed with Signals personnel, who have responsibility for switch machines, electrical components, and related hardware. Specialwork inspections are recorded primarily on paper.

Ultrasonic and geometry/gauge restraint measuring inspections are performed by contractors and are coordinated by CTA's Engineering staff. Inspection results are relayed to the Track section and integrated into MOWIS defect lists.

Track Engineers are responsible for auditing inspection activities within their sections on an ongoing basis. An audit must be performed every week, which results in each inspection territory being audited at least once per quarter. While the audit process has been refined from week to week, it now includes assessments of the following elements:

- Inspection cycle completion for the entire reporting location (all inspection runs for the particular inspection Roadmaster)
- MOWIS defect audit, wherein a section of track is compared physically to the MOWIS inspection records for the area
- Completed work order audit, wherein completed work orders are reviewed, with a focus on keeping the MOWIS database up to date and useful
- Field force manager audit, wherein cell phone/GPS records for all track inspection personnel are audited to ensure proper usage, and wherein one Track Maintainer's records are audited versus their assigned shifts and locations, to ensure that s/he is where s/he should be relative to inspection limits

These Engineers' audits are very valuable activities because they identify procedural and compliance issues. The audits also put positive and appropriate emphasis on the areas that Track (and Power & Way) management have determined are critical. These audits are among a number of other existing capacities (such as the very capable frog and steel fabrication shop) and relatively new initiatives (such as inspection pocket cards and renewed emphasis on simple but critical projects like tie renewal) that help to continually improve the group's results.

This review concentrated on the Track inspection function. While it is the review team's understanding that some additional management (Engineer) staff may be necessary in construction or maintenance, the current inspection Engineer team seems very capable. They seem to have a very good understanding of departmental priorities, and have taken proactive and helpful steps to further those goals.

There are several Track section (and Power & Way Department) standard operating procedures that guide track inspection and maintenance activities. While a complete critique of these SOPs is beyond the scope of this review, it is important to point out that positive results of these SOPs can be seen in several areas. As noted above, the inspection process is dictated by SOP. Additional SOPs dictate important topics such as departmental personal protective equipment and Engineers' audits. Further SOPs are planned in areas such as track inspection process. These SOPs seem to have a very positive impact on the department and its effectiveness.

10.3 Assessment

This assessment was conducted in concert with CTA personnel and based primarily on interviews with the Track section Manager, Engineers, sample Roadmasters, and sample Track Maintainers, as well as the Power & Way General Manager. This assessment also included physical inspections of sample track segments. A review of Track section documents included MOWIS database entries, completed switch inspections, standard operating procedures, and departmental internal audits. Finally, this assessment included a detailed discussion with one entire shift of Track Maintainers regarding inspection

process and responsibilities and worker protection issues. Details on particular inspection segments, documents, and interviews are found at the end of this section.

Overall, the Track section's overall function, its focus on its core mission, and its overall stature is likely better than it has been during any previous RTA triennial review. RTA appreciates that Power & Way has additional goals, and its work is never complete. Still, it is important to point out that the concerted attention to and focus on track is appropriate to its safety-critical nature, and has produced positive and tangible results.

10.4 Findings

TIM-1: While not overdue at the time of this assessment, CTA's annual turnout/switch inspections may need additional resources to be completed in June 2010. Joint turnout and switch inspections – a detailed inspection conducted by both Track and Signal personnel represented – are completed at least once yearly. At the same time, Track Maintainers are required to perform detailed visual checks of this equipment during each weekly or twice-weekly inspection. The more detailed annual (joint) inspections are, to some extent, on hold at this time due to manpower issues. Although such annual inspections were not yet overdue at the time of review, they were to come due during June 2010. It appears that additional personnel resources may be required to ensure that this inspection is conducted on schedule.

TIM-2: CTA's Track section should take positive and demonstrable steps to reemphasize thoroughness, quality, and defect identification/prioritization of turnout/switch inspections, especially during ongoing (weekly and twice-weekly) track inspections. As noted in a separate finding, the Track department's detailed turnout/switch inspections may lag their annual schedule due to manpower issues. Part of the identified mitigation for this issue is the ongoing (weekly/twice-weekly) walking inspection. The Track department verbally and in its standards identifies that switches and turnouts are to be inspected as part of regular walking inspections. An examination of records and field sites indicates that such ongoing track inspections may not put enough emphasis on turnouts and switches.

During this assessment, several switches and turnouts were visually inspected. CTA's annual, detailed switch inspection records and its MOWIS database entries show fewer and less severe defects versus what this assessment saw in the field. This may indicate that Track Maintainers are not paying enough attention to turnouts and switches, especially during the weekly/twice-weekly walking inspections. It may also indicate that they are not assigning appropriate priorities to turnout/switch defects and maintenance items.

For example, switches at Howard and Jarvis showed many hardware problems (loose bolts, etc.) and frog condition problems (point wear, wing/tread wear) that did not seem to be fully described in weekly/twice-weekly MOWIS inspection records.

In some instances, inspection personnel do not seem to appropriately prioritize turnout/switch defects. On the annual switch inspection form, for example, CTA inspection personnel described several frogs as having measurable horizontal cracks or chipping in the point area, or loose hardware. Still, these same frogs were assigned the highest condition rating (G, or Good).

CTA should review the importance and fundamental aspects of turnout and switch inspections with its Track Maintainers and ensure that such equipment is receiving a thorough inspection during both weekly/twice-weekly track inspections and annual detailed switch inspections.

TIM-3: CTA should reemphasize general defect descriptions and prioritizations as entered by Track Maintainers in MOWIS. CTA’s Track section internal audit process includes a (valuable) check of defect descriptions and categorizations. This program should be continued and expanded to ensure a greater and more universal understanding of CTA’s track defects and priorities. CTA should continue to ensure uniformity among Track Maintainers’ defect descriptions. For example, some defects reviewed were “wide gauge” or “wide gauge, 10 feet” but a gauge measurement was not given in the comments. CTA’s Track Maintainers should be encouraged to provide more detailed information about their findings and inspection results.

TIM-4: CTA Track Section should develop a corrective action log or similar tracking mechanism to ensure that issues raised in Engineers’ audits are corrected and closed out. CTA’s Track section has an excellent internal audit process, and provides a model for how other transit agencies could audit their maintenance processes. During these audits, occasional maintenance or administrative issues are identified. It is important that these issues be tracked and closed out, so that they do not get overlooked or forgotten.

10.5 Bibliography

Persons interviewed

- James Blatz – Manager, Track
- Scott Brown – Sr. Track Engineer
- Adrian Cabral – System Safety Engineer
- Erin Carsele – Project Manager, Power & Way
- David Ellsworth – Sr. Track Engineer
- William Mooney, Jr. – General Manager, Power & Way
- Ife Oklukolade – System Safety
- Carrie Wagener – Manager II, Power & Way
- Colleen Zinck – Sr. Track Engineer

Several Track section personnel who were interviewed are not included in this list by name. Their names were not recorded in order to ensure they felt free to discuss management and workplace issues that affect safety.

Personnel interviewed included:

- An entire shift of Track Maintainers responsible for inspections at one reporting location
- Several personnel from work gangs and maintenance crews encountered during the field portion of this audit
- One Track Maintainer and Inspection Roadmaster for a track segment inspected during this review

Documents reviewed:

- CTA Switch Inspection & Test Report – completed inspections for all switches from spring/summer 2009 interval
- Report of Patrol Inspections (MOWIS database output) for
 - Ravenswood Connector, both tracks, calendar 2010 to date
 - Pink Line Douglas Branch, both tracks, calendar 2010 to date
 - Red Line State Street Subway, both tracks, calendar 2010 to date
- Report of Open Defects on 05/06/2010 (MOWIS database output) for
 - Orange Line Grand Junction
 - Red line North Main, Track 1 and 2, Belmont to Howard
 - Blue Line Track 1 Rosemont – Cumberland
- Overall MOWIS database structure and operation
- MOWIS handheld device menus, usage, and implementation
- Power & Way Maintenance Bulletin No. TM 06-08: Sections, Inspection Territories, and Schedules
- Power & Way Maintenance Bulletin No. TM 05-08: Scheduled Regular and Overtime Work
- Power & Way Maintenance Bulletin No. TM 07-08: Track Maintenance at Interlocking Locations
- Power & Way Maintenance Bulletin No. TM 08-08: Track Lubrication, Inspection, and Repair Guidelines
- Power & Way Maintenance Bulletin No. TM 01-09: Verizon Cell Phones and Field Force Manager
- Power & Way Maintenance Bulletin No. TM 04-09: Additional Track Maintenance Standards
- Power & Way Maintenance Bulletin No. TM 05-09: Awarding Overtime
- Power & Way Maintenance Bulletin No. TM 06-09: Construction Site Project Controls
- Power & Way Maintenance Bulletin No. TM 07-09: Removal of Bulletins TM 08-07 & TM 03-08

- Power & Way Maintenance Bulletin No. TM 08-09: Track Engineer-IV Vacation and Illness Coverage
- Power & Way Maintenance Bulletin No. TM 09-09: Roadmaster Territory Inspections
- ID-SOP-P0001: Preparation and Control of Bulletins and SOPs Issued by the Infrastructure Division
- Infrastructure Division Bulletin No. ID-02-10: Disciplinary Policy for Red Light Camera Violations
- Infrastructure Division Bulletin No. ID-01-09: Personal Protective Equipment Requirements
- Power & Way Maintenance Bulletin No. PWM 01-07: Business Casual Dress Policy
- Power & Way Maintenance Bulletin No. PWM 01-08: Fire Extinguisher Monthly Inspections
- Power & Way Maintenance Bulletin No. PWM 01-09: Slow Zone Requests, Implementation, and Removal
- Power & Way Maintenance Bulletin No. PWM 02-09: Work by Area
- Power & Way Maintenance Bulletin No. PWM 03-09: Tracks Out of Service for Railborne Non-Revenue Equipment Storage
- William R. Mooney Jr., July 13, 2007 Memo to Track Personnel re. “Right-of-Way Safety Defects”
- William R. Mooney Jr., July 13, 2007 Memo to Track Personnel re. “Transit Operations SOP 8130”
- William R. Mooney Jr., July 13, 2007 Memo to Track Personnel re. “Transmission of Memos”
- William R. Mooney Jr., June 14, 2007 Memo to Track Personnel re. “Work Day Requirements”
- Track Maintenance Bulletin No. TM 01-07: Employee Responsibilities for Sickbook Entries
- Track Maintenance Bulletin No. TM 02-07: Employee Violation Slip
- Track Maintenance Bulletin No. TM 03-07: Unauthorized Overtime
- Track Maintenance Bulletin No. TM 04-07: Transit Operations SOP 8130
- Track Maintenance Bulletin No. TM 05-07: Right-of-Way Safety Defects
- Track Maintenance Bulletin No. TM 06-07: Response to Incidents
- Track Maintenance Bulletin No. TM 07-07: Work Day Requirements
- Track Maintenance Bulletin No. TM 09-07: Excessive Absenteeism – Tardy Procedures
- Track Maintenance Bulletin No. TM 10-07: Over-the-Counter and Prescription Drugs
- Track Maintenance Bulletin No. TM 13-07: Issuance of Handhelds for Inspections
- Track Maintenance Bulletin No. TM 14-07: Implementation and Removal of Slow Zones

- Track Maintenance Bulletin No. TM 01-08: Annual Trackman Reviews
- 2009 (CTA) Engineering Track Audit Report
- Track Maintenance Bulletin No. TM 02-08: Quarterly Review of Inspection & Maintenance Territory Scope and Length
- Joint Switch Inspection Schedule (for calendar 2008)
- Track Inspection Audit: April 20, 2010 (D. Ellsworth)
- Power & Way Maintenance Audit No. CW 13-08 August 18-22, 2008

The CTA-authored documents listed below, under References, were also assessed under this review. The following track segments were inspected (on foot, alongside CTA personnel) during this assessment:

- Blue Line, Rosemont to Cumberland
- Red Line/Mainline North, Belmont to Howard
- Orange Line/Green Line, Roosevelt through Tower 17 to Ashland
- Red Line, State Street Subway, select segments

All line segments were also visually checked from railcars.

10.6 References

- CTA System Safety Program Plan, March 30, 2010 revision
- CTA Track Maintenance Standards Manual (December 4, 2008)
- Federal Railroad Administration Track Safety Standards, 49 CFR Part 213
- American Public Transportation Association, guidelines and recommended practices Volume 5 - Fixed Structures APTA RT-S-FS-002-02, Standard for Rail Transit Track Inspection and Maintenance (as approved June 25, 2002)

11. Maintenance Audits & Inspections: Signals

11.1 Description/Overview

CTA's Signals section, within the Power & Way Department, is responsible for testing, maintenance, and in-house construction of train signaling equipment, signals-related warning devices, and related equipment. The group is responsible for fixed signals, cab signal equipment both on railcars and wayside, switch machines, switch heaters, interlockings, relays, trip stops, bridge interlocks, control towers, and other critical train separation and routing systems.

11.2 Responsibility and Current Situation

The Signals section is headed by Manager Ghassan Nouti. The group also includes three Senior Signals Engineers, two responsible for wayside maintenance – Mike Lowder and Stan Rusin – and one responsible for shop testing and carborne cab signal systems – John Lennon. The primary personnel responsible for signals testing and maintenance are the Signal Maintainers, Signals Specialists, and Relay Testers. The Signals section reports to Power & Way General Manager William Mooney, Jr., and works closely with Manager II of Power & Way Carrie Wagener.

The Signals section has worked to develop and publish a very effective set of standard operating procedures. The department is also working on updating SOPs for several maintenance areas currently described on checklists, such as switch maintenance, trip stop testing, and similar areas. Several SOPs are particularly helpful, such as the one dictating the blue book audit process. The group is also subject to several Power & Way Department-wide SOPs, such as those related to personal protective equipment. The development and implementation of these SOPs has had a significant positive impact on the department and its effectiveness.

Shop and bench testing is regulated by a relatively new schedule process and is tracked using a relay database. Some of the finer points of this process are still being perfected (e.g., a printout of the 2009 schedule needed to be amended to reflect actual test completion dates). Still, the process seems sound, and should be a significant help in regulating and tracking relay testing activities.

In the field, each signal maintenance territory has a "blue book," which contains Maintainers' schedules for the calendar year, their test and inspection records, and reference materials, such as procedures. The blue book process seems to be an excellent tool for regulating signal equipment maintenance across many diverse territories, equipment types, and employees. CTA's plan to possibly issue an SOP or instruction on blue book contents and order seems like a very good idea, and it should be considered for implementation.

Engineers in both shop and field areas perform periodic audits of maintenance and test schedule compliance. These blue book audits have become a critical tool in evaluating and ensuring the consistency of signal maintenance activities. To its credit, the Signals section continues to improve the audit process and increase its audit expectations. And critically, the department's Maintainers and Specialists have responded by increasing their schedule and SOP adherence.

The Signals section also recently put substantial effort into decreasing trouble calls related to its equipment. Many maintenance departments throughout the transit industry find it very difficult to make a significant shift from response-based maintenance to preventive maintenance. CTA Signals section's efforts in this area are commendable. The department posted a very significant decrease in trouble calls in recent months after concentrating more on preventive and corrective maintenance.

RTA's 2007 triennial review of CTA Signals produced several functional and management findings. CTA and RTA worked closely together to analyze and address these findings and issues. The two groups conducted a special follow-up session including extensive discussions, records reviews, and field inspections and verification during January 2009. Of the more than 30 separate issues identified during the 2007 RTA triennial review, nearly all have been addressed to closure or substantial completion. Only one major area – the issue of non-vital timers that silence grade crossing warning bells after a certain time of evening – is still open. CTA's willingness to review and address these issues with RTA is greatly appreciated, and the results are reflected in this most recent triennial review.

11.3 Assessment

This Signals assessment was conducted with the help of CTA Signals and Power & Way personnel. The assessment included detailed interviews with department managers, several Signal Maintainers, and foremen. This effort also included observation of several preventive maintenance activities as conducted by CTA personnel. Tests observed included switch machine, trip stop, carborne cab signals, and bridge lock maintenance.

CTA's Signals section personnel seem knowledgeable (and willing to share that knowledge) and conscientious. Their efforts, including at the Manager, Engineer, Signal Maintainer/Specialist, and Foreman level were critical in completing this review, and are most appreciated.

11.4 Findings

SIG-1: CTA Signals needs to ensure that completion dates in its relay schedule are kept up to date throughout the testing cycle. During this assessment, CTA Signals personnel were very helpful in providing their schedule spreadsheet for relay testing. The first copy provided during this assessment had complete schedule information for calendar year 2009, but did not have up-to-date information for actual completion dates.

CTA should ensure that it uses this spreadsheet, or some other equivalent scheduling tool, to ensure that the relay testing program is on schedule throughout the year.

SIG-2: CTA Signals should expand its SOPs and blue book audit process to ensure that SOPs, instructions, and reference materials are consistent across territories.

The blue book audit process is an excellent practice. Likewise, the group's SOPs are very valuable in ensuring consistency and high quality across the department. Both blue book audits and SOPs should be expanded to include regulation and checks of overall blue book content. This is important for two reasons. One is that it will help to ensure that Signal Maintainers have appropriate blue book content for their territories, based on their particular equipment inventories and operating situations. It would also help ensure that older instructions and SOPs are replaced by the latest guidance as appropriate. As an example of the latter situation, one blue book checked during this audit had audio frequency track circuit testing instructions that may be out of date versus current CTA practice. Increasing SOP and audit expectations for blue book format, contents, and order would help to identify these types of issues where they might exist.

SIG-3: CTA Signals should assess the need for additional equipment-specific maintenance and testing SOPs and continue its efforts to develop and update such SOPs for switch machines, trip stops, and other signals equipment.

CTA Signals management expressed plans to develop additional SOPs for testing and maintenance of critical components such as switch machines, trip stops, and other equipment. These equipment types are currently covered by brief instructions on CTA Signals forms (typically five to seven basic maintenance steps). More detailed information on maintenance practices, tolerances, methods of operation, etc. should be presented in an SOP format and distributed to Signal Maintainers. CTA should also assess its equipment inventory overall, and identify other areas where SOPs may be needed, perhaps including relay testing, grade crossing inspections, etc.

11.5 Related Open Findings from Previous Triennial Reviews

SIG-7: CTA Facilities Maintenance Plan, Part I, Section 3, subsection 3.1.6 suggests that warning bells activate when the train approaches. It was noted that a non-vital electric timer (Intermatic) is installed in series with the crossing gate warning bell electric supply circuit. The timer (shut off timers were installed to address noise complaints) was set to disconnect the warning bell power so that the warning bells would be disabled after 10 PM. This practice presents at least two hazardous conditions.

SIG-26: CTA Facilities Maintenance Plan, Part I, Section 3, subsection 3.1.6 suggests that warning bells activate when the train approaches. It was noted that a non-vital electric timer (Intermatic) is installed in series with the crossing gate warning bell electric supply circuit. The timer (shut off timers were installed to address noise complaints) was set to disconnect the warning bell power so that the warning bells would be disabled after 10 PM. This practice presents at least two hazardous conditions.

11.6 Bibliography

Persons interviewed included:

- Adrian Cabral – System Safety Engineer
- Erin Carsele – Project Manager, Power & Way
- John Lennon – Sr. Signals Engineer
- Mike Lowder – Sr. Signals Engineer
- Ghassan Nouti – Manager, Signals
- Ife Oklukolade – System Safety
- Stan Rusin – St. Signals Engineer
- Carrie Wagener – Manager II, Power & Way

Several personnel who were interviewed are not included in this list by name. Their names were not recorded in order to ensure they felt free to discuss management and workplace issues that affect safety. These personnel included:

- One carborne cab signal testing crew
- Large crew, with maintenance and construction members, replacing switch machine
- Teams of Signal Maintainers from four separate locations

Documents reviewed included:

- CTA Slow Zone Database and associated paper communications/documentation
- Blue Book maintenance/test records for 2009 and/or 2010 for locations including Kimball, 13th Street, Jefferson Park, Tower 18, and others
- Signal Maintenance Standard Relay Testing Procedure SIGMSOP – P0008: Relay Testing
- Signal Maintenance Standard Maintenance Procedure SIGNSOP – P002: Signal Wayside Maintenance
- Power & Way Maintenance Bulletin No. SM01-09: Maximum Safe Speed Track Circuit Line Rides and Audits
- Power & Way Maintenance Bulletin No. SM03-09: 10-35 Signal Maintainer Working Call Code
- Power & Way Maintenance Bulletin No. SM03-09: Quality Assurance/Quality Control Audits
- Power & Way Maintenance Bulletin No. SM04-09: Audio Track Circuit Equipment
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0001: Maintainer Daily Duties
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0003: Blue Book

- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0004: Event Recorders
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0005: Wayside Signals
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0006: Incident Investigation Checklist
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0009: Verizon GPS PTT Phones
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0010: Slow Zone Policy
- Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0014: Interlocking Operation Controls
- Blue Book Review Sheets for Jefferson Park, March 22, 2010; 61st (both reviewing second half of 2009)
- Audit Reports Carborne, December 2009 through April 2010
- Field Audit Forms, 17th Tower, April 2010
- Relay testing schedule/spreadsheet for 2009, 2010

11.7 References

- CTA System Safety Program Plan, March 30, 2010 revision
- CTA Signals sections of Power & Way Maintenance Plan (April 2006 revision)
- CTA Signals test standards, procedures, and checksheets as found in blue books
- Federal Railroad Administration signals testing-related standards as found in 49 CFR 200-series documents
- American Public Transportation Association signals testing-related guidelines as found in APTA standards Volume 6 – Signals and Communications Equipment Inspection and Maintenance

12. Maintenance Audits & Inspections: Traction Power

12.1 Description/Overview

This review consisted of an assessment of the appropriate section of CTA's SSPP, Facilities Maintenance Plan, SOPs, Traction power station master logs and other documents to ensure that the process is prescribed properly; a review of documentation of inspections performed; interviews with the Power & Way maintenance General Manager, Testing Engineer, Traction Power Station foreman, and Electrician.

12.2 Responsibility and Current Situation

The Power & Way Maintenance force includes one Manager, one senior engineer, four foremen, 22 "B" electricians, and nine attendants. This force is responsible for inspection and maintenance of substation and distribution equipment throughout the entire CTA system.

The manager creates work orders using EAM information system for a scheduled PM for particular equipment. The foremen log in to their accounts to see lists of overdues and assign Electricians to do the PMs based on the long overdue-first served basis. The Electrician, after completing the PM, signs off on the test card and reports the completion of the work to the foreman. The foreman logs in to EAM and closes out the work order. As soon as the work order is closed, EAM automatically schedules the next PM date for the equipment. This cycle repeats. If there is any problem in the day-to-day activity inside the substation, the designated foreman will report it to the senior engineer.

The system is sound; however, from the routine operation procedures point of view, there are some concerns. One concern is that there is only verbal communication between the Electrician and the foreman. There is no space on the test card for the foreman approval signature that verifies that all items associated with the type inspection have been properly inspected. Hence, the quality of the work is judged solely on the verbal confirmation from the Electrician. The other concern is the test card format is the same for all equipments from different manufacturers. As a result of this, not all the PM measurements are reflected on the test card. CTA needs to develop different test card formats that are unique to particular devices from specific manufacturers. It was also noticed that throughout the CTA system, all the maintenance is recorded in pencil, both on test cards and in the maintenance log. Pen marks would be preferable, as they can last longer on paper and cannot be easily removed.

12.3 Assessment

The assessment was conducted by interviewing the Power & Way Maintenance General Manager, one Testing Engineer V, one Manager II (who is also responsible for administering the EAM information system), one foreman, one Electrician, and one representative from the Safety Department, by a walk-around tour of Traction Power substations, and by reviewing the maintenance plan, maintenance checklists, and PM

records. As learned from the sampled seven substations, overall, the substations appear to be well-maintained and in good shape. However, there were some discrepancies with the design and use of the PM checklists and the scheduling of PM inspections.

12.4 Findings

TPS-1: CTA’s eyewash manufacturer recommends a weekly inspection, but this interval is not included in CTA’s current practices. For Bradley eye wash equipment, the manufacturer recommends a weekly inspection. Based on field records, it appears that this equipment is receiving an inspection on roughly a monthly basis.

TPS-2: Calvary Substation DC Breaker maintenance is not performed semiannually as stated in CTA’s written PM process. Breaker HSN #86 was under maintenance on May 5, 2010, and before that, it was last inspected on September 21, 2009.

TPS-3: Some of the substation drawings are in poor condition or incomplete. Calvary, for example, has drawings that are in poor shape. East Lake has both torn and missing sheets.

TPS-4: CTA practice for working in high voltage (600 VDC) cubicles appears to be out of keeping with current industry thinking, with regards to personal protective equipment. At East Lake Substation, two technicians were observed doing a PM on a DC breaker, where the 600VDC bus is energized, without wearing PPE commensurate with the voltage and exposure at hand.

TPS-5: CTA’s established rectifier maintenance process is not consistently applied, especially regarding 18th Street Substation (quarterly) rectifier maintenance. The last two inspections for Rectifier #1 were on February 9, 2009 and April 6, 2010. Rectifier #2 last two inspections were July 27, 2009 and March 12, 2010. CTA’s requirement for rectifier preventive maintenance is three months. .

12.5 Bibliography

Persons Interviewed

- William Mooney, Jr –General Manager
- Carrie Wagener-Manager II
- Mike Perez- Testing Engineer V
- Robert Long-Substation Foreman
- Fillipe Santillam-“B” Electrician

Documents Reviewed

- CTA SSPP Manual
- Facilities Maintenance Plan
- Test Cards for Equipment Maintenance

- Weekly Attendant checklists
- CTA's SOP Manual
- EAM information system data

Substations Visited

- Springfield
- Calvary
- Skokie
- 10 East Lake
- Harding
- Pulaski
- 18th Street Substation.

12.6 References

- Facilities Maintenance Plan-Section 4 (Power and Maintenance Plan)
- CTA's SOPs
- CTA's SSPP Manual
- DC breaker Maintenance Training document

13. Maintenance Audits & Inspections: Vehicle

13.1 Description/Overview

CTA's rail passenger service is provided by an active fleet of 1,180 railcars (there are also ten cars on long-term hold) varying in age from 13 to 38 years old. One hundred forty-two 2200-series cars were built by the Budd Company in 1969-1970; 190 2400-series cars, by Boeing-Vertol in 1976-1978; 590 2600-series cars, by the Budd Company in 1981-1987; and 258 3200-series cars, by Morrison-Knudsen in 1992-1994. The 2200s were rebuilt by New York Rail Car in 1990-1992; the 2400s were rehabilitated by Skokie Shop in 1987-1995; and the 2600s were rebuilt by Alstom in 1999-2002.

The cars range in weight from 45,500 pounds each (2200-series) to 54,600 pounds each (3200-series). 2200-series cars are powered by four 100-horsepower DC traction motors each; the remainder, by four 110-horsepower DC motors; all are General Electric. The first two series use GE SCM cam controllers; the other two, GE CCM cam controllers. All friction brakes are spring applied and power released; the 2200s are electrically powered, and the rest are hydraulically powered. In addition, all cars are equipped with magnetic track brakes for emergency braking.

All cars are 48' long, 9'4" wide, and 12' high. They are semi-permanently coupled in married pairs. The number of seats varies 39 to 46 per car. Each car has two double doors per side; 2200-series cars have folding (blinker) doors; all others have sliding doors. All cars are equipped with cab signals (maintained by the signals department). They also have air conditioning, fluorescent lights, and passenger intercom.

CTA is also currently testing new prototype railcars manufactured by Bombardier. At the time of this assessment, CTA had 10 of the new railcars on site and was testing them in passenger service.

Preventive Maintenance and light repairs are performed at eight shops: Howard, Kimball, Rosemont, Harlem, Des Plaines, 54th Street, Midway, and 98th Street. Heavy repairs are performed at Skokie Shop. Wheel truing machines are located at Skokie and 54th Street; a third has been purchased and will be installed at Midway.

13.2 Responsibility and Current Situation

Maintenance of CTA's fleet of revenue railcars is the responsibility of the Rail Maintenance Department. The Director reports to the Chief Operating Officer. Reporting to the director are East and West Maintenance General Managers (four maintenance shops each), the General Manager of Heavy Maintenance (Skokie Shop) and the General Manager of Rail Engineering and Technical Service.

Preventive maintenance consists of Periodic Inspections and Annual Inspections. Periodic Inspection intervals are mileage intervals and are based on car type and route.

There is a 90-day maximum to ensure that a car accumulating mileage at a low rate (e.g., out of service) does not go too long without an inspection. This disagrees with the SSPP which states a maximum time between inspections of 60 days; the reviewer was told that the 60 days is incorrect. The Rail Maintenance Department is currently refining the intervals. They say that the data is good enough to show the mileage since inspection at which the Mean Distance Before Failure (MDBF) begins to fall.

One unique practice of CTA is the practice of spinning the wheels on each inspection. Each truck is lifted off the track, and propulsion power is applied to spin the axle set so that the inspector can listen for unusual noises. On one inspection that the reviewer observed, the inspector found a noisy journal bearing which was scheduled for immediate replacement. While other agencies do not seem to feel that this practice is necessary, CTA is happy with it, and the reviewer sees benefit from it.

CTA has a wheel truing machine at Midway Shop that compromises productivity of the wheel truing machine until phase 3 is complete. After phase 1 is complete, the machine will be functional, but access to the machine will be via a track with a hoist (with potential for the hoist to be in use when access to the machine is required) and the pair of cars will have to be turned in order to true the wheels on the second car (requiring moving the pair out of the shop past the hoist, turning (Y-ing) the pair in the yard, and moving the pair back into the shop past the hoist). Phase 2 consists of installing track to provide direct access to the machine from the yard, but the pair will still have to be turned in the yard. It is recommended that CTA perform an analysis to determine the required output of the wheel truing machine and the potential output before the completion of phase 2 and before the completion of phase 3, taking into account the expected interference resulting from the use of the hoist and the time necessary to turn pairs of cars.

Also reviewed were inspections records to check inspection intervals and disposition of defects.

Currently, the department uses hard-copy OEM maintenance manuals. When changes are made, the manuals are not updated, but the changes are disseminated by bulletins. Thus, it is the responsibility of the employee to check for relevant bulletins before performing maintenance according to the OEM manuals. While this system is not optimal, it does not seem feasible to bring the OEM manuals up to date at this time. With the 5000-series cars, the OEM manuals will be electronic, and the Rail Maintenance Department intends to make changes to the electronic documents to keep them up to date.

13.3 Assessment

The assessment consisted of three parts. The first part was an interview with the department head and his immediate staff. Discussed were the checklist items (except field-specific items) and the philosophy of the Railcar Maintenance Department.

The second part was the observation of inspections and the interviewing of inspection managers and inspectors. The reviewer observed inspections at Howard and Midway Shops and interviewed inspectors and found the inspection to have been performed well. Inspectors were asked if they had the documentation and tools and equipment to perform their jobs and also if they had any safety concerns about their jobs.

The third part was a review of inspection data from the past year for a sample of railcars. The reviewer examined inspection intervals, both mileage and days, for a sample of railcars. Follow-up on defects found on inspections was also reviewed.

13.4 Findings

VH-1: Current Rail Maintenance practice is in conflict with the interval published in CTA's SSPP. As noted above, Rail Maintenance upholds a 90-day maximum between inspections, whereas the SSPP indicates a 60-day maximum.

VH-2: There was little familiarity with the SSPP within Rail Maintenance. Some Rail Maintenance department managers had read and filed the SSPP, but some of the managers in the shop were not familiar with the document, and had not heard of it.

VH-3: Change Control and Configuration Management are described in a 1½-page bulletin that does not provide sufficient detail to ensure the process will operate smoothly. While the bulletin provides a good summary of the process and though CTA uses the process well, it does not include sufficient detail to ensure that in the future those less familiar with the process or less interested in following the process will get it right. The process should include every step in detail beginning with who may submit a proposed change and how proposed changes are chosen for implementation.

VH-4: The mileage intervals between inspections of any given car vary greatly over a year's time. While the goal is to optimize the inspection interval mileage for car type and route, the great variation (for each car the longest interval in the past year is usually at least 50 percent greater than the shortest) means that these optimized intervals are not being met.

VH-5: Many trains were observed to have wheels with flat spots. The frequency of occurrences of flat spots on CTA trains seems to be greater than other properties the reviewer has visited. This review did not attempt to characterize these flat spots or survey them overall as compared to CTA's wheel measurement standards. Rather, this finding is submitted to draw CTA's attention to the overall need to reexamine current inspection standards, inspection frequencies, and/or maintenance practices to reduce observed flat spots. RTA is concerned that flat spots are detrimental for the following reasons:

- They increase the probability of wheels locking when emergency brakes are applied, thus increasing stopping distance.

- The longer flat spots are tolerated, the larger they become, and the more metal (i.e., wheel diameter) must be removed from the wheels to remove the flat spots. This reduces the life of the wheels.
- They impart impacts and vibrations to the equipment on the cars, thus increasing the probability of failure and reducing the life of certain components.

13.5 Related Open Findings from Previous Triennial Reviews

VH-2: Many trains were observed to have wheels with flat spots. CTA's two wheel truing machines may not have the capacity to maintain the fleet properly.

This open finding from the 2007 triennial review was incorporated into the above 2010 findings VH-5 and VH-6.

13.6 Bibliography

Documents Reviewed

- Preventive maintenance manuals (sample review)
- Preventive maintenance checklists (sample review)
- Preventive maintenance histories for about 10 percent of the fleets assigned to Howard and Midway Shops
- Bulletin: Engineering Change Procedures
- General Bulletin: Unusual Occurrence Guidelines 10/14/94
- Memorandum Re: Handling rail [car] defects; a procedure for standardizing decision making, documentation, and repair March 12, 2009
- Rail Car Assignment April 4, 2010
- 2009 Unusual Tracker

Persons Interviewed

- David Kowalski – Director, Maintenance – Rail
- Philip Lamont – General Manager, Rail Car Heavy Maintenance
- James Layman – General Manager, Rail Terminal Maintenance
- George Cavelle – General Manager, Rail Terminal Maintenance
- Christopher N. Hegarty – Manager, Rail Engineering Technical Services
- Thomas Dietrich – Manager II, Maintenance, Rail Engineering & Technical Services
- Frank Suthers – Manager, Maintenance, Rail Engineering & Technical Services
- Robert Kielba – assistant chief Rail Equipment Engineer, Rail Engineering & Technical Services
- Don Miller - Manager II, Howard/Linden Shop

- Dwayne Woods - Manager I, Annual Inspection Howard Shop
- Ed Wilson - Manager II, Midway Shop
- Thomas Conley - Manager I, Inspection Midway Shop
- Gabriel Lopez - Car Repairer A
- David Sanchez - Car Repairer A
- Hugo Padilla - Car Repairer A
- Theresa Craig - Car Repairer A

Locations Visited

- Skokie Shop
- Howard Shop
- Midway Shop

13.7 References

- CTA System Safety Program Plan
- CTA Rail Car Maintenance Plan
- CTA Rail Car Maintenance
- APTA Standards, Rail Vehicle Maintenance

14. Training

14.1 Description/Overview

Employee training is critical to system safety. The provision of appropriate levels of training for rail transit employees is necessary to ensure that employees are equipped with the means to understand the rules, regulations, and requirements associated with their specific jobs. While some training is directly related to safety – such as how to walk safely on the right of way – other training may not be specific to safety, but is nonetheless critical to safety – such as how to read signals or simply how to operate a train. Additionally, system security and preparedness for emergency situations are both critical in the transit environment, since transit employees are responsible for the safety and security of the public. Therefore, it is necessary to provide employees with the appropriate tools to respond to a security threat or emergency situation in a consistent and coordinated manner that will protect human life. This task reviews safety and/or security training and recertification programs in place for the following CTA employee classifications:

- **Rail Transit Operations**
 - Rail Transit Operators (RTOs)
 - Rail Supervisors
 - Switchmen
 - Flagmen
 - Towermen
 - Yard Leader
 - Yard Master
 - Customer Assistants
 - Clerks
- **Control Center**
 - Rail Controller
 - Power Controller
 - Customer Agent/Security Control
- **Rail Maintenance**
 - Railcar Repairmen
 - Railcar Services
 - Railcar Apprentices
 - Specific Craft Personnel at Skokie Shops
- **Equipment/Infrastructure Maintenance**
 - Facilities Personnel
 - Power & Way Personnel
 - Signals
- **Management Personnel**
 - Chiefs

- General Managers
- Managers

The purpose of this task is to assess the administration of CTA's myriad training programs to make sure employees currently performing their duties have received their appropriate training on-time, that the training is recorded to provide evidence thereof, and that the training programs are organized in a fashion that ensures training can be provided as needed and required.

14.2 Responsibility and Current Situation

Rail Instruction/Training Development provides Rail Transit Operations training. The Control Center provides training for its own staff. Rail Maintenance Training also provides its own training. The Safety Department provides safety training to Facilities and Power & Way Personnel, and also to CTA executive and managerial staff. Each group that provides the training is responsible for developing training programs and keeping records of the training provided. There is not overlap in the responsibilities for what training is provided; and therefore, there is not a need for groups to cross train. In some instances, individuals responsible for training, for example, train operators, may be in touch with other department personnel to highlight some aspect of train operations that is impacted by railcar maintenance or the control center.

Rail Instruction/Training Development administers a very comprehensive program of training for the staff listed above. It consists of initial training and classification, retraining and recertification (both retraining for employees who have exhibited some sort of problem or who have been away from the job and recertification of train operators on a biannual basis), and training-for-change (e.g., new policies, new equipment, etc.). Rail Instruction/Training Development also administers special programs, such as the Rail Safety Tours for contractors. Training programs all have detailed curricula and testing materials, as well as detailed plans for line/field instruction and qualification. All operations personnel will train as an RTO and may receive additional training to qualify for the other positions listed. This training is administered by Dorothy Bester and Kenneth Hughes, Managers of Rail Instruction, along with Carol Taylor, Manager, Instruction Programs Development. Edward Cook, Vice President, Rail Transit Operations oversees this training program. Jocelyn Howard, the Coordinator of Administration, is leading the development of a centralized database to track employee training records. There are 34 instructors, one coordinator, and one clerk.

RTO and related rail operating position training is extremely detailed and comprehensive. All existing rules and procedures are included in appropriate training modules. Programs are regularly updated to incorporate all new General Bulletins, Trainlines, and other information that is developed on an ongoing basis. Procedures guide the administration of the training program. Training-for-change is offered to all employees whenever some change in practice requires more than just distribution of a bulletin. Specific components

of the operations training relate to safety and to security. Security components are incorporated into initial and recertification training and are based on National Transit Institute and FTA guidance.

“Record Cards” are used to track employee training and certification. A separate “record card” is kept for each operating employee. One copy is maintained at the terminals, and another is maintained by Rail Instruction/Training. It lists initial dates of qualification, all dates of recertification/requalification, as well as dates of other training that has been provided. It also lists the dates on which a trainer conducted a ride check. This information will eventually be retained in the database so that information can be analyzed to evaluate the effectiveness of training programs across all operating employees. Currently, the database includes information on dates of certification so that employee recertification can be scheduled on-time.

The Control Center administers its own comprehensive training program for Rail Controllers, Power Controllers, and Customer Agents/Security Control. The Control Center is managed by Kelley Brookins, General Manager, Control Center. Control Center personnel, including controllers and managers, provide training “in-house.” Several years ago, controller training was administered by the Rail Instruction group. Currently, the program consists of initial training/certification and biannual retraining/recertification. Both programs include classroom and practical components, including observation of performance in the Control Center. Curricula and testing have been developed and are used in the administration of the training program. Controllers must be certified as an RTO when hired, but are not required to keep that certification while serving as a controller. They must, however, keep their Rail Safety Certification (track safety) current. The Control Center uses an excel spreadsheet to keep track of its training dates and due dates.

Rail Maintenance Training is responsible for providing training to railcar repairmen and to others involved in servicing the railcars. Training is overseen by Chris Hegarty, Acting General Manager of Rail Engineering & Technical Services. Larrice Taylor, Manager II Training & Instruction leads the Rail Maintenance training program, which includes two Training Specialist Is and nine Training Specialist IIs. Four Instructor I positions are vacant. Recent staffing changes have eliminated railcar services personnel. Specialists of specific crafts at Skokie shops (home of heavy maintenance) are hired with the necessary skills, such as training/qualification to be an electrician or a welder. This training is required via union contract.

Rail Maintenance Training for the railcar repairmen is detailed and consists of a multi-step program in which additional qualifications must be achieved over several years. This program is known as the Rail Maintenance Excel Program. In addition to an initial or basic technician qualification on railcar maintenance, railcar maintainers must take detailed coursework and be certified in (1) Truck Shop, (2) Carbody, (3) Controls, and

(4) HVAC. Program materials are detailed and describe every aspect of inspecting and maintaining all of CTA's railcar fleets. Program materials include separate familiarization modules for specific railcars and specific components of the railcars. There are instructor notes for the different courses, as well as student handouts for classroom and on-the-job portions of the training. There are detailed documents used for student performance summaries and evaluations. Initial training coursework also includes a detailed compilation of assorted safety and rail bulletins. Upon hiring, employees receive the initial qualification and then certify for the next four aspects of railcar maintenance at a rate of approximately one category per year. Rail Maintenance keeps track of all Excel Training certifications via the "Excel Tracking Log," which is an electronic spreadsheet that lists the due dates and actual completion dates of Excel training. Paper copies of exams and certificates of completion are also kept in the individual employee files.

Equipment/Infrastructure Maintenance Safety Training. The Safety Department is responsible for providing ongoing safety-related training to all individuals involved in equipment and infrastructure maintenance, including Facilities personnel, Power & Way personnel, and Signals personnel. New hire training for Power and Signals personnel is performed by the union and mandated in the union contract. Similarly, facilities maintenance personnel are hired as journeymen laborers, carpenters, plumbers, etc. with the requisite union certification. They are paired with an established tradesman for on the job training. Initial certification records are held by the union. No formal recertifications or retraining programs are in place for Signalmen, Facilities personnel, or Power & Way personnel.

Safety-specific training is provided by CTA. The myriad safety training programs are administered by Robert Burns, Manager, Training and Safety Observations. He is supported by four training specialists and one clerk. Specific courses in safety-related topics are offered and required based on job classifications, according to a job matrix spreadsheet. Courses include: Arc Flash, Bloodborne Pathogens, Confined Space, HazMat Refresher, Incident Command, Respirator Testing, Fork Truck, Aerial Work Platforms, and Mobile Cranes. The Safety Department also teaches National Incident Management System (NIMS) courses and other safety and security related courses. Courses are offered on a rolling basis, and employees may take courses when their schedules permit. If nobody signs up for a specific course, the class is not held. A summary of all courses held in a month, along with levels of participation is provided on a monthly basis. This is known as a "Presidential Brief." Records of training are stored in an excel spreadsheet, kept by the Manager of Training and Safety Observations. When required, paper copies of certifications are also kept in separate employee files.

Management Personnel receive training in the various National Incident Management System (NIMS) courses, which is the Federal Emergency Management Agency's (FEMA) "systematic, proactive approach to guide departments and agencies at all levels

of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment.” The Safety Department is responsible for administering the different levels of coursework to CTA Managers, General Managers and senior staff, in accordance with CTA’s goals for completion. Records of completed training are kept in electronic spreadsheets.

14.3 Assessment

The review of **Rail Instruction/Training Development** consisted of interviewing the above-listed individuals regarding their administration of the training programs and a detailed review of the training materials, including curricula, exams, Trainlines, General Bulletins, training handouts, and other operating documents. The entire training program is well organized, and records are well kept to indicate that initial training and recertifications are being performed. Training materials are comprehensive and exceed APTA standards and other industry practices.

The review also included an examination of the Record Cards of 53 individuals, including RTOs, switchmen, towermen, customer assistants, and flagmen. The review found that all fifty-three individuals had received their appropriate recertifications within the past two years and were currently certified to perform their duties. However, the review also indicated that some individuals had not received the refresher training on the new door operating procedures or announcements. The following chart indicates the number of individuals who received training, according to the Record Cards reviewed. It is not clear if individuals may have received training and not had this information recorded on the Record Card, but for important training such as this, the information should be recorded on the Record Card.

Classification	# Persons/ Records Reviewed by RTA	# Receiving Biannual Recertification / Compliance	# Receiving Door & Announcement Refresher	# Receiving Door Refresher Only	# Receiving Announcement Refresher Only	# Receiving Neither Refresher
RTO	31	31 (100%)	10	6	8	7
Tower	5	5 (100%)	0	2	0	3
Switchman	13	13 (100%)	2	1	2	8
Flagger Fulltime	3	3 (100%)	0	0	1	2
Customer Assistant	1	1 (100%)	0	0	0	1

Additionally, trainers are required to conduct two Ride Checks of all RTOs every calendar year. Other positions also get checked, but this may be limited due to the fact that those persons do not operate trains regularly. Of the 31 RTOs reviewed, records from 2008 and 2009 indicate that nine did not receive a trainer ride check. Seven RTOs

received at least one ride check in one of the two years, but zero in the other year. Fourteen RTOs received ride checks at least once in each of the two years reviewed, and three RTOs were checked more than once each year. More ride checks, overall, were performed in 2009. Also, it should be noted that this information may be incomplete. Some ride checks may not have been performed if an RTO was working in a different capacity (e.g. Switchman) in 2008. Also, personnel files were reviewed for all personnel for whom zero trainer ride checks were recorded, and in all cases, numerous records indicated that Operations Supervisor checks had been performed. Therefore, of the 53 records checked, all had undergone one type of ride check or another during 2008 and 2009.

The review of **Rail Control Center Training** consisted of interviews with the General Manager of the Control Center and a review of recertification records, as well as a review of the curricula and materials used for training and retraining rail controllers. Records of training that has been performed are kept and documented at the Control Center. The review of rail controller recertification records indicated that half of the sixteen rail controllers and ten of the nineteen Customer Assistant/Security controllers were due for recertification in 2008 and 2009, but that they did not receive training on time. This deficiency was corrected in early 2010, and all overdue individuals underwent retraining and recertification, which was offered by the Control Center manager.

The review of **Rail Maintenance Training** consisted of interviews with the Acting General Manager, Rail Engineering & Technical Services, the General Manager Rail Car Heavy Maintenance; the General Manager, Rail Maintenance East; the General Manager, Rail Maintenance West; the Director of Maintenance – Rail; a Manager II of Maintenance; and the Manager II of Training and Instruction and a review of Excel Training records. This included a review of 58 maintainers' Excel training qualification dates on the Excel Tracking Log, and a detailed review of the paper personnel files of 12 individuals. The review of certification and recertification records indicated that all Excel initial training was complete and that certifications for each of the separate classifications were performed on time according to the Rail Maintenance training schedule. Some individuals were found to still be in the process of certifying, with categories expected for completion in 2011. Seven of the files were missing the certification forms, but successfully completed exams indicated that the person was certified and this was corroborated with the information contained in the spreadsheet.

The **Equipment/Infrastructure Maintenance Safety Training** review consisted of interviews with the Manager, Training and Safety Observations, two Safety trainers, and representatives from Power & Way, Facilities Maintenance, and Signals. This included a review of the detailed spreadsheets listing individual employee courses completed (a spreadsheet that listed detailed information on the person taking the different courses, the course subject, exam completion status, instructor name, date of training, and other pertinent information. It also included a review of training courses offered over the

course of the past two years and the attendance records of those courses. While training records indicate that employees are receiving ongoing safety training, the excel spreadsheet is large and difficult to use for the purposes of easily reviewing an individual employee's current training status. It was reported that CTA is developing an Oracle database to track training, which should assist in the tracking of training status. It was reported that cuts in staffing (of those being trained) have resulted in challenges in pulling people away from work and making them available for some training courses.

The **Management Personnel** review consisted of interviews with the Manager, Training and Safety Observations and two Safety trainers, as well as a review of electronic records of coursework completed by CTA Chiefs, General Managers, and Managers. CTA has begun providing different levels of NIMS training to its senior executives (Chiefs), General Managers, and other Managers. Records indicate that training has not been completed by numerous individuals in each of these categories. It is not clear if there is an internal policy that requires training to be complete by a certain date or states which levels of training must be completed by each type of employee. However, the inconsistency in completion levels indicates that some individuals still must undergo training.

14.4 Findings

T&I-1: CTA's two annual Train Operator observational ride checks are often tracked in separate locations, and therefore difficult to verify in CTA records; further, training personnel conduct anywhere from zero to four reviews on some Operators, diluting the value of the training ride checks. There is no apparent unified system for tracking train operator ride checks. As such, it can be difficult for an auditor (or presumably CTA) to determine if the two required checks have been completed in a given year. A review of training records in 2008 and 2009 indicated that train operators received anywhere from zero to four ride checks in a given year from training personnel. (2010 was not reviewed since the lack of ride checks in 2010 may simply indicate that they are scheduled for later in the year.) Separate records of supervisors performing one or more of the required checks were often evident; however, these are kept separate from training records. Given that some operators received more than the minimum two ride checks by training personnel, and others received no ride checks by trainers, Operations Training should reevaluate how it schedules ride checks. This review appreciates that checks may also be conducted by supervision, but Operations Training should consider whether its own personnel should see each Operator at least once annually. Given the current number of checks, it seems possible that better scheduling and tracking would allow training personnel to see each operator more than zero times per year. Also, it should be noted that while some train operators' records indicated that they did not receive ride checks from trainers, each of these individuals had received multiple ride checks from operations supervisors.

T&I-2: Refresher training is periodically provided to train operators, but records indicate that some train operators did not receive this training. Periodically, CTA may develop a refresher training or familiarization session relating to an important issue. In 2009 and 2010, CTA developed a session relating to the safe operation of train doors and another related to the performance of announcements to passengers. These programs were intended to enhance safety, and as such, all train operators were required to be briefed on the information. Records indicated that some train operators did not receive one or both of the familiarization sessions. It is not clear if the employee received the familiarization and this was not recorded or if the familiarization did not take place. CTA should review employee records to determine who needs to receive this familiarization training and ensure that it is provided to those individuals. Additionally, CTA should consider developing a policy that indicates which interim training or familiarization programs are *required* and keeps a summary record of individuals taking the course to ensure that all required employees have been trained and/or familiarized.

T&I-3: A number of rail, power, and customer assistant controllers did not receive recertification on time in 2009. This was corrected for all individuals in 2010. CTA reports that part of the reason why Operations Control Center (OCC) training did not take place on time in 2009 is because of the unavailability of training personnel to provide the required two-year recertification course for the different OCC staff described above. Another reason provided for this lapse was the current staffing levels. CTA personnel stated that they sometimes encounter difficulty putting OCC personnel into training sessions because the personnel are needed to work and there are no other personnel available to backfill their positions while in training. CTA should investigate if appropriate plans are in place to ensure that these training lapses do not occur in the future and that adequate resources are available to provide all required positions with CTA-required training.

T&I-4: The SSPP does not detail what training programs are offered to rail controllers or to rail maintenance personnel. The SSPP also does not explain who administers these training programs. The SSPP should include a description of the rail controller (and related positions) and the rail maintenance training, certification, and recertification programs.

T&I-5: Records indicate that senior CTA staff have not all completed required National Incident Management (NIMS) training. CTA has begun providing different levels of NIMS training to its senior executives (Chiefs), General Managers, and other Managers. Records indicate numerous individuals in each of these categories have not completed training. It is not clear if there is an internal policy that requires training to be complete by a certain date or states which levels of training must be completed by each type of employee. CTA should develop a policy that indicates what training is required and what deadlines exist for its completion and should then work to complete all of the required training.

14.5 Related Open Findings from Previous Triennial Reviews

T&I-2: After examining RTO training records, it is also not clear how training records are to be kept. CTA should decide which of these two filing areas (or another document – perhaps the electronic spreadsheet currently in use) is the master record, and ensure that it is kept up to date with all pertinent training information.

T&I-4: Maintenance Instruction management indicated that in the future CTA will have an ongoing program for recertification (or decertification, if a student fails) which should be implemented as soon as practicable. CTA does not currently have a maintenance recertification requirement. Implementing a recertification program would require an agreement with ATU Local 308 in the next round of contract negotiations. In addition to the cost of providing the training, CTA would need to identify funding to cover the wages of the participants for 1 to 2 days of training

14.6 Bibliography

Rail Maintenance Training Documents – Excel

- CTA Rail Maintenance Training Course Catalogue
- Excel Tracking Log – New Hire Qualifications Timeline Tracker
- 2400/2600/3200 Series Brake Inspection Procedures training Module – Students’ OJT Handout (5/2009)
- 2400/2600/3200 Series Brake Period Inspection Procedures Qualification Evaluation Summary Report (5/2009)
- Budd/Pioneer III Truck Periodic Inspection Training Module – Trainee Reference Handout
- Exterior/Interior yard Inspection Procedures Qualification – Students’ OJT Training Handout 5/09
- All Series Brakes Training Course Instructors’ Notes
- Rail Light Maintenance Familiarization Module – 3200 Series Rail Cars General Information Handout 3/2006
- Rail Light Maintenance Familiarization Module – 2600 Series General Information handout 3/2006
- Budd/Pioneer III Truck Periodic Inspection Qualification Training – Students’ Qualification Evaluation Summary Reports
- Car Repairer Initial Training Course – Intro & Course Familiarization – Training Manual – Student Handout – 6/2008
- Wegman/Duewag Truck Periodic Inspection Qualification Training Trainee Reference Handout

- Rail Light Maintenance Familiarization Module – 2200 Series Rail Cars – General Information Handout (3/2006)
- Wegman/Duewag Truck Periodic Inspection Qualification Students’ Evaluation Summary Reports 5/09
- Rail Light Maintenance Familiarization Module 2400 Series Rail Cars General Information Handout (3/2006)
- Car Repairer Initial training Course – Assorted Safety & Rail Bulletins Training Booklet – Student Handout (1/09)
- Exterior/Interior Yard Inspection Procedures Qualification – Student’s OJT Qualification Evaluation Summary Reports – 5/2009
- Rail Maintenance Job Descriptions
- Individual Employee Record Folders, including Excel Certification Exams & Certificates

Rail Operations Training Programs

- Slow Zone Flagging Pocket Guide
- Rule R6.4 Pocket Guide
- Train Evacuation Pocket Guide
- Troubleshooting Door Problems – Quick Reference Guide
- 5000 Series Railcars – Operator Familiarization and Reference Guide
- Vehicle Accident Guidelines 9/23/04
- Corrective Action Guidelines 9/23/04
- Rail Equipment Troubleshooting Guide
- NTI Terrorist Activity Recognition and Reaction Pocket Guide
- FTA/NTI Employee Guide to System Security
- *Training Materials (Below)*
 - Rail Safety (Tour)
 - Full Time Temporary Flagman
 - Customer Assistant
 - Rapid Transit Operator
 - Switchman
 - Towerman
 - Universal Supervisor Training Program
 - Yard Master/Leader
 - Universal Rail Clerk
- Rail Transit Operator (and related positions) Record Cards
- Bus & Security Controller Recertification Summary Sheets & Records
- Power Controller Training Schedule
- Power Controller Exams
- CTA Controller Certification/Recertification Program Documentation (Program Description & Employee Records)

- Controller Training Agenda

Safety & Security Training

- January 2009- May 2010 Safety, Training & Observations Monthly Calendar Schedules
- NIMS Training Summary Spreadsheet
- Station Observations Checklists 2009-2010
- 2009 & 2010 Monthly Safety Training Schedule Spreadsheets
- 2009 & 2010 Monthly “Presidential Briefs” (Training Program Summaries)
- Master Student Records 4-30-10 Excel Spreadsheets
- Facilities Training Course Catalogue
- (Required) Training Matrix March 2010
- CTA Safety Training Course PowerPoint Presentations

Personnel interviewed

Rail Transit Operations

- Carol Stewart Taylor, Manager, Instruction Programs Development
- Kenneth Hughes, Transportation Manager, Rail Instruction
- Dorothy Bester, Transportation Manager, Rail Instruction
- Jocelyn Howard, Coordinator of Administration

Rail Maintenance (Vehicles) Training

- David Kowalski, Director, Maintenance – Rail
- Thomas Dietrich, Manager II, Maintenance
- George Cavelle, General Manager, Rail Maintenance West
- James Layman, General Manager, Rail Maintenance East
- Christopher Hegarty, Manager, Rail Engineering Technical Services
- Larrice Taylor, Manager II, training & Instruction
- Philip Lamont, General Manager, Rail Car Heavy Maintenance

Power & Way; Facilities; Safety Training

- Robert Burns, Manager, Training and Safety Observations
- Vince Genna, CTA Safety Training
- Robert Stucko, CTA Safety Training
- Sara Schwanke
- Peter Gnof, Jr.
- Ghassan Nouti
- Erin Carsele

- Gus Nouti
- Pete Graf

Emergency Operations Plan

- John Plante, Senior Manager, System Safety & Environmental Affairs

Rail Control Center

- Kelley Brookins, General Manager, Control Center

14.7 References

- APTA RT-S-OP-13-03 Standard for Training of Rail Operations & Station Operations Personnel
- APTA RT-RP-VIM-011-03 Recommended Practice for Rail Transit Vehicle Inspection and Maintenance Training and Qualifications
- APTA RT-RP-SC-031-03 Recommended Practice for Signal Maintenance Personnel Hiring Qualifications, Training, and Competencies
- System Safety Program Standard and Procedures
- CTA Training Documentation Listed Above
- CTA System Safety Program Plan
- CTA System Security Program Plan

15. Drug and Alcohol Program

15.1 Description/Overview

Employee Fitness for Duty encompasses the policies and procedures that CTA has in place to ensure that its safety-sensitive employees are physically capable of safely performing their duties. Fitness for Duty primarily focuses on the drug and alcohol program but also covers medical qualifications, hours of service (HOS) requirements, and the ability of CTA to ensure that its RTOs are “fit for duty” when first reporting for their shifts.

With respect to the drug and alcohol program, this review is not intended to be an exhaustive audit of all of the provisions of 49 CFR Parts 40 and 655 – FTA conducts its own in-depth audits of drug and alcohol program compliance. Rather, the purpose of this review is to evaluate whether the drug and alcohol program is being administered appropriately with respect to the safe operation of the rail system.

15.2 Responsibility and Current Situation

CTA’s drug and alcohol program is administered by Denise Rosado, the Drug/Alcohol Program Compliance Manager. Ms. Rosado is assisted by Kevin Andeway, Manager of Information Systems. CTA employs its own Substance Abuse Professional, Mr. Mark Ketterson. Specimen collection is contracted to an outside vendor, MEE International. MEE employees conduct mobile collections for random, post-incident, and reasonable-suspicion testing, generally on-site at the terminals along the rail system. For return to duty and follow-up testing, CTA contracts with Advanced Occupational Medicine Specialists (AOMS). AOMS also employs CTA’s Medical Review Officer (MRO). Employee drug and alcohol test records are kept at the rail terminals by Administrative Managers.

CTA requires all new safety-sensitive employees to receive a physical examination when initially hired. Though CTA does not require ongoing and regular physical examinations, any safety-sensitive employee absent for eight or more days must receive a physical examination to return to work. CTA also employs a voluntary wellness program encouraging employees to live healthy lifestyles.

CTA works to ensure that safety-sensitive front line employees are fit for duty upon reporting for work by having the Clerks at the rail Terminals conduct a “fit for duty” check. Though this process is appropriate, CTA has not provided the required training in reasonable suspicion to all of the Clerks performing such checks, and currently lacks a policy requiring such training.

CTA managers are aware of the new APTA Standard for Hours of Service. This Standard specifies that RTOs will work no more than 14 consecutive hours, and will receive a minimum of ten hours off between shifts to allow for the opportunity to receive

eight hours of uninterrupted sleep. CTA's current agreement with its union specifies a minimum of eight hours between shifts, and employees cannot pick a start time less than eight hours after the end of a previous shift. Schedule Clerks are directly responsible for assigning work to RTOs, while the Labor Relations Department is addressing the larger issue of HOS at CTA on a moving-forward basis (particularly regarding the adoption and implementation of the APTA Standard).

15.3 Assessment

The assessment of employee fitness for duty at CTA consisted of interviews with CTA managers, a review of a sample of Medical Information System (MIS) reports from the past three years, and a sample of employee drug and alcohol testing records.

15.4 Findings

EFD-1: Not all of the Clerks at each of the rail terminals have received the required training in 'reasonable suspicion.' The Clerks at each of the rail terminals are responsible for performing a "fitness for duty" check of RTOs as they report for their shifts. Not all of these Clerks have received the required training in 'reasonable suspicion' to be fully qualified to make such judgments. RTA recognizes that many of the Clerks have already received this training; however, all Clerks who perform this function must receive training in reasonable suspicion. As such, CTA should work to ensure that all Clerks who have not yet done so receive training in reasonable suspicion, and develop a formal plan, policy, or procedure that specifies that employees responsible for making fit for duty checks receive appropriate training in reasonable suspicion. CTA should provide a copy of such a plan, policy, or procedure to RTA.

EFD-2: The reviewers noted some minor Drug & Alcohol program recordkeeping issues. According to a sample of records reviewed from 2008, 2009, and 2010 at three rail terminals, the vast majority of records appeared to be correct. However, the reviewers noted a few stray notification forms that did not have an accompanying "Chain of Custody" form. These forms are required to be part of each test record, according to 49 CFR Part 655. CTA should work with its collection and testing vendors (MEE International and AOMS), as well as the Administrative Managers to better ensure that all chain of custody forms are kept with each record. CTA should provide evidence of such efforts to RTA.

EFD-3: The reviewers found a few instances of the notification and 'condition of employee' forms that were not fully completed with all the specified information (i.e., the type of test, reason for the test, etc.) Though the vast majority of records reviewed had these forms completed, we recommend CTA work with Transportation Managers to ensure that all forms are completely filled out for every testing record to ensure their validity. CTA should provide evidence of such efforts to RTA.

15.5 Related Open Findings from Previous Triennial Reviews

EFD-7: There is currently no requirement for ongoing medical examinations of safety-sensitive rail employees. CTA used to have such a requirement in place, but it is no longer in effect. This finding is a repeat of a finding from the previous two RTA triennial reviews.

15.6 Bibliography

Documents Reviewed

- CTA Drug and Alcohol Policy
- Employee Relations/Contract Administration, Policy, and Compliance Section Procedures
- CTA Standard Operating Procedure for Applicants
- Medical Services Standard Operating Procedures – Fitness for Duty Categories
- CTA Standard Operating Procedures – Periodic Medical Evaluations for Operating Personnel
- CTA Standard Operating Procedures – Required Urine Drug Screening
- Sample 2010 Spreadsheet for AOMS and Consulting Services
- CTA General Bulletin – Assessing an Employee’s Fitness for Duty
- CTA Transit Operations SOP – Employees Reporting for and Completing Tours of Duty
- CTA General Bulletin – Employee Fatigue
- CTA – ATU Collective Bargaining Agreement
- CTA Wellness Program materials

Personnel Interviewed

- Denise Rosado, Manager, Drug/Alcohol Program Compliance
- Kevin Andeway, Manager, Information Systems
- Mark Ketterson, LCSW, CTA Substance Abuse Professional
- Carey Morgen, General Manager, Labor Relations
- Diane Traxler, General Manager, Contract Interpretation & Compliance
- Larry Wall, General Manager, Benefit Services
- Johanna Benavides, Executive Director, Advanced Occupational Medicine Specialists (CTA Contractor)
- Christina Bravi, Manager II, Risk Compliance, Safety, Security & Risk Compliance

Locations Visited

- Howard Terminal
- Kimball Terminal

- O'Hare Terminal
- CTA Headquarters

15.7 References

- CTA System Safety Program Plan
- 49 CFR Parts 655 and 40
- CTA Drug and Alcohol Policy
- APTA Standard for Hours of Service

Appendix A: Bullet List of Findings

System Safety Program Plan Implementation	
SS-1	The safety certification process, as described in the CTA SSPP, needs to be reexamined to ensure appropriate thresholds are in place, and that departments, including Safety & Risk Compliance, have appropriate levels of safety certification responsibility. During its 2007 triennial review, RTA found that CTA needed additional detail in its safety certification process, including clearer thresholds for when the safety certification process is implemented. CTA's own internal audits have also found the need for more robust safety certification process. Finally, SSPP Page 25 states that Power & Way Engineering chairs the Safety and Security Certification Committee (SSCC). RTA recommends that this role should be the responsibility of Safety & Risk Compliance, in order to ensure the process remains focused on safety.
SS-2	Chapter 6 of the SSPP describes the Safe Line hazard identification source as being used for non-emergency safety issues, while Chapter 9 describes it for reporting unsafe conditions. Consider developing an SOP or bulletin for Safe Line and other mechanisms for employee identification and reporting of hazards to promote employee awareness, consistency and understanding of the hazard management process and reporting function.
SS-3	A policy and procedure should be established and implemented for updating CTA's Rail Design Criteria to reflect the latest transit industry standards (e.g., APTA Rail Safety Standards). It should also reflect lessons learned from recent project implementation. CTA's current Design Criteria were last updated in 1996.
SS-4	CTA's SSPP describes the requirements for developing and tracking corrective actions based on recommendations of an investigation report, but does not document CAP development responsibilities and timelines for the departments affected by and responsible for CAP implementation (e.g., operating or maintenance departments, etc.). While CTA Safety has a good process for corrective action development, the current SSPP (and current practice) does not fully incorporate non-Safety departments into the CAP development process. CTA should provide a clearer expectation for non-Safety departments and their roles in this area, as well as the timelines and processes involved in CAP development.
SS-5	There is inconsistency among timelines for required incident notification. Administrative Procedure #1901, Response to Safety Incident Investigations, (updated January 25, 2010), section 3.3, specifies that a draft report be forwarded to affected departments within 60 days of an incident. Procedure for Accident and Incident Investigation, Revision #1 (November 2006), section 9.2, requires that a draft report be completed in a timely period. It is recommended that the 60-day requirement be used in place of the "timely period" for consistency.
SS-6	Consider updating the CTA Procedure for Accident and Incident Investigation to include SSPP requirements for coordination with RTA regarding CAPs
SS-7	CTA's hazard management process does not sufficiently incorporate and coordinate with the RTA State Safety Oversight Program. CTA Safety and RTA SSO personnel should work together to analyze their current interaction for on-site and follow-up hazard management activities. This analysis should include a review of current coordination levels, and discrete, achievable steps both agencies can take to increase cooperation and coordination in these areas.

System Security	
SEC-1	<p>The CTA SEPP needs to be re-formatted and rewritten to fulfill RTA’s September 2006 System Safety Program Standard and Procedures (revised September 15, 2006), Section 4, “System Security Plan General Requirements.” RTA has five requirements for the SEPP that are listed on page 15 of the SSPS; of the requirements, No. 1 is addressed as required; No. 2 and No. 4 are not addressed by the CTA SEPP; and requirements No. 3 and No.5 are not complete and are only partially addressed. The CTA security plan’s compliance with the five elements required by RTA is as follows:</p> <ol style="list-style-type: none"> 1. RTA Element: Identify the policies, goals, and objectives for the security program endorsed by the agency’s chief executive. Compliance: Addressed – page 3 of the 2010 security plan. 2. RTA Element: Document the rail transit agency’s process for managing threats and vulnerabilities during operations, and for major projects, extensions, new vehicles and equipment, including integration with the safety certification process. Compliance: Not addressed. Pages 39 – 45 relate to this topic but do not specifically address the requirement and needs to be revised. 3. RTA Element: Identify controls in place that address the personal security of passengers and employees. Compliance: Partially but not completely addressed and needs to be revised; §§4.3 – 4.6, pages 29 – 34. 4. RTA Element: Document the rail transit agency’s process for conducting internal security reviews to evaluate compliance and measure the effectiveness of the system security plan. Compliance: Not addressed. 5. RTA Element: Document the rail transit agency’s process for making its system security plan and accompanying procedures available to the oversight agency for review and approval. Compliance: Partially but not completely addressed and needs to be revised; § 12.3, page 54. Plan states that Chief of Security controls the document, but provides no specific mention of SSO. 6. CTA’s security plan appears to be titled System Security Program Plan on the cover, while the first section heading (p.7) and several subsequent references use “Security & Emergency Preparedness Plan.” 7. On final revision, CTA needs to ensure that the figures and tables references are consistent between the security plan table of contents and the body of the document. <p>CTA has been provided with RTA’s <i>System Safety Program Standard and Procedures (revised September 15, 2006)</i>, as well as additional guidance including FTA’s <i>Public Transportation System Security and Emergency Preparedness Planning Guide</i>, January 2003</p>

SEC-2	<p>CTA has been unable to ensure that its Securitas and Star Detective Agency contract security personnel consistently complete CTA’s Rail Safety Tour training. One way to address this issue may be for CTA to explicitly disallow Securitas/Star Detective Agency contract security guards, and any other non-qualified security personnel, from entering the right-of-way under any circumstances. This may affect SEPP content and would need to be addressed appropriately</p>
SEC-3	<p>CTA’s SEPP does not identify a process, procedure or methodology for conducting threat and vulnerability assessments. CTA has had three Threat & Vulnerability Assessments (TVA) conducted over the last five-year period, with the most recent being conducted in late 2006 by Office for Domestic Preparedness (ODP) under the Port Mass Transit Technical Assistance Program. Each assessment used a different methodology. CTA uses the TVA results as the basis for identifying threats, vulnerability and relative risk. Included in this strategy is planning for risk reduction, identification of terrorist threat, likely attack scenarios, asset vulnerability, and terrorist attack impact result. This risk profile provides a foundation for an evaluation of relative risk between attack scenarios for all critical assets of CTA. Additionally, the TVA provides the basis for matching security grant opportunities and capital security investments based on current threats and vulnerabilities. While the ODP TVA methodology was used for conducting the 2006 TVA, CTA does not identify a process, procedure or methodology in its SEPP for conducting TVA. Also, the methodology CTA decides to use for TVA needs to be updated on an annual basis to identify current threat and vulnerabilities and overall risk reduction based on capital security expenditures and security enhancements and improvements</p>
SEC-4	<p>CTA’s program for emergency response, including procedures and drills, does not sufficiently incorporate coordination with RTA and the other regional transit agencies. An examination of CTA’s current security plan and recent draft revisions, as well as review of procedures and recent drills, indicate that CTA could do more to coordinate with other area transit agencies. CTA should establish and coordinate involvement with RTA, Metra, and Pace in its emergency response planning, procedures, and drills. CTA should provide the invitations to RTA and also send a commitment letter that states the continued invitation to RTA, Metra, and Pace.</p>
<p>CTA Operations Rules Compliance</p>	
ORC-1	<p>Based on a review of over 500 RTO Operations Check forms from a sample of 30 RTOs from the three line groups, it appears that CTA Rail Supervisors are not monitoring RTOs effectively for compliance with all operating rules and procedures. Of the 500 RTO Operations Check forms reviewed, approximately 10 noted something other than “Operated Correctly.” Meanwhile, two review team members noted several minor rule compliance issues while performing independent field observations for RTO rule compliance (see the attached checklist for details). It will always be easier for outsiders and persons unknown to CTA Operators to spot violations. Still, the consistently good results from CTA Supervisors’ audits suggest the rules check program needs to be expanded and diversified to ensure a more accurate assessment of actual operations. CTA should expand the program to include clearer expectations of what areas are to be reviewed, how frequently they are to be checked, and so on, to ensure the process is valid and useful.</p> <p>CTA does appear to catch the most severe rules and procedures violations (described above), and these are adequately addressed by CTA Rail Operations management; appropriate persons throughout CTA are made aware of such issues (including Safety</p>

	<p>Department personnel). Additionally, there appears to be a process in place to ensure that trends in high-level rules violations are addressed through actions like changes to rules and procedures, bulletins, and reinstruction, and appropriate managers and personnel from the Safety Department appear to be aware of these issues.</p> <p>However, CTA should analyze how it can better ensure that Supervisors are noting all observed instances of non-compliance with rules and procedures for the purposes of data collection and analysis (and not just discipline) so that trends in low-level rule compliance issues can also be addressed at the executive level through training, changes to rules, procedures and bulletins, and the ability of managers to focus supervisions on problem areas. Trends in lower-level rule violations (such as failure of an RTO to stand while proceeding through an interlocking or entering a station) may not pose an immediate safety risk, but may point toward growing problems in overall rule compliance. Additionally, Supervisors may be observing such rule violations by RTOs, and even providing verbal feedback to RTOs in such cases. However, it is difficult for CTA management to conduct appropriate analysis of rule compliance without such seemingly minor rule violations being documented every time. None of the Rail Operations Check forms denoted the rule violations outlined in CTA's Efficiency Testing Procedures, which suggests that Supervisors are not independently recording such violations outside of the context of an Efficiency Test, when they are accompanied by Managers in observing RTOs and other personnel.</p> <p>CTA Rail Operations, Safety, and Rail Instruction should be able to use trends in rule compliance to guide the same changes to supervisory activities (i.e., focus on a certain rule or procedure for a period of time), training, and even rules and procedures that trends in "major" violations may cause. As such, CTA should analyze the duties, responsibilities and training of its Rail Supervisors and determine how it can utilize them more effectively to ensure full RTO compliance with all CTA operating rules and procedures, and to ensure that they document all observed instances (even minor occurrences) of rule violations, whether using the Rail Operations Check form, or some other form. CTA should provide evidence of such an analysis and its results to RTA.</p>
<p>ORC-2</p>	<p>RTA observed that CTA uses an incoherent system to collect data from the results of Supervisor observations of RTOs, efficiency testing by Transportation Managers and Safety Department personnel, and observations by Rail Instruction personnel. At the time of the review, CTA management did not appear to have the capability to analyze this disparate data to effectively monitor trends in rules and procedures compliance across different sources. It is essential that management have the capability to use rule compliance data to influence supervisory activities, training, and the review and update of rules and procedures, as well as disciplinary issues.</p> <p>RTA learned during the review that CTA is in the process of rolling out a new, more comprehensive database that will allow managers across CTA to analyze the results of all types of rule compliance and enforcement activities. Though CTA is to be commended for this effort, CTA should develop a formal plan, policy or procedure for this database that indicates such things as its purpose, how it will be utilized, what data must be entered, who will be responsible for analyzing the data and who will be responsible for maintaining the data. Formalization of this process will help ensure consistency of utilization of this information across the organization, and continuity</p>

	among successive managers. CTA should submit a copy of such a plan, policy or procedure to RTA.
ORC-3	CTA's processes that guide the update of rules, procedures and bulletins (as well as the development of new ones) are not formalized. Although CTA has processes in place to guide the review and update of rules, procedures and bulletins, (as well as the development of new ones), these procedures have not been formalized. In particular, CTA has a draft "Standard Operating Procedure Committee Description," a draft "Rail System Rule Book Committee Charter," and a draft "Rail Service Bulletin Process." Each of these draft documents appears to be appropriate, but CTA should finalize them as formal plans, policies or procedures to help ensure that the processes outlined therein are consistently followed. CTA should provide copies of the finalized versions of these documents to RTA.
CTA Facilities & Equipment Safety: Stations	
STA-1	CTA needs to re-examine its electrical maintenance process and its application of that process to ensure that electrical distribution panels are consistently and properly secured. At Clinton Station on the Green Line, the janitor's closet contained electrical panels that were not properly secured. One panel had a cover removed that was resting up against it on the floor, two panel boards did not have blanks installed where breakers used to be located (which allowed direct access to the bus bars), and a fourth panel was left open. No warning signage was present indicating work in progress at this location, and no electricians were observed working in the area.
STA-2	CTA needs to re-examine its electrical maintenance process and application of that process to ensure that electrical box covers are installed where appropriate. Electrical junction boxes were observed without covers installed in areas accessible to the traveling public. These boxes contained wires that appeared to be live and could cause injury to passengers. These areas were reviewed with CTA personnel on site.
STA-3	Station exit signage is inconsistent. Stations do not adhere to the same signage nomenclature for exit signs. Arrows are generally provided to show the direction to exits, but "Out" or "Exit" are used interchangeably. This could lead to confusion during an emergency when all passengers should be focused on following "Exit" signs to lead them safely out of the facility. The coloring of these signs is also inconsistent.
STA-4	CTA needs to re-examine its emergency telephones inspection and maintenance processes, especially relative to Red Line phone installations which are inaccessible at platform level. The emergency telephones mounted within secure enclosures at the platform level at Sox-35 th on the Red Line were not accessible despite having the proper key to open. During an emergency, these phones may be a vital communication link. Without access to the interior of the phone boxes, it was impossible to determine if these phones were operating properly.
STA-5	Station inspections are not being performed in accordance with the current Facilities Maintenance Plan. Without the inspections referenced in the CTA Facilities Maintenance Plan, there does not appear to be a method to address issues that would have been identified during the missed inspections. Safety inspections are a good practice, but they do not cover all of the details and various reports currently referenced in the Facilities Maintenance Plan. There are station inspection forms located in Part 3, Section 1 of the plan that do not appear to be used, including "Inspection Checklist, Type B," "Subway Station Inspection Report," "Terminal Inspection Report" and "Rail Station Inspection Record." Actual practice and written plan need to be coordinated so they are in agreement.

CTA Facilities & Equipment Safety: Structures	
<i>STR-1</i>	There is no painting program being followed to mitigate structural deterioration of the structural steel supports. There is a painting program identified in the Facilities Management Plan that makes reference to structural steel painting, but it is not being followed. RTA made a similar finding during its 2007 triennial review. The review team understands that funding is the primary obstacle to a structural painting program; also, funding that would have been devoted to a painting program is largely being diverted to ongoing steel repair and replacement. This finding is resubmitted because RTA believes the issue is still important and merits CTA's attention and analysis.
<i>STR-2</i>	The RIMS computer system makes internal reporting somewhat difficult and is built on a computer platform that may not be viable over the long term. RIMS is a useful tool that is based on outdated technology. It does not provide an expedient way to print specific reports or enter data directly into the database in the field. It is noted that CTA plans to move to a new system when an evaluation of the proposed system is completed and funds are available.
<i>STR-3</i>	The use and flow of structural inspection and repair documentation is not adequately described in a standard operating procedure or similar document. A specific location at West Shops should be identified for the storage of the current cycle of inspection documents. The flow and storage location of documentation should be clearly defined for ready access by CTA personnel.
<i>STR-4</i>	The electronic database CTA currently uses to document structural maintenance issues has an inspection backlog of nearly three months. At the time of review, CTA was aware of the build up and expected to be current by June or July of 2010.
CTA Facilities & Equipment Safety: Subway Fans & Louvers	
<i>SUB-1</i>	Although CTA's program of drain cleaning addresses issues where it is implemented, the program needs to be accelerated to keep pace with standing water problems. The rooms at the bottoms of many blast, vent, and fan shafts had apparent clogged drains and standing water.
<i>SUB-2</i>	The rooms at the bottoms of many blast, vent, and fan shafts had apparently unused conduit and wire, some of which is under water, as well as stored materials, accumulated debris, and trash, and should be cleaned out. CTA should also identify and remove unused conduit and wiring.
<i>SUB-3</i>	CTA should develop a plan to provide remote control function for existing louver systems. The Subway Emergency Fan Operating Procedure instructs the Power Controller to "open or close louvers [associated with non-operating fans] as necessary to pull the maximum amount of fresh air to evacuating customers and employees." The Power Controller did not seem to have that SCADA functionality.
<i>SUB-4</i>	CTA should develop a plan to restore all fans and louvers to working condition. According to CTA maintenance records, six of 53 fans and 61 of 79 sets of louvers are non-functional.

<p><i>SUB-5</i></p>	<p>An update to CTA ventilation studies should be completed to determine what steps and programs are necessary to bring CTA subways into compliance with current ventilation standards (e.g., NFPA 130). CTA should update its ventilation studies, obtain current cost figures, and determine the feasibility of instituting the study recommendations, either in whole or in part. There are many factors that need to be considered for an informed decision to be made.</p>
<p>Maintenance Audits & Inspection Program: Track</p>	
<p><i>TIM-1</i></p>	<p>While not overdue at the time of this assessment, CTA’s annual turnout/switch inspections may need additional resources to be completed in June 2010. Joint turnout and switch inspections – a detailed inspection conducted by both Track and Signal personnel represented – are completed at least once yearly. At the same time, Track Maintainers are required to perform detailed visual checks of this equipment during each weekly or twice-weekly inspection. The more detailed annual (joint) inspections are, to some extent, on hold at this time due to manpower issues. Although such annual inspections were not yet overdue at the time of review, they were to come due during June 2010. It appears that additional personnel resources may be required to ensure that this inspection is conducted on schedule.</p>
<p><i>TIM-2</i></p>	<p>CTA’s Track section should take positive and demonstrable steps to reemphasize thoroughness, quality, and defect identification/prioritization of turnout/switch inspections, especially during ongoing (weekly and twice-weekly) track inspections. As noted in a separate finding, the Track department’s detailed turnout/switch inspections may lag their annual schedule due to manpower issues. Part of the identified mitigation for this issue is the ongoing (weekly/twice-weekly) walking inspection. The Track department verbally and in its standards identifies that switches and turnouts are to be inspected as part of regular walking inspections. An examination of records and field sites indicates that such ongoing track inspections may not put enough emphasis on turnouts and switches.</p> <p>During this assessment, several switches and turnouts were visually inspected. CTA’s annual, detailed switch inspection records and its MOWIS database entries show fewer and less severe defects versus what this assessment saw in the field. This may indicate that Track Maintainers are not paying enough attention to turnouts and switches, especially during the weekly/twice-weekly walking inspections. It may also indicate that they are not assigning appropriate priorities to turnout/switch defects and maintenance items.</p> <p>For example, switches at Howard and Jarvis showed many hardware problems (loose bolts, etc.) and frog condition problems (point wear, wing/tread wear) that did not seem to be fully described in weekly/twice-weekly MOWIS inspection records.</p> <p>In some instances, inspection personnel do not seem to appropriately prioritize turnout/switch defects. On the annual switch inspection form, for example, CTA inspection personnel described several frogs as having measurable horizontal cracks or chipping in the point area, or loose hardware. Still, these same frogs were assigned the highest condition rating (G, or Good).</p>

	CTA should review the importance and fundamental aspects of turnout and switch inspections with its Track Maintainers and ensure that such equipment is receiving a thorough inspection during both weekly/twice-weekly track inspections and annual detailed switch inspections.
<i>TIM-3</i>	CTA should reemphasize general defect descriptions and prioritizations as entered by Track Maintainers in MOWIS. CTA's Track section internal audit process includes a (valuable) check of defect descriptions and categorizations. This program should be continued and expanded to ensure a greater and more universal understanding of CTA's track defects and priorities. CTA should continue to ensure uniformity among Track Maintainers' defect descriptions. For example, some defects reviewed were "wide gauge" or "wide gauge, 10 feet" but a gauge measurement was not given in the comments. CTA's Track Maintainers should be encouraged to provide more detailed information about their findings and inspection results.
<i>TIM-4</i>	CTA Track Section should develop a corrective action log or similar tracking mechanism to ensure that issues raised in Engineers' audits are corrected and closed out. CTA's Track section has an excellent internal audit process, and provides a model for how other transit agencies could audit their maintenance processes. During these audits, occasional maintenance or administrative issues are identified. It is important that these issues be tracked and closed out, so that they do not get overlooked or forgotten.
Maintenance Audits & Inspections: Signals	
<i>SIG-1</i>	CTA Signals needs to ensure that completion dates in its relay schedule are kept up to date throughout the testing cycle. During this assessment, CTA Signals personnel were very helpful in providing their schedule spreadsheet for relay testing. The first copy provided during this assessment had complete schedule information for calendar year 2009, but did not have up-to-date information for actual completion dates. CTA should ensure that it uses this spreadsheet, or some other equivalent scheduling tool, to ensure that the relay testing program is on schedule throughout the year.
<i>SIG-2</i>	CTA Signals should expand its SOPs and blue book audit process to ensure that SOPs, instructions, and reference materials are consistent across territories. The blue book audit process is an excellent practice. Likewise, the group's SOPs are very valuable in ensuring consistency and high quality across the department. Both blue book audits and SOPs should be expanded to include regulation and checks of overall blue book content. This is important for two reasons. One is that it will help to ensure that Signal Maintainers have appropriate blue book content for their territories, based on their particular equipment inventories and operating situation. It would also help ensure that older instructions and SOPs are replaced by the latest guidance as appropriate. As an example of the latter situation, one blue book checked during this audit had audio frequency track circuit testing instructions that may be out of date versus current CTA practice. Increasing SOP and audit expectations for blue book format, contents, and order would help to identify these types of issues where they might exist.
<i>SIG-3</i>	CTA Signals should assess the need for additional equipment-specific maintenance and testing SOPs and continue its efforts to develop and update such SOPs for switch machines, trip stops, and other signals equipment. CTA Signals management expressed plans to develop additional SOPs for testing and maintenance of critical components such as switch machines, trip stops, and other equipment. These equipment types are currently covered by brief instructions on CTA Signals forms (typically five to seven basic maintenance steps). More detailed

	information on maintenance practices, tolerances, methods of operation, etc. should be presented in an SOP format and distributed to Signal Maintainers. CTA should also assess its equipment inventory overall, and identify other areas where SOPs may be needed, perhaps including relay testing, grade crossing inspections, etc
Maintenance Audits & Inspections: Traction Power	
<i>TPS-1</i>	CTA's eyewash manufacturer recommends a weekly inspection, but this interval is not included in CTA's current practices. For Bradley eye wash equipment, the manufacturer recommends a weekly inspection. Based on field records, it appears that this equipment is receiving an inspection on roughly a monthly basis.
<i>TPS-2</i>	Calvary Substation DC Breaker maintenance is not performed semiannually as stated in CTA's written PM process. Breaker HSN #86 was under maintenance on May 5, 2010, and before that it was last inspected on September 21, 2009.
<i>TPS-3</i>	Some of the substation drawings are in poor condition or incomplete. Calvary, for example, has drawings that are in poor shape. East Lake has both torn and missing sheets.
<i>TPS-4</i>	CTA practice for working in high voltage (600 VDC) cubicles appears to be out of keeping with current industry thinking, with regards to personal protective equipment. At East Lake Substation, two technicians were observed doing a PM on a DC breaker, where the 600VDC bus is energized, without wearing PPE commensurate with the voltage and exposure at hand.
<i>TPS-5</i>	CTA's established rectifier maintenance process is not consistently applied, especially regarding 18th Street Substation (quarterly) rectifier maintenance. The last two inspections for Rectifier #1 were on February 9, 2009 and April 6, 2010. Rectifier #2 last two inspections were July 27, 2009 and March 12, 2010. CTA's requirement for rectifier preventive maintenance is three months.
Maintenance Audits & Inspections: Vehicle	
<i>VH-1</i>	Current Rail Maintenance practice is in conflict with the interval published in CTA's SSPP. As noted above, Rail Maintenance upholds a 90-day maximum between inspections, whereas the SSPP indicates a 60-day maximum.
<i>VH-2</i>	There was little familiarity with the SSPP within Rail Maintenance. Some Rail Maintenance department managers had read and filed the SSPP, but some of the managers in the shop were not familiar with the document, and had not heard of it.
<i>VH-3</i>	Change Control and Configuration Management are described in a 1½-page bulletin that does not provide sufficient detail to ensure the process will operate smoothly. While the bulletin provides a good summary of the process and though CTA uses the process well, it does not include sufficient detail to ensure that in the future those less familiar with the process or less interested in following the process will get it right. The process should include every step in detail beginning with who may submit a proposed change and how proposed changes are chosen for implementation.
<i>VH-4</i>	The mileage intervals between inspections of any given car vary greatly over a year's time. While the goal is to optimize the inspection interval mileage for car type and route, the great variation (for each car the longest interval in the past year is usually at least 50 percent greater than the shortest) means that these optimized intervals are not being met.

<p>VH-5</p>	<p>Many trains were observed to have wheels with flat spots. The frequency of occurrences of flat spots on CTA trains seems to be greater than other properties the reviewer has visited. This review did not attempt to characterize these flat spots or survey them overall as compared to CTA's wheel measurement standards. Rather, this finding is submitted to draw CTA's attention to the overall need to reexamine current inspection standards, inspection frequencies, and/or maintenance practices to reduce observed flat spots. RTA is concerned that flat spots are detrimental for the following reasons:</p> <ul style="list-style-type: none"> • They increase the probability of wheels locking when emergency brakes are applied, thus increasing stopping distance. • The longer flat spots are tolerated, the larger they become, and the more metal (i.e., wheel diameter) must be removed from the wheels to remove the flat spots. This reduces the life of the wheels. • They impart impacts and vibrations to the equipment on the cars, thus increasing the probability of failure and reducing the life of certain components.
<p>Training</p>	
<p>T&I-1</p>	<p>CTA's two annual Train Operator observational ride checks are often tracked in separate locations, and therefore difficult to verify in CTA records; further, training personnel conduct anywhere from zero to four reviews on some Operators, diluting the value of the training ride checks. There is no apparent unified system for tracking train operator ride checks. As such, it can be difficult for an auditor (or presumably CTA) to determine if the two required checks have been completed in a given year. A review of training records in 2008 and 2009 indicated that train operators received anywhere from zero to four ride checks in a given year from training personnel. (2010 was not reviewed since the lack of ride checks in 2010 may simply indicate that they are scheduled for later in the year.) Separate records of supervisors performing one or more of the required checks were often evident; however, these are kept separate from training records. Given that some operators received more than the minimum two ride checks by training personnel, and others received no ride checks by trainers, Operations Training should reevaluate how it schedules ride checks. This review appreciates that checks may also be conducted by supervision, but Operations Training should consider whether its own personnel should see each Operator at least once annually. Given the current number of checks, it seems possible that better scheduling and tracking would allow training personnel to see each operator more than zero times per year.</p>
<p>T&I-2</p>	<p>Refresher training is periodically provided to train operators, but records indicate that some train operators did not receive this training. Periodically, CTA may develop a refresher training or familiarization session relating to an important issue. In 2009 and 2010, CTA developed a session relating to the safe operation of train doors, and another related to the performance of announcements to passengers. These programs were intended to enhance safety, and as such, all train operators were required to be briefed on the information. Records indicated that some train operators did not receive one or both of the familiarization sessions. It is not clear if the employee received the familiarization and this was not recorded or if the familiarization did not take place. CTA should review employee records to determine who needs to receive this familiarization training and ensure that it is provided to those individuals. Additionally, CTA should consider developing a policy that indicates which interim training or familiarization programs are required and keeps a summary record</p>

	of individuals taking the course to ensure that all required employees have been trained and/or familiarized.
<i>T&I-3</i>	A number of rail, power, and customer assistant controllers did not receive recertification on time in 2009. This was corrected for all individuals in 2010. CTA reports that part of the reason why Operations Control Center (OCC) training did not take place on time in 2009 is because of the unavailability of training personnel to provide the required two-year recertification course for the different OCC staff described above. Another reason provided for this lapse was the current staffing levels. CTA personnel stated that they sometimes encounter difficulty putting OCC personnel into training sessions because the personnel are needed to work and there are no other personnel available to backfill their positions while in training. CTA should investigate if appropriate plans are in place to ensure that these training lapses do not occur in the future and that adequate resources are available to provide all required positions with CTA-required training.
<i>T&I-4</i>	The SSPP does not detail what training programs are offered to rail controllers or to rail maintenance personnel. The SSPP also does not explain who administers these training programs. The SSPP should include a description of the rail controller (and related positions) and the rail maintenance training, certification, and recertification programs
<i>T&I-5</i>	Records indicate that senior CTA staff have not all completed required National Incident Management (NIMS) training. CTA has begun providing different levels of NIMS training to its senior executives (Chiefs), General Managers, and other Managers. Records indicate numerous individuals in each of these categories have not completed training. It is not clear if there is an internal policy that requires training to be complete by a certain date or states which levels of training must be completed by each type of employee. CTA should develop a policy that indicates what training is required and what deadlines exist for its completion and should then work to complete all of the required training.
Drug and Alcohol Program	
<i>EFD-1</i>	Not all of the Clerks at each of the rail terminals have received the required training in ‘reasonable suspicion.’ The Clerks at each of the rail terminals are responsible for performing a “fitness for duty” check of RTOs as they report for their shifts. Not all of these Clerks have received the required training in ‘reasonable suspicion’ to be fully qualified to make such judgments. RTA recognizes that many of the Clerks have already received this training; however, all Clerks who perform this function must receive training in reasonable suspicion. As such, CTA should work to ensure that all Clerks who have not yet done so receive training in reasonable suspicion, and develop a formal plan, policy, or procedure that specifies that employees responsible for making fit for duty checks receive appropriate training in reasonable suspicion. CTA should provide a copy of such a plan, policy, or procedure to RTA.
<i>EFD-2</i>	The reviewers noted some minor Drug & Alcohol program recordkeeping issues. According to a sample of records reviewed from 2008, 2009, and 2010 at three rail terminals, the vast majority of records appeared to be correct. However, the reviewers noted a few stray notification forms that did not have an accompanying “Chain of Custody” form. These forms are required to be part of each test record, according to 49 CFR Part 655. CTA should work with its collection and testing vendors (MEE International and AOMS), as well as the Administrative Managers to better ensure that all chain of custody forms are kept with each record. CTA should provide evidence of such efforts to RTA.

<i>EFD-3</i>	The reviewers found a few instances of the notification and 'condition of employee' forms that were not fully completed with all the specified information (i.e., the type of test, reason for the test, etc.) Though the vast majority of records reviewed had these forms completed, we recommend CTA work with Transportation Managers to ensure that all forms are completely filled out for every testing record to ensure their validity. CTA should provide evidence of such efforts to RTA.
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Appendix B: Complete List of Documents Reviewed

Documents Reviewed
2009 (CTA) Engineering Track Audit Report
2009 Rail Station Injuries Report
2009 Unusual Tracker
2010 Rail Station Injuries Report
Accident Investigation Reports: 12/12/09, 1/14/10, 2/7/10, 2/16/10, 3/25/10
Action Items for Rail Reliability Task Force, May 14, 2010
Administrative Procedure #1901, Response to Safety Incident Investigations, 1/25/10
Agenda – Rail reliability Task Force, May 28, 2010
Agenda – Safety Captain Committee January 25, 2010
Audit Reports Carborne, December 2009 through April 2010
Bent Book
Berthing Analysis, November 19, 2009
Bi-weekly Safety, Security and Risk Compliance Meeting, April 27, 2010
Blue Book maintenance/test records for 2009 and/or 2010 for locations including Kimball, 13th Street, Jefferson Park, Tower 18, and others
Blue Book Review Sheets for Jefferson Park, March 22, 2010; 61st (both reviewing second half of 2009)
Brown Line Expansion Project Safety Construction Completion Certificate with Construction/Testing Verification (for 12 stations), 2008
Bulletin: Engineering Change Procedures
Capital Program Management Program Management Procedures, Configuration Management, P120, December 2009
Capital Program Management Program Management Procedures, Web-based Project Management System Records Management, P103, January 2010
CAPS Recommendations – RTA Reportable 1/6/09 - 1/14/10
CAPS Recommendations Report (for incidents) 1/14/10 - 4/6/10
Chicago Transit Authority Rail Safety Program Plan, April 2010 Revision 6
Chicago Transit Authority Rail System Rule Book Committee Charter (Draft)
Chicago Transit Authority Training and Instruction, Standard Operating Procedure Committee Description (Draft) T&I 03/08
Construction Safety Observation Form
Construction Safety Observation Tracking Spreadsheet
CTA – ATU Collective Bargaining Agreement
CTA 2010-2014 Proposed Capital Improvement Program
CTA Annual Safety Audit Annual Report 2007
CTA Annual Safety Audit Annual Report 2008
CTA Annual Safety Audit Annual Report 2009

Documents Reviewed
CTA Blue Line Dearborn Subway Map Rev. 08/08
CTA Design and Rehabilitation Criteria Manual Chapter 17 – Safety and Security, November 15, 1996.
CTA Design and Rehabilitation Criteria Manual Table of Contents, November 15, 1996
CTA Drug and Alcohol Policy
CTA Efficiency Testing Procedures
CTA FY 2011-2012 Capital Improvement Program Solicitation, April 7, 2010
CTA General Bulletin – Assessing an Employee’s Fitness for Duty
CTA General Bulletin – Employee Fatigue
CTA General Bulletins
CTA Internal Safety Review Procedure, March 2008
CTA Monthly Performance (Scorecard)
CTA Procedure for Accident and Incident Investigation, Revision #1 (November 2006)
CTA Purchasing procedures for Hazardous Material
CTA Rail Safety Violation and Retraining Request Form
CTA Rail Service Bulletins
CTA Rail System Rule Book (2009 Edition – January 1, 2009)
CTA Red Line State Street & Dan Ryan Subway Map Rev 08/08
CTA Safety Certification Program Plan for the Ravenswood (Brown) Line Expansion Project, May 2005
CTA Safety Certification Program Plan Manual for Major Capital Improvement Projects on the Rail System, March 2005
CTA Safety Incident Investigation Guidelines, Revised 4/28/09
CTA Safety Manual for Contract Construction On, Above or Adjacent to the CTA Rail System, March 2010
CTA Slow Zone Database and associated paper communications/documentation
CTA SSPP Manual
CTA Standard Operating Procedure for Applicants
CTA Standard Operating Procedures – Periodic Medical Evaluations for Operating Personnel
CTA Standard Operating Procedures – Required Urine Drug Screening
CTA Subway Emergency Fan Operating Procedure 02-03-08
CTA Switch Inspection & Test Report – completed inspections for all switches from spring/summer 2009 interval
CTA System Security Program Plan, April 2010 Revision
CTA Transit Operations General Information – Towerman Duties and Responsibilities
CTA Transit Operations General Information – Universal Rail Supervisor Duties and Responsibilities
CTA Transit Operations SOP – Employees Reporting for and Completing Tours of Duty
CTA Transit Operations Standard Operating Procedures
CTA Wellness Program materials
CTA’s SOP Manual

Documents Reviewed
Derailment Analysis, October 15, 2009
EAM information system data
Emergency Response and Spill Control Plan for Kimball Rail Shop, January 2008
Emergency Response Plan for 54th Rail Shop, April 2007
Employee Relations/Contract Administration, Policy, and Compliance Section Procedures
Environmental Audit – Kimball Rail Shop, 5/11/09, 10/14/09
Environmental Inspection (Form)
Facilities Maintenance Plan
Field Audit Forms, 17th Tower, April 2010
Flash Report, April 29, 2010 (Senior Staff presentation)
Flash Report: Rail Safety Violations – May 2010 (sample printout of database of major safety violations used by Rail Operations)
General Bulletin: Unusual Occurrence Guidelines 10/14/94
Hazard Management Log
Hazard notification and updates to RTA, AF800/AF500 track circuits: 10/16/09, 4/15/10
Hazard notification and updates to RTA, train berthing: 7/11/08, 10/31/08, 4/8/09, 4/14/10
ICF Kaiser Ventilation Study
ID-SOP-P0001: Preparation and Control of Bulletins and SOPs Issued by the Infrastructure Division
Infrastructure Division Bulletin No. ID-01-09: Personal Protective Equipment Requirements
Infrastructure Division Bulletin No. ID-02-10: Disciplinary Policy for Red Light Camera Violations
Instruction Memo 7/14/09 – accessing MSDS sheets from IPC or MMIS workstations.
Internal Rap Session Safety Agenda
Investigations Database – Instructions
Joint Switch Inspection Schedule (for calendar 2008)
Kaiser Summary Report
List of Safety Bulletins 1001- 6007
Lists of Customer Assistants, Switchmen, RTOs, Towermen who need to be observed by a Supervisor (sample)
Medical Services Standard Operating Procedures – Fitness for Duty Categories
Memorandum Re: Handling rail [car] defects; a procedure for standardizing decision making, documentation, and repair March 12, 2009
Monthly Fan and Louver Inspection Report, April 2009 through March 2010
MOWIS handheld device menus, usage, and implementation
MSDS Approval 4-27-10 (sample)
National Highway Institute Course 130055 Sign-In Sheet
National Highway Institute Course 130078 Sign-In Sheet
NTD Internet Reporting – Major Incident Summary 2008, 2009, 2010 as of 5/3/10

2010 Triennial Safety & Security Review of the Chicago Transit Authority

Documents Reviewed
Office for Domestic Preparedness, 2006 Threat Vulnerability Assessment (Output information)
Open CAP Status Spreadsheet Related to 2007 Triennial Review
OSHA Recordable CTA IOD's, YTD March 2010
Overall MOWIS database structure and operation
Personal Protection Equipment for CTA Employees According to Job Title, July 2009
Power & Way Maintenance Audit No. CW 13-08 August 18-22, 2008
Power & Way Maintenance Bulletin No. PWM 01-07: Business Casual Dress Policy
Power & Way Maintenance Bulletin No. PWM 01-08: Fire Extinguisher Monthly Inspections
Power & Way Maintenance Bulletin No. PWM 01-09: Slow Zone Requests, Implementation, and Removal
Power & Way Maintenance Bulletin No. PWM 02-09: Work by Area
Power & Way Maintenance Bulletin No. PWM 03-09: Tracks Out of Service for Railbourne Non-Revenue Equipment Storage
Power & Way Maintenance Bulletin No. SM01-09: Maximum Safe Speed Track Circuit Line Rides and Audits
Power & Way Maintenance Bulletin No. SM03-09: 10-35 Signal Maintainer Working Call Code
Power & Way Maintenance Bulletin No. SM03-09: Quality Assurance/Quality Control Audits
Power & Way Maintenance Bulletin No. SM04-09: Audio Track Circuit Equipment
Power & Way Maintenance Bulletin No. TM 01-09: Verizon Cell Phones and Field Force Manager
Power & Way Maintenance Bulletin No. TM 04-09: Additional Track Maintenance Standards
Power & Way Maintenance Bulletin No. TM 05-08: Scheduled Regular and Overtime Work
Power & Way Maintenance Bulletin No. TM 05-09: Awarding Overtime
Power & Way Maintenance Bulletin No. TM 06-08: Sections, Inspection Territories, and Schedules
Power & Way Maintenance Bulletin No. TM 06-09: Construction Site Project Controls
Power & Way Maintenance Bulletin No. TM 07-08: Track Maintenance at Interlocking Locations
Power & Way Maintenance Bulletin No. TM 07-09: Removal of Bulletins TM 08-07 & TM 03-08
Power & Way Maintenance Bulletin No. TM 08-08: Track Lubrication, Inspection, and Repair Guidelines
Power & Way Maintenance Bulletin No. TM 08-09: Track Engineer-IV Vacation and Illness Coverage
Power & Way Maintenance Bulletin No. TM 09-09: Roadmaster Territory Inspections
Preventive maintenance checklists (sample review)
Preventive maintenance histories for about 10% of the fleets assigned to Howard and Midway Shops
Preventive maintenance manuals (sample review)
Rail Car Assignment April 4, 2010
Rail Operator Check forms (in employee personnel records)
Rail Reliability Task Force Agenda, April 30, 2010
Rail Safety Training Program 5/09
Rail Safety Violation Analysis, March 5, 2010
Rail Service Bulletin Process (Draft)

Documents Reviewed
Rail System Rule Book – January 1, 2009
Regular Structure Inspection Program – Updated June 18, 1993
Relay testing schedule/spreadsheet for 2009, 2010
Report of Open Defects on 05/06/2010 (MOWIS database output) for
Report of Open Defects on 05/06/2010 (MOWIS database output) for Blue Line Track 1 Rosemont – Cumberland
Report of Open Defects on 05/06/2010 (MOWIS database output) for Orange Line Grand Junction
Report of Open Defects on 05/06/2010 (MOWIS database output) for Red line North Main, Track 1 and 2, Belmont to Howard
Report of Patrol Inspections (MOWIS database output) for
Report of Patrol Inspections (MOWIS database output) for Pink Line Douglas Branch, both tracks, calendar 2010 to date
Report of Patrol Inspections (MOWIS database output) for Ravenswood Connector, both tracks, calendar 2010 to date
Report of Patrol Inspections (MOWIS database output) for Red Line State Street Subway, both tracks, calendar 2010 to date
RIMS Inspection Forms – Bents EV1101, EV1606, EV1607, DG54096, SK312, SM695, SW222, EV6212, EV6401, CN1, CN11, HW2, HW4, RV601, GJ1001, GJ1027, GJ1028, DR2002
RIMS Inspection Forms – ID Numbers 4161220, 4160234, 4164591, 4162580, 4164581, 4164144, 4160266, 4160269, 4163021, 4163035, 4161964, 4161963, 4160455, 4162889, 4162887, 4144790, 4162022
Safety Design Review Log (as of February 2010)
Safety Inspection – Linden, 1/25/10
Safety Inspection – Rosemont Rail Shop, 4/28/10
Safety Performance Measures Matrix: 2010
Safety Reporting Line – Log
Sample 2010 Spreadsheet for AOMS and Consulting Services
Sample Daily Station Checks and G-47-09 Cleaning of Rail Stations Efficiency Tests
Sample of Employee Personnel Records, Employee Hours Lost/Corrective Action forms
Sample of Special Occurrence Reports
Sample Rail Efficiency Test results
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0001: Maintainer Daily Duties
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0003: Blue Book
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0004: Event Recorders
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0005: Wayside Signals
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0006: Incident Investigation Checklist
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0009: Verizon GPS PTT Phones
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0010: Slow Zone Policy
Signal Maintenance Standard Maintenance Procedure SIGMSOP-P0014: Interlocking Operation Controls
Signal Maintenance Standard Maintenance Procedure SIGMSOP – P002: Signal Wayside Maintenance

Documents Reviewed
Signal Maintenance Standard Relay Testing Procedure SIGMSOP – P0008: Relay Testing
Standard Operating Procedures 7037-43, 7045-47, 7049-50, 7075, 7083, 8065, 8099, 8111, 8130-31, 8149, 8200, 8209, 8226
Subway Inspection – O’Hare Subway Tollway Tunnel, 11/12/09
Subway Inspections
System Safety Employee Safety Concern Response Guidelines
Test Cards for Equipment Maintenance
Time Check forms (completed by Supervisors)
Track Inspection Audit: April 20, 2010 (D. Ellsworth)
Track Maintenance Audit, March 25, 2010
Track Maintenance Bulletin No. TM 01-07: Employee Responsibilities for Sickbook Entries
Track Maintenance Bulletin No. TM 01-08: Annual Trackman Reviews
Track Maintenance Bulletin No. TM 02-07: Employee Violation Slip
Track Maintenance Bulletin No. TM 02-08: Quarterly Review of Inspection & Maintenance Territory Scope and Length
Track Maintenance Bulletin No. TM 03-07: Unauthorized Overtime
Track Maintenance Bulletin No. TM 04-07: Transit Operations SOP 8130
Track Maintenance Bulletin No. TM 05-07: Right-of-Way Safety Defects
Track Maintenance Bulletin No. TM 06-07: Response to Incidents
Track Maintenance Bulletin No. TM 07-07: Work Day Requirements
Track Maintenance Bulletin No. TM 09-07: Excessive Absenteeism – Tardy Procedures
Track Maintenance Bulletin No. TM 10-07: Over-the-Counter and Prescription Drugs
Track Maintenance Bulletin No. TM 13-07: Issuance of Handhelds for Inspections
Track Maintenance Bulletin No. TM 14-07: Implementation and Removal of Slow Zones
Ventilating the New Chicago Subway, Walter E. Rasmus, Subway Mechanical Engineer, Department of Subways and Superhighways, City of Chicago, reprinted from August 1943, Heating, Piping & Air Conditioning
Weekly Attendant checklists
William R. Mooney Jr., July 13, 2007 Memo to Track Personnel re. “Right-of-Way Safety Defects”
William R. Mooney Jr., July 13, 2007 Memo to Track Personnel re. “Transit Operations SOP 8130”
William R. Mooney Jr., July 13, 2007 Memo to Track Personnel re. “Transmission of Memos”
William R. Mooney Jr., June 14, 2007 Memo to Track Personnel re. “Work Day Requirements”

Appendix C: Complete List of Individuals Interviewed

Name	Position	Name	Position	Name	Position
Gadomski, Jeff	Program Specialist II	McAleese, Scott	Manager - Facilities Engineering and Technical Support	Shapira, Stephanie	Safety Inspector – System Safety
Galmore, Paris	Inspections & Investigations (Safety)	Miller, Don	Manager II - Howard/Linden Shop	Suthers, Frank	Manager - Maintenance Rail Engineering & Technical Services
Goff, Michael	ProjectNet Manager Chicago Transit Partners	Miller, Edward	Senior Industrial Hygienist (Safety)	Taylor, Marlene	General Manager Brown/Green/Orange Lines
Graeber, John	Commander - Public Transportation Section Chicago Police Department	Mooney Jr, William	General Manager – CTA Track and Way Maintenance	Traxler, Diane	General Manager - Contract Interpretation & Compliance
Hall, Daniel C.	Chief of Security CTA	Morgen, Carey	General Manager - Labor Relations	Turbov, Mike	Machinist Foreman – North Side
Harper, James	Deputy Chief Engineer	Muharram, Sam	Senior Engineer - Structure Maintenance	Urban, Geoffrey	General Manager of Purchasing
Hegarty, Christopher N.	Manager - Rail Engineering Technical Services	Nelson, Bruce	General Manager - Operations Oversight	Vogt, Kevin	Coordinator – System Safety
Hughes, Patrick	Manager of Warehousing & Purchasing	Newton, Richard	General Manager Blue/Pink Lines	Wagener, Carrie	Manager II, Power & Way
James, Stephen	Vehicle Operations Manager – Blue/Pink Lines	Nouti, Ghassan	Manager, Signals	Wall, Larry	General Manager - Benefit Services
Ketterson, Mark	LCSW CTA Substance Abuse Professional	Oklukolade, Ife	System Safety	Ward, James	Rail Supervisor
Kielba, Robert	Assistant Chief Rail Equipment Engineer - Rail Engineering & Technical Services	Ousley, Peter	Chief of Staff	Webber, Chuck	Environmental Affairs
Kiraly, Stephen	Data Management Analyst (Safety)	Padilla, Hugo	Car Repairer A	Wilson, Ed	Manager II - Midway Shop
Kovalan, Amy	Chief of Safety & Security	Paller, Harry	Manager of Specifications & Inspections	Wittenberg, John	Lieutenant - Public Transportation Section Chicago Police Department
Kowalski, David	Director - Rail Maintenance	Perez, Humberto Jr.	Coordinator of Quality Inspection – Materials	Wittmann, Robert	General Manager CTA Construction
Lamont, Philip	General Manager - Rail Car Heavy Maintenance	Perez, Mike	Testing Engineer V	Woods, Dwayne	Manager I - Annual Inspection Howard Shop

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Layman, James	General Manager - Rail Terminal Maintenance	Plante, John	Senior Manager of Emergency Preparedness (Safety)	Woodward, Phynillia	Manager of Facilities Security CTA
Lennon, John	Sr. Signals Engineer	Rio, Jessica	Manager of Data Analysis & Audit (Safety)	Wright, David	Manager of Inspections & Investigations (Safety)
Lloyd, Clifton	Rail Controller	Rosado, Denise	Manager - Drug/Alcohol Program Compliance	Zinck, Colleen	Sr. Track Engineer
Lockney, Kevin	Chief of Facilities Initiatives	Rusin, Stan	St. Signals Engineer		
Long, Robert	Substation Foreman	Sanchez, David	Car Repairer A		
Lopez, Gabriel	Car Repairer A	Santillam, Fillipe	"B" Electrician		
Loughnane, Kevin	Manager Special Projects – CTA Facilities Maintenance Construction and Engineering	Schiffer, Dan	Manager - Structure Maintenance		
Lowder, Mike	Sr. Signals Engineer Way	Schroeder, Clark	Lieutenant - Public Transportation Section Chicago Police Department		
Martin, Jeanette	Chief Operating Officer	Schwanke, Sara	General Manager of Safety & Risk Compliance		

Appendix D: Complete List of Locations Visited

Visited Facilities
10 East Lake Substation
18th Street Substation. Substation
95th/Dan Ryan Terminal
Blue Line, Rosemont to Cumberland
Brown Line, Belmont Station (construction safety compliance)
Brown Line, Fullerton Station (work zone rule compliance)
Brown Line, Kimball Shop (employee safety, hazardous materials)
Brown Line, Sedgwick elevated structure (600 volt cable replacement)
Calvary Substation
Clinton – Green Line (elevated station)
CTA Control Center
CTA Headquarters, 567 West Lake Street, Chicago
CTA Offices, 567 W. Lake Street, Conference Rooms 4B and 5B, Safety Department
Dearborn Street subway fans, louvers, and blast shafts
Forest Park Rail Operations Office
Green Line between Clinton and Ashland (structural column relocation safety compliance)
Green Line between Clinton and Clark/Lake (work zone rule compliance)
Green Line, 59th Street Junction (derailment investigation)
Green Line, Tower 18 (work zone rule compliance)
Harding Substation
Howard Shop
Howard Terminal
Kimball Terminal
Lake Randolph – Red Line (underground station)
Lake Street on the Green Line – repairs to Bent 2448
Lakeview near Wellington Station – Bents 5094, 5093
Line Operations – all lines
Midway Shop
Midway Terminal
O'Hare Terminal
On-board and station observations of CTA Rapid Transit Lines, various locations
Orange Line, Tower 12 (work zone rule compliance)
Orange Line/Green Line, Roosevelt through Tower 17 to Ashland
Pulaski Substation
Ravenswood Line – north of north junction
Red Line at North/Clybourn Station (track walker rule compliance)

Visited Facilities
Red Line Grand Station (rehabilitation construction safety compliance)
Red Line/Mainline North, Belmont to Howard
Red Line North/Clybourn Station (rehabilitation construction safety compliance)
Red Line, State Street Subway, select segments
Red Line, Cermak/Chinatown Station (modifications)
Skokie Shop
Skokie Substation
Sox-35th – Red Line (at grade station)
Springfield Substation
State Street and Dearborn Subways (visited during field review of emergency exits, emergency phones, louvers, blast shafts, vents, and fans)
State Street subway fans, louvers, and blast shafts
West Shops

Appendix E: List of Acronyms

CAP – Corrective Action Plan
CTA – Chicago Transit Authority
FTA – Federal Transit Administration
ISR – Internal Safety Review
NTD – National Transit Database
OSHA – Occupational Health and Safety Administration
RTA – Regional Transportation Authority
RSSPP – Rail Safety System Plan (same as SSPP)
RTO – Rail Transit Operator
SEPP – Security and Emergency Preparedness Plan
SOP – Standard Operating Procedure
SPSS – Safety Program Standard and Procedures
SSO – State Safety Oversight
SSPP – System Safety Program Plan (same as RSSPP)

Appendix F: On-Site Review Schedule

DATE	TIME	AUDITED AREA	LOCATION	ATTENDEES
May 3	8:00 - 12:00	Kickoff meeting	567/ 5B	Cook, Bushell, Kowalski, Kovalan, Vasilj, Ousley, Martin, Mondero
	1:00 - 5:00	Safety - RSSPP (tour of identified Safety interest)	567/ 5B	Bravi, Burns, Plante, Rio, Schwanke, Wright
		Security - SSP	567/ 11B	Hall, Higgins, Woodward
		Rail Operations	567/ 7C	Cook, Esther, Newton, Taylor, Nelson, Clark, Elam
	1:30 - 5:00	Track	West Shops	Mooney
May 4				
May 4	8:00 - 12:00	Safety - RSSPP review	567/ 5B	Bravi, Burns, Plante, Rio, Schwanke, Wright
	8:00 - 5:00	Security - SSP	567/ 11B	Hall, Higgins, Woodward
		Rail Operations	567/ 7C	Cook, Esther, Newton, Taylor, Nelson, Clark, Elam
		Station Maintenance	567/ 7B	Drozd, Loughnane
		Track	West Shops	Mooney
	9:30 - 5:00	Power	West Shops	Mooney
	1:00 - 5:00	Safety data and acquisition/ Accident investigation	567/ 5B	Rio, Schwanke, Wright, Kiraly
May 5				
May 5	8:00 - 12:00	Safety - Internal Safety Review	567/ 5B	Schwanke
		Emergency preparedness	567/ 11B	Hall, Plante, Stucko
		Hazardous materials program	567/ 4B	Webber, McAleese, Burns, Miller, Cabral
	8:00 - 5:00	Rail Operations - field visits	567/ 7C	Operations Supervisors
		Structure	West Shops	Mooney
		Track - field visits (in conjunction with Power)	West Shops	Mooney
		Vehicles	Skokie Shops	Kowalski, Layman, Lamont, Cavelle, Hegarty
		Power - field visits (in conjunction with Track)	West Shops	Mooney
	1:00 - 5:00	Safety - CAPs, external audits	567/ 5B	Rio, Schwanke, Wright
		Control Center	Control	Plante, Brookins
May 6				
May 6	8:00 - 12:00	Safety - System Modification, Configuration Management	567/ 5B	Plante, Cabral, Schwanke, Harper
		Employee Relations/Rail Operations - employee hours of service, medical qualifications, fit for duty	567/ 10B	Wall, Cobb, Cook
	8:00 - 5:00	Safety - Hazard management	567/ 4B	Rio, Wright
		Structure - field visits	West Shops	Mooney
		Track - field visits (in conjunction with Power)	West Shops	Mooney
		Vehicles - field visits (Midway, Howard)	Skokie Shops	Kowalski, Layman, Lamont, Cavelle, Hegarty
		Power - field visits (in conjunction with Track)	West Shops	Mooney

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DATE	TIME	AUDITED AREA	LOCATION	ATTENDEES
	1:00 - 5:00	Safety - Certification and PMOC requirements, capital program	567/ 5B	Plante, Cabral, Schwanke, Harper
		Security - CPD		Hall, Plante, CPD
May 7	8:00 - 12:00	Safety - construction safety and security compliance	567/ 5B	Schwanke, Vogt, Krahn, Morey
		Facilities/Shops - Occupational Safety	567/ 4B	Loughnane, Kowalski, Burns, Wright, Rio, Bravi
	8:00 - 5:00	Employee Relations - drug and alcohol program field visits	567/ 10B	Gierut, Rosado, Andeway
		Vehicles - field visits (Midway, Howard)	Skokie Shops	Kowalski, Layman, Lamont, Cavelle, Hegarty
	1:00 - 5:00	Safety - construction safety and security compliance	567/ 5B	Schwanke, Vogt, Krahn, Wittman
		Procurement	567/ 4B	Urban, Rio
May 10	8:00 - 5:00	Rail Operations Training	567/ 5B	Bester, Hughes, Taylor, Burns
		Subway Facilities	567/ 9B	Vasilj, McAleese, Drozd, Dawson, Safety, Security
May 11	8:00 - 5:00	Rail Maintenance Training	567/ 5B	Kowalski, Hegarty, Burns
		Signal	West Shops	Mooney
		Subway Facilities - field visit (Red: State St.; Blue: Dearborn)	567/ 9B	Vasilj, McAleese, Drozd, Safety, Security
May 12	8:00 - 5:00	Power & Way, Facilities Maintenance, Training & Safety Observations	567/ 5B	Burns, Loughnane, P&W
		Signal - field visit	567/ 9B	Mooney
		Subway Facilities - field visit (Red: State St.; Blue: Dearborn)	567/ 9B	Vasilj, McAleese, Drozd, Safety, Security
May 13	8:00 - 5:00	Security Training	567/ 5B	
		Signal - field visit	West Shops	Mooney
		Subway Facilities - field visit (Red: State St.; Blue: Dearborn)	567/ 9B	Vasilj, McAleese, Drozd, Safety, Security
May 14	8:00 - 5:00	Subway Facilities - field visit (Red: State St.; Blue: Dearborn)	567/ 9B	Vasilj, McAleese, Drozd, Safety, Security
	1:30 - 3:00	Exit Conference	567/ 2C	Cook, Bushell, Kowalski, Kovalan, Vasilj, Ousley, Martin, Mondero

Appendix G: Completed Checklists

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SSPP Element # 1: Policy Statement and Authority for SSPP: A policy statement signed by the agency's chief executive that endorses the safety program and describes the authority that establishes the SSPP.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
1.1 Document Review	Review SSPP Policy Statement, ensuring: <ul style="list-style-type: none"> ✓ That it endorses the CTA safety program; that it has the signature of the CTA General Manager (GM), Executive Director (ED), or Chief Executive Officer (CEO); that it describes the authority that establishes the SSPP; and that it is dated. 	Ch 1, p 1 √	Authorizes Chief of Safety & Security Endorses program for managers & employees Signed 3/30/10 by CTA President, Chief Operating Officer and Chief of Safety & Security
1.2 Interviews with CTA Senior Management	Conduct a meeting with CTA GM/ED/CEO, Chief Safety Officer, and Senior Management in Operations, Maintenance, Engineering, Human Resources, Procurement, and Legal to discuss: <ul style="list-style-type: none"> ✓ Formal meetings that are held and attended by CTA Executive Leadership to discuss safety performance (such as ongoing evaluation of goals and targets). ✓ CTA GM/ED/CEO and CTA Senior Management awareness of high priority safety issues and the status of corrective actions. ✓ The process for the periodic review of the resources devoted to safety by the CTA GM/ED/CEO and CTA Senior Management. ✓ Use of risk assessment and hazard management as part of the overall safety program. ✓ How the authority conferred in CTA's policy statement to the Safety Department is reinforced with CTA personnel during meetings, bulletins or other methods. ✓ How the CTA's safety policy is consistent with the commitment to safety expressed by the CTA GM/ED/CEO and CTA Senior Management. ✓ Whether safety is included as a regular topic at CTA Board Meetings, and whether the CTA Chief Safety Officer gives reports. ✓ The CTA Safety Department's reporting relationship to the CTA GM/ED/CEO, the CTA's Safety Committee Structure, and the participation of the CTA's Senior Management in this structure. ✓ Where in the organization safety decisions are made and the involvement of CTA Senior Management in making them. 	√ √ √ √ √ √ √ √ √	[Meeting and discussions based on personnel availability.] Sr. Executive meetings are held bi-weekly with all Chiefs including Safety. Performance Measures are reviewed & discussed President's Office/Chief of Staff meets separately with Safety Office every week RM/HM involves all departments Chief of Staff of the President's Office indicated that compliance with the SSPP is expected of all dept's and personnel Safety policy, objectives and performance are reinforced at Sr. staff meetings Safety GM meets regularly with Chief of Staff Safety is represented on all management committees by the Chief of safety/Security or the Safety GM Safety and senior management are collaboratively involved in safety decisions

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SSPP Element # 1: Policy Statement and Authority for SSPP: A policy statement signed by the agency's chief executive that endorses the safety program and describes the authority that establishes the SSPP.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
	<ul style="list-style-type: none"> ✓ The inclusion of safety activities and requirements in employee job descriptions and training programs at the CTA. ✓ The inclusion of safety responsibilities in job evaluations for managers, supervisors, and employees. ✓ The implementation of CTA's internal safety audit process, to include a clearly defined scope, checklists, procedures, an effective findings resolution process, and annual certification of SSPP ✓ Efficiency and proficiency testing programs for operations and maintenance employees, and how these programs ensure compliance with safety-critical rules. ✓ The CTA's accident investigation program and its focus on cause finding and correction. 		
1.3 Interviews with CTA Safety Personnel	<p>Interview the Chief Safety Officer and representatives from the Safety Department to see if they feel empowered, authorized, and supported by Executive Management in carrying out the SSPP, as specified in the Policy Statement.</p> <ul style="list-style-type: none"> ✓ Ask for three (3) examples of where management support has made the difference in getting a specific safety concern addressed. 	√	<p>Management support provided for speed reductions on Orange Line due to signaling issues.</p> <p>Management support for salary adjustments to the Safety Specialist position to improve retention of trained and experienced safety personnel</p>
1.4 Interviews with Other CTA Personnel	<p>Conduct interviews with a representative sample of rank and file CTA operations and maintenance personnel to verify their familiarity with the SSPP, the CTA's safety programs and authorities, and their obligation to perform work safely and to report safety issues and potential hazards.</p>		

Checklist completed by: D. Barber

Dates of Review: 5/310

Persons Interviewed: Peter Ousley, Chief of Staff, Amy Kovalan, Chief of Safety & Security, Chris Bushell, Chief of Infrastructure, Jeanette Martin, Chief Operating Officer, and CTA Chief of Administration

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SSPP Element # 2: Goals and Objectives: A clear definition of the goals and objectives for the CTA safety program and stated management responsibilities to ensure that they are achieved.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
2.1 Document Review	Review the SSPP to: <ul style="list-style-type: none"> ✓ Ensure that it clearly defines the goals for the CTA safety program. ✓ Ensure that it clearly identifies the objectives necessary for achieving the stated goals. ✓ Ensure that it identifies management responsibilities necessary to achieve all goals and objectives. ✓ Ensure that it includes a process for determining whether the CTA met its safety goals and objectives. 	Ch 2, p 2 √ √ √ √	Goals and objectives are broadly defined as improving processes to increase levels of safety Senior management (Chief Officer / GM) are responsible Performance Management System reporting and monitoring
2.2 Rules Review	CTA goals should be reflected in the rule book. Usually there is a cover page with high level safety goals.	√	Rule Book Forward Section indicates the importance of safety
2.3 Records Review	<ul style="list-style-type: none"> ✓ Review documentation used to measure and track CTA activity to meet the goals and objectives specified in the SSPP: ✓ Review documentation used to report to the CTA GM/ED/CEO or other CTA Senior Managers regarding the safety performance of the agency (i.e., monthly or annual safety reports, quarterly viewgraph presentations, etc.). ✓ Make a determination regarding the adequacy of the safety information provided to the CTA's Executive Leadership. <ul style="list-style-type: none"> ○ Is the CTA's Executive Leadership receiving sufficient information to ensure that the CTA is meeting its safety goals and objectives? ○ Are rules violations and other key safety measurements being tracked and reported to CTA's Executive Leadership? 	√ √ √ √ √	Performance management reports track injuries, accidents, safety violations, safety training, investigations Reports are generated, distributed and reviewed monthly Information is provided at Senior Staff/Executive Committee meetings on incidents, employee injuries and station injuries as well as other on-going hazard assessments such as train berthing, safety violations and derailments
2.4 Interviews with CTA Safety Personnel	Meet with CTA Chief of Safety and Safety Department representatives to: <ul style="list-style-type: none"> ✓ Review the goals and objectives and determine if those goals have been achieved. ✓ Obtain examples of how goals are evaluated (metrics/measures). ✓ Determine whether the stated goals and objectives should be revised. ✓ Determine whether management responsibilities are adequately identified for the goals and objectives. 	√ √ √ √ √	Goals are addressed through a process of regular tracking, monitoring and continuing improvement. Charts and tables are used to illustrate performance metrics/measures. Responsibilities are assigned to senior staff – Chief Officers/General Managers.

Checklist completed by: D. Barber

Dates of Review: 5/4/10

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Persons Interviewed: (see below)

Safety, Security & Risk Compliance:

Sara Schwanke, GM

David Wright (Inspections & Investigations)

John Plante (Emergency Preparedness)

Jessica Rio (Data, Analysis & Audit)

Bob Burns (Training & Safety Observation)

Christine Bravi (Risk Compliance)

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SSPP Element # 3: Overview of Management Structure: An overview of the management structure of CTA, including: (i) an organization chart; (ii) a description of how the safety function is integrated into the rest of CTA organization; and (iii) clear identification of the lines of authority used by CTA to manage safety issues.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
3.1 Document Review	<p>Review the SSPP and referenced/supporting procedures to:</p> <ul style="list-style-type: none"> ✓ Ensure that an organization chart is included that depicts the CTA structure and the Safety Department's position within that structure. ✓ Ensure that an organization chart is provided specifically for the Safety Department. ✓ Ensure that a clear description is provided regarding how the Safety Department interfaces with the other CTA departments, including the CTA's Safety Committee Structure, Executive Management Teams, Employee Safety Committees, Rules Committees, Hazard Committees, and other organizations and methods. <ul style="list-style-type: none"> ○ Make sure the SSPP and referenced/supporting procedures clearly describe the composition and structure of any CTA committees devoted to safety issues, their roles and responsibilities, and a schedule for when meetings will be conducted. ✓ Ensure that clear lines of authority are established within the SSPP for the CTA Safety Department to work with other CTA departments and CTA Executive Leadership to receive information, identify safety concerns, conduct internal audits and inspections, develop recommendations and corrective action plans to address safety concerns, track and verify the implementation of recommendations and corrective action plans, and report, on a regular basis, to the CTA's Executive Leadership. 	<p>Ch 3, pp 3-17, Appendix B</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p> <p>√</p>	<p>CTA Org chart for all departments included as Appendix B.</p> <p>Org charts for each department, including safety, are included.</p> <p>Lines of Authority for Safety are described in RSSPP Chapter 5, pp 21-22.</p> <p>Committees which involve safety and include the Safety Department are described in RSSPP Chapter 5, pp 26-27.</p> <p>Committee compositions are described in the RSSPP. In practice, there is a regular meeting schedule/frequency for meetings but this information is not included in the RSSPP description.</p> <p>Safety functions/responsibilities are identified in RSSPP Chapter 5 for Safety and other departments. The RSSPP descriptions indicate interaction between safety and other departments at the Senior Staff level (Chief Officer/GM). The org. chart and RSSPP description of safety functions (Ch. 5 pp 19-20) identifies 6 functional areas of safety with some discrepancies between them.</p>
3.2 Rules Review	<p>Review any existing rules or operating procedures related to Safety Committees, Rules Committees, Hazard Management Committees, Inter-Departmental Task Forces, etc. to ensure that they have been updated to reflect current practices and distributed to appropriate personnel.</p>		<p>No SOP's or procedures were noted related to committee functions.</p>

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SSPP Element # 3: Overview of Management Structure: An overview of the management structure of CTA, including: (i) an organization chart; (ii) a description of how the safety function is integrated into the rest of CTA organization; and (iii) clear identification of the lines of authority used by CTA to manage safety issues.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
3.3 Records Review	<p>Perform other records review activities to:</p> <ul style="list-style-type: none"> ✓ Review agendas and minutes from committee meetings led by the Safety Department to verify that they took place and that they followed the requirements specified in rules or procedures or the SSPP. ✓ Review agendas and minutes from committee meetings led by the other CTA departments to verify that they took place and that the Safety Department participated. ✓ Review memos, reports, and interdepartmental task force records to assess the Safety Department's activities to support interdepartmental coordination regarding safety issues and concerns. <p>Randomly select 3 major issues confronting the CTA over the last year, and assess the level of Safety Department involvement in each of them.</p> <ul style="list-style-type: none"> ✓ Is there evidence (i.e., meeting minutes, hazard analysis documents) that the Safety Department was consulted and involved? <p>Review the Safety Department's resources and personnel to make an assessment regarding the resources devoted to safety and if they are adequate.</p> <ul style="list-style-type: none"> ✓ What are the qualifications of Safety Department staff? ✓ Is the Safety Department able to maintain schedules for plan updates and key activities, such as internal audits and accident investigations? ✓ Does the Safety Department have personnel resources allocated to support interdepartmental coordination on safety issues and concerns? 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>Rail Reliability Task Force, Bi-weekly Safety Meeting, Senior Staff meeting – agenda & content</p> <p>Facility safety inspection, track inspection audit, subway tunnel inspection, incident investigation/corrective action, hazard analysis (train berthing, derailments, safety violations), MSDS review/approval, NTD reporting, employee injury reports, hazard management log.</p> <p>Personnel have experience at CTA or related industries Responsibilities are being fulfilled as described in RSSPP requirements Resources appear to be adequate to address current needs – can be adjusted for capital project oversight through capital funding</p>

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SSPP Element # 3: Overview of Management Structure: An overview of the management structure of CTA, including: (i) an organization chart; (ii) a description of how the safety function is integrated into the rest of CTA organization; and (iii) clear identification of the lines of authority used by CTA to manage safety issues.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
3.4 Interviews with CTA Safety Personnel	Meet with CTA Chief of Safety and Safety Department representatives to: <ul style="list-style-type: none"> ✓ Discuss the organization used by the CTA to integrate the safety function into CTA operations and maintenance activities. ✓ Solicit opinions from CTA safety personnel regarding the effectiveness of the organization, requesting a few examples of how this organization has worked to resolve identified safety issues. ✓ Discuss the current staffing and funding of the CTA's Safety Department. <ul style="list-style-type: none"> ○ How has it changed over the last three (3) years? ○ Is it adequate? ○ Are there specific needs that the CTA Safety Department cannot meet due to limitations in personnel or resources? 	✓ ✓ ✓	Six functional areas identified to work with specific departments and programs. Safety is represented on key management, safety, operations and maintenance committees Operating speed reduction on Orange Line to address potential signal system concerns. Staffing is adjusted for capital construction oversight using capital project funds – currently reduced workload. Needs appear to be met.
3.5 Interviews with Other CTA Personnel	Interview CTA employees who participate in Employee Safety Committees or Operator Safety Committees: <ul style="list-style-type: none"> ✓ Have them describe how often these meetings take place, what occurs at these meetings, any recent outcomes, and their level of interface with the Safety Department. 		

Checklist completed by: D. Barber

Dates of Review: 5/4/10

Persons Interviewed:

Safety, Security & Risk Compliance:

Sara Schwanke, GM

David Wright (Inspections & Investigations)

John Plante (Emergency Preparedness)

Jessica Rio (Data, Analysis & Audit)

Bob Burns (Training & Safety Observation)

Christine Bravi (Risk Compliance)

Regional Transportation Authority

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SSPP Element # 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 oversight agency, including timeframes for submission, revision and approval.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
4.1 Document Review	Review the SSPP to: <ul style="list-style-type: none"> ✓ Ensure that it describes the process for an annual SSPP assessment and update. ✓ Ensure that it describes the process for coordinating with the oversight agency, including timeframes for submission, revision and approval. ✓ Ensure that it contains a distribution and change control process. 	Ch 4, p 18 ✓ ✓	Specifies annual review by Safety Department Requires RTA review & approval of revisions No process described or referenced.
4.2 Records Review	Review records to: <ul style="list-style-type: none"> ✓ Verify that all SSPP revisions have been submitted to the oversight agency according to the approved process and timeframes by reviewing past correspondence and records. ✓ Verify that the annual review process is being implemented according to the approved process specified in the SSPP: <ul style="list-style-type: none"> ○ Review responsibility ○ Internal timeframes ○ Comprehensiveness ○ Sign-offs 	✓ ✓	Verified for current RSSPP, April 2010
4.3 Interviews with CTA Safety Personnel	Discuss the SSPP review and update process with representatives from the CTA's Safety Department to ensure that they understand the requirements and are implementing them.	✓	Discussed with CTA and RTA representatives
4.4 Field Observations	During visits to facilities during the course of the review, ask to see department head's SSPP and verify that it is current.	✓	

Checklist completed by: D. Barber

Dates of Review: 5/4/10

Persons Interviewed: Safety, Security & Risk Compliance:

Sara Schwanke, GM

David Wright (Inspections & Investigations), John Plante (Emergency Preparedness), Jessica Rio (Data, Analysis & Audit)

Bob Burns (Training & Safety Observation), Christine Bravi (Risk Compliance)

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SSPP Element # 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 CTA safety function, by position and management accountability, specified in matrices and/or narrative format; and (ii) safety-related tasks to be performed by other CTA departments, by position and management accountability, specified in matrices and/or narrative format.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
5.1 Document Review	Review the SSPP to: <ul style="list-style-type: none"> ✓ Ensure that the SSPP accurately lists the safety-related activities necessary for the CTA Safety Department to effectively implement the safety program in a matrix or narrative format. ✓ Ensure that each activity is assigned to a specific position with management accountability. ✓ Ensure that the SSPP accurately lists the safety-related activities to be performed by other CTA departments to effectively implement the safety program in a matrix or narrative format. 	Ch 5, pp 19-27 ✓ ✓ ✓	Listed in Figure 5-1, pp 19-20. Training & Observation and Risk Compliance not listed. Functions listed are on the Safety Org. Chart as management positions Safety-related activities are listed on pp 22-26 Rail Maintenance Training and Rail Operations Training functions are not listed. No responsibility matrix.
5.2 Records Review	Pick, at random, activities performed by the safety function and activities performed by other CTA departments, and collect and review documents to: <ul style="list-style-type: none"> ✓ Verify that the safety-related activities are being performed. ✓ Verify that identified positions are carrying out the safety-related tasks assigned in the SSPP. ✓ Verify management accountability for the performance of the safety-related activities. ✓ If serious or potentially serious deficiencies are found, expand the review to include additional and/or related activities. 	✓ ✓ ✓ ✓	Reviewed sample records for the following functions: Industrial Hygiene – MSDS, PPE Inspections & Investigations – checklists, reports Data Analysis & Audit – performance measures, databases Training & Observation – OSHA compliance audits Facilities Management Environmental Affairs – plans, procedures, inspections
5.3 Interviews with CTA Safety Personnel	<ul style="list-style-type: none"> ✓ Verify through interviews of CTA safety personnel that identified positions are carrying out the safety-related tasks assigned to them in the SSPP. ✓ Ask Safety Department representatives to identify any challenges that they experience in carrying out the safety-related tasks as specified in the SSPP. 		All safety managers are performing the functions for which they are responsible as outlined in the SSPP. Interviews were conducted with managers of all safety areas.

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SSPP Element # 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 CTA safety function, by position and management accountability, specified in matrices and/or narrative format; and (ii) safety-related tasks to be performed by other CTA departments, by position and management accountability, specified in matrices and/or narrative format.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
5.4 Interviews with Other CTA Personnel	<ul style="list-style-type: none"> ✓ Verify through interviews of other CTA personnel that identified positions are carrying out the safety-related tasks assigned to them in the SSPP. ✓ In interviews, ask the CTA representatives to identify any challenges that they experience in carrying out the safety-related tasks as specified in the SSPP. 	✓	Verified activities and responsibilities for managers of Environmental Affairs, Purchasing and Warehousing, and Rail car maintenance
5.5 Field Observations	<p>Pick at random 3 activities performed by other CTA departments and observe their performance in the field.</p> <ul style="list-style-type: none"> ✓ Make a determination regarding whether the observed practices comply with the CTA SSPP and referenced or supporting rules and procedures. <p>Attend a CTA quarterly meeting/board meeting and observe System Safety related topics and how they are implemented, addressed and discussed. (if available)</p>		<p>Rail Car Maintenance – Kimball Shop compliance with hazardous material procedures</p> <p>Operations and Maintenance – compliance with flagging Procedures</p> <p>Operations – compliance with train operation requirements through work zones</p> <p>Some discrepancies were noted regarding train operations and flagging in work zones</p>

Checklist completed by: D. Barber

Dates of Review: 5/4/10

Persons Interviewed: Safety, Security & Risk Compliance:
 Sara Schwanke, GM
 David Wright (Inspections & Investigations)
 John Plante (Emergency Preparedness)
 Jessica Rio (Data, Analysis & Audit)
 Bob Burns (Training & Safety Observation)
 Christine Bravi (Risk Compliance)

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SSPP Element # 6 Hazard Management Process: A description of the process used by CTA 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 oversight agency regarding hazard management activities and status.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
6.4 Records Review Cont.	<p>minor incidents and near-misses.</p> <ul style="list-style-type: none"> ✓ Verify that the Safety Department maintains a mechanism to capture and track identified hazards through analysis and resolution. ✓ Verify that identified hazards are being evaluated according to the methods established in the SSPP. ✓ Ensure that the SSO agency is being notified of identified hazards as specified in the Program Standard and SSPP. ✓ Verify that the appropriate entities are performing hazard evaluation/categorization activities (Safety Committee, Director of Safety, etc.) ✓ Verify that CAPs are being developed to address identified hazards and that the CAPs include the individual or department responsible for implementation and a schedule for completion. ✓ Verify that the Safety Department follows-up on outstanding CAPs developed to mitigate or resolve hazards. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>Tracked on hazard management log by Safety</p> <p>Severity and likelihood are assessed as per RSSPP</p> <p>RTA notification for unacceptable risks – 3 on log</p> <p>Collaborative process includes Safety, Operations, Maintenance, Training, Facilities, Power & Way</p> <p>CAP's developed & implemented for train berthing, signal circuits</p> <p>Quarterly review & update by Safety with RTA</p>
6.5 Interviews with CTA Safety Personnel	<p>Have Safety Department personnel describe the process used to report, evaluate, assess and resolve hazards.</p> <ul style="list-style-type: none"> ✓ Ask Safety Department personnel to provide examples of how hazards that have been identified by other CTA departments and reported to them for analysis. ✓ Review how the Safety Department assessed these hazards and ask for the status of activities implemented/performed to address them. ✓ Ask the Safety Department how they monitor other departments to ensure that hazards are being reported to the Safety Department as required. 	<p>✓</p> <p>✓</p> <p>✓</p>	<p>Orange Line signals, Train berthing, derailments, safety violations</p> <p>Entered in HM log, analysis reports, assessment results, reports to RTA, description of CAP, completion status</p> <p>Direct audits & inspections performed by Safety & review of safety data & trends by Safety</p>
6.6 Interviews with Other CTA Personnel	<p>Interview operations management personnel to determine if:</p> <ul style="list-style-type: none"> ✓ An appropriate procedure and reporting form have been developed and periodically distributed to all employees to ensure safety hazards in the 		<p>Reporting procedures specified by R8.34, Safety Rule 40 and Safe Line process. No formal forms used. Safe Line</p>

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SSPP Element # 6 Hazard Management Process: A description of the process used by CTA 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 oversight agency regarding hazard management activities and status.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<p>work place are reported effectively.</p> <ul style="list-style-type: none"> ✓ All employee-identified safety hazards during the past 12 months have been either resolved at the department level or submitted to the Safety Department to be addressed by a Safety Committee/Other Process to assess the hazard and develop a CAP as necessary. ✓ Operations management personnel periodically evaluate hazards that are resolved at the local department level to determine if there is a trend that requires Safety Department notification. ✓ For hazards that should be reported to the Safety Department, operations management personnel report the initial short-term mitigation actions to the Safety Department and then meet to determine longer-term corrective actions. ✓ CAPs are being tracked or have been implemented. <p>Interview maintenance management personnel to determine if:</p> <ul style="list-style-type: none"> ✓ An appropriate procedure and reporting form have been developed and periodically distributed to all employees to ensure safety hazards in the work place are reported effectively. ✓ All employee-identified safety hazards during the past 12 months have been either resolved at the department level or submitted to the Safety Department to be addressed by a Safety Committee/Other Process to assess the hazard and develop a CAP as necessary. ✓ Maintenance management personnel periodically evaluate hazards that are resolved at the local department level to determine if there is a trend that requires Safety Department notification. ✓ For hazards that should be reported to the Safety Department, maintenance management personnel report the initial short-term mitigation actions to the Safety Department and then meet to determine longer-term corrective actions. <p>CAPs are being tracked or have been implemented.</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>not referenced in rules or bulletins – just in RSSPP Safety Reporting Line (Safe Line) log for 2009 shows all items reported are closed. Safety has a written procedure for handling reports through Safe Line.</p> <p>Data is collected from all depts.. by Safety & Safety distributes statistics/trend reports at senior management level. Signals hazard reported to Safety Orange Line signals hazard confirms this process</p> <p>Indicated by Logs</p>

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Checklist completed by: D. Barber

Dates of Review: 5/6/10

Persons Interviewed: Safety, Security & Risk Compliance:
David Wright (Inspections & Investigations), Jessica Rio (Data, Analysis & Audit)

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SSPP Element # 7 System Modification: A description of the process used by CTA 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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
7.1 Document Review	Review SSPP and referenced or supporting procedures to ensure that a process is in place for addressing safety issues and concerns in system modifications.	√	While the SSPP Chapter 7 description is comprehensive, only general project management procedures are referenced. The identification of specific procedures for System Modification is recommended.
7.2 Rules Review	Review any rules regarding safety-related provisions to be addressed in system modifications and determine if they have been updated to reflect current conditions and distributed to appropriate CTA personnel.	√	CIP Program Management Procedure P120, Configuration Management, addresses system modifications. It is supported by CIP Project Management Procedure P103, Web-Based Project Management System Records Management, ProjectNet. A briefing was received on CTA's ProjectNet system and how it is used to manage project documentation and system configuration. Its use is guided by a manual and it applies to all CTA projects.
7.3 Records Review	<p>Review any documentation that proves the CTA Safety Department was involved in assessing at least two (2) system modifications over the last three (3) years prior to their placement in revenue service (i.e., emails, meeting minutes, sign-offs, inspection checklists, etc.)</p> <ul style="list-style-type: none"> ✓ Verify that this process was consistent with SSPP requirements and included an evaluation of potential hazards the modification could pose to the system. ✓ Verify that these hazards were addressed. ✓ Verify that any changes made as a result of a system modification are now reflected in final as-built drawings for the facility and/or specifications for the vehicle and/or equipment. ✓ Verify that the CTA's configuration management process has been followed to address system modification. 	<p>√</p> <p>√</p> <p>√</p>	<p>Discussions were held with CTA personnel and documentation reviewed for the following system modification projects:</p> <ul style="list-style-type: none"> • Mitigation of derailments at the 59th Street split on the Green Line. • Modification on the Red Line at Cermak/Chinatown • 600 Volt Power line replacement on Brown Line between Sedgwick and Armitage.

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SSPP Element # 7 System Modification: A description of the process used by CTA 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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
7.4 Interviews with CTA Safety Personnel	Conduct interviews with CTA Safety Department representatives to discuss their role in ensuring that safety concerns are addressed in system modifications. <ul style="list-style-type: none"> ✓ Be sure to have them identify any specific activities they perform, such as participation in testing and inspections, receipt of sign-off inspection sheets from the field, observations performed at work sites, etc. 	√	The three system modification projects noted above were discussed with the Safety Department.
7.5 Interviews with Other CTA Personnel	Conduct an interview with CTA personnel who managed a recent system modification to assess the role of the CTA Safety Department addressing and resolving safety concerns regarding the modification.	√	System Safety participates in design reviews related to all system modification projects.
7.6 Inspections and Measurements	Conduct an inspection of three (3) system modification projects (i.e., station improvement, vehicle upgrade, etc.). Determine if the modification meets the specifications or project requirements, and if any unauthorized modifications were performed.	√	Site Inspections were made of the three system modifications noted above.

Checklist completed by: T. Luglio

Dates of Review: 5/3/10 (site visits) 5/6/10 meetings

Persons Interviewed:

Jim Harper (Deputy Chief Engineer)

Leah Dawson (Chief of Capital Construction Financials, Facilities Maintenance, Construction and Engineering/Power & Way)

Sara Schwanke (General Manager – Safety, Security & Risk Compliance)

John Plante (Senior Manager, System Safety and Environmental Affairs)

Adrian Cabral (System Safety Engineer, System Safety)

Kevin Vogt (Construction Safety, System Safety)

Erin Carsele (Project Manager – Power & Way Maintenance, Construction and Engineering)

Additional Persons with Chicago Transit Partners for ProjectNet:

Michael Goff (ProjectNet Manager)

Christer Bohman (QA/QC Manager)

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SSPP Element # 8 Safety Certification: A description of the safety certification process required by CTA 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
8.1 Document Review	Review the SSPP and any referenced or supporting procedures to ensure that a process has been established for safety certification for New Starts and major projects to extend, rehabilitate, or modify the existing system or to replace vehicles and equipment.	✓	The CTA Rail SSPP (Chapter 8) references CTA's Safety Certification Program Plan Manual for Major Capital Improvement Plans on the Rail System, March 2005.
8.2 Rules Review	Review any rules related to safety certification and determine if they have been updated and distributed to CTA personnel.	✓	There are no specific rules for Safety Certification.
8.3 Records Review	<p>Review documentation to determine if New Starts and major projects undertaken by the CTA:</p> <ul style="list-style-type: none"> ✓ Address safety certification management, including organizational authority and responsibilities. ✓ Address the controls used to maintain effective communication and liaison with CTA project staff throughout the life of the project. ✓ Identify the process used to verify and document conformance with safety and security requirements during design, construction, testing, and operational readiness. ✓ Are overseen and approved by FTA and its Project Management Oversight Consultants (PMOCs). <p>If a formal safety and security certification program plan has been written for a specific project, review it to verify consistency with SSPP.</p> <ul style="list-style-type: none"> ✓ Is the certification program being administered by the transit agency or a contractor? ✓ Was a PHA performed? ✓ Are hazards being addressed as per the process defined in the safety certification program plan? ✓ Is the hazard management process identified in the safety certification program plan consistent with the SSPP? 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>The only CTA project for which safety certification has been done is the Brown Line, and that only included the construction phase. It was guided by the Safety Certification program Plan for the Ravenswood (Brown) Line Expansion Project, May 2005. A Safety Certification Review Committee (SCRC) facilitated the interests of all affected CTA departments.</p> <p>No details are provided in the RSSPP, but are contained in the CTA Safety Certification Program Plan Manual for Major Capital Improvement Projects on the Rail System, March 2005. The Manual addresses the items listed to the left, but some were not done for the Brown Line, since Safety certification only addressed construction.</p>

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SSPP Element # 8 Safety Certification: A description of the safety certification process required by CTA 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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ✓ Has a certification committee been created? ✓ Has a certifiable items list been created? ✓ How are federal, state, and local agencies involved? This includes the SSO agency and emergency responders. ✓ Have all designs been reviewed, stamped and sealed by a licensed Professional Engineer? ✓ Are design changes and Non-Conformance Reports (NCRs) analyzed for safety impacts? Have these been thoroughly documented? ✓ Have training programs been updated as necessary and have all employees been trained? ✓ Has a testing program been developed and administered? ✓ Have emergency drills and simulations been performed involving local emergency responders? ✓ Is the GM/CEO required to formally sign and certify the project complete and safety for operations? 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ 	<p>But four members of the Safety Certification Committee do sign.</p>
8.4 Interviews with CTA Safety Personnel	Conduct interviews with Safety Department personnel to determine how the department has been involved in the certification of CTA New Starts and major projects.	✓	Safety is actively involved.
8.5 Interviews with Other CTA Personnel	Conduct interviews with CTA project staff involved in New Starts and major projects to discuss how safety concerns were addressed and the level of interaction with the Safety Department.		This did not appear to be part of the Brown line Safety Certification process, since it only covered the construction phase, but Safety does actively participate in all project design reviews.

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SSPP Element # 8 Safety Certification: A description of the safety certification process required by CTA 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
8.6 Field Observations	<p>Prior to the Three Year Safety Review, participate in at least two (2) Quarterly Review Meetings conducted by FTA at the CTA :</p> <ul style="list-style-type: none"> ✓ Participate in discussions regarding safety certification activities. <p>Also, observe the CTA's safety certification process for the project:</p> <ul style="list-style-type: none"> ✓ Participate in safety certification activities. ✓ Participate in design reviews and PHA or other hazard analysis processes. ✓ Observe testing programs and review test results. 		[Not covered during triennial review.]

Checklist completed by: T. Luglio

Dates of Review: 5/6/10

Persons Interviewed:

- Jim Harper (Deputy Chief Engineer)
- Leah Dawson (Chief of Capital Construction Financials, Facilities Maintenance, Construction and Engineering/Power & Way)
- Sara Schwanke (General Manager – Safety and Risk Compliance)
- John Plante (Senior Manager, System Safety and Environmental Affairs)
- Adrian Cabral (System Safety Engineer, System Safety)
- Kevin Vogt (Construction Safety, System Safety)
- Erin Carsele (Project Manager – Power & Way Maintenance, Construction and Engineering)

Additional Persons with Chicago Transit Partners for ProjectNet:

- Michael Goff (ProjectNet Manager)
- Christer Bohman (QA/QC Manager)

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SSPP Element # 9 Safety Data Collection and Analysis: A description of the process used to collect, maintain, analyze, and distribute safety data, to ensure that the safety function within CTA receives the information necessary to support implementation of the system safety program.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
Records Review <i>continued</i>	<p>accidents/incidents resulting in property damage, and accident/incidents resulting in environmental damage.</p> <ul style="list-style-type: none"> ✓ The safety data is supplied by and collected from all departments including Operations, Legal, Claims Management, and Maintenance as appropriate. ✓ The data collected is then analyzed and, if necessary, incorporated into the CTA's hazard identification and resolution process. ✓ The data collected and the resulting analyses are made available to all CTA departments for use in planning their safety-related activities. ✓ Monthly or quarterly reporting regarding the results of the safety data analysis is provided to the CTA's Executive Leadership as appropriate. <p>The SSPP may establish a regular cycle of safety data analysis and reporting for internal and/ or external distribution. Verify that the analysis and distribution process is being implemented as described.</p> <ul style="list-style-type: none"> ✓ Timeframe for generation. ✓ Distributed to required parties. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>Maintenance data is not collected but is obtained through MMIS as needed for analysis</p> <p>Trends analyzed & reported by Safety & discussed with Senior Management of other departments to determine need for risk assessment</p> <p>Reports are generated & distributed monthly with quarterly reporting to Executive level</p> <p>Monthly To all senior management</p>
9.4 Interviews with CTA Safety Personnel	<p>Interview Safety Department representatives to discuss how safety data is collected, analyzed and distributed through the CTA.</p> <ul style="list-style-type: none"> ✓ Ask the representatives to explain how they receive safety-related information from other departments, including the operations and maintenance departments. ✓ Ask the Safety Department representatives to provide examples of how information received from the operations and maintenance departments was used to support safety data collection and analysis activities. ✓ Ask the CTA Safety Department representatives to explain how they collect information on derailments and rules violations in the CTA's yard. ✓ Ask the CTA Safety Department how it ensures the quality and integrity of collected safety data. ✓ Ask the CTA Safety Department representatives to explain how the CTA reports to FTA's National Transit Database (NTD). 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>Operations provides data Maintenance is accessed through MMIS</p> <p>Passenger & employee injury & incident trends. Hazard assessments for operational trends such as train berthing & safety violations</p> <p>Info. On all derailments is collected & reported including non-service trains & yards Review & input by Safety staff</p> <p>NTD reporting database via internet</p>

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SSPP Element # 9 Safety Data Collection and Analysis: A description of the process used to collect, maintain, analyze, and distribute safety data, to ensure that the safety function within CTA receives the information necessary to support implementation of the system safety program.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
9.5 Field Observations	<ul style="list-style-type: none"> ✓ Ask a Safety Department representative to review and demonstrate the automated systems used by the CTA to report, analyze and track safety data. ✓ Ask a Safety Department representative to review and demonstrate the process for reporting to FTA's NTD. 		

Checklist completed by: D. Barber

Dates of Review: 5/4/10

Persons Interviewed: Safety, Security & Risk Compliance:
 Sara Schwanke, GM
 David Wright (Inspections & Investigations)
 Jessica Rio (Data, Analysis & Audit)
 Stephen Kiraly (Data Management Analyst)

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SSPP Element # 10 Accident/Incident Investigations: A description of the process used by CTA 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 oversight agency.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ✓ Are any special monitoring programs in place to review yard accidents? 		programs are in place for derailments (report 10/15/09) and safety violations (report 3/5/10). These programs include mainline and yard incidents
10.4 Interviews with CTASafety Personnel	Interview Safety Department representatives and discuss: <ul style="list-style-type: none"> ✓ Past issues with the SSO agency receiving accident reports on-time and what has been done to address them. ✓ Coordination of investigation process with the SSO agency. ✓ Submission to the SSO agency of all supporting reports and documentation that comprise the full accident investigation report. ✓ Any other problems or issues with this process. 	✓ ✓ ✓ ✓	A few preliminary reports were late but all final reports were on time RTA participates through site visits All reports received and have been satisfactory
10.5 Interviews with Other CTA Personnel	Conduct a meeting with CTAGM/ED/CEO, Chief Safety Officer, and Senior Management in Operations, Maintenance, Engineering, Human Resources/Training, Procurement, and Legal to discuss: <ul style="list-style-type: none"> ✓ Formal meetings that are held and attended by CTA Executive Leadership to discuss safety performance (such as ongoing evaluation of goals and targets). ✓ CTAGM/ED/CEO and CTA Senior Management awareness of high priority safety issues and the status of corrective actions. ✓ The process for the periodic review of the resources devoted to safety by the CTAGM/ED/CEO and CTA Senior Management. ✓ Use of risk assessment and hazard management as part of the overall safety program. 	✓	[Not likely to be covered during triennial review.] Covered under checklist element 1.2
10.6 Field Observations	Attend an accident investigation conducted by CTA and observe response and investigation activities. (if available) Participate in an at least one (1) CTA accident investigation (prior to the Three-Year Safety Review) and assess how well the CTA follows its adopted procedures.		[Not covered in triennial review.]

Checklist completed by: D. Barber

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Dates of Review: 5/4/10

Persons Interviewed: (see below)

Safety, Security & Risk Compliance:

Sara Schwanke, GM

David Wright (Inspections & Investigations)

Jessica Rio (Data, Analysis & Audit)

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SSPP Element # 11 System Security and Emergency Management: A description of the process used to develop an approved, coordinated schedule for Security and emergency management program activities, which include: (i) meetings with external agencies; (ii) security and emergency planning responsibilities and requirements; (iii) process used to evaluate security and 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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
11.1 Document Review\	<ul style="list-style-type: none"> ✓ Review the System Safety Program Plan and System Security Program Plan to ensure that it addresses the requirements specified in the State's Program Standard and 49 CFR Part 659. 	√	Needs to comply with RTA System Safety Program standards and procedures.
John Plante	<ul style="list-style-type: none"> ✓ If applicable, review CTA's Emergency Operation Plan (EOP) and procedures to assure consistency with System Safety Program Plan and System Security Program Plan. 	√	EO Plan Comm. Plan
John Plante	<ul style="list-style-type: none"> ✓ Review the CTA System Security Program Plan to ensure that management authority is identified and that any government involvement is detailed in the plan ✓ Review the System Security Program Plan to ensure that the CTA operating environment is explained 	√	
John Plante	<ul style="list-style-type: none"> ✓ Verify these documents include a description of the transit agency's activities with external emergency response agencies to support emergency planning and response. ✓ Verify that the System Safety Program Plan, Emergency Operations Plan and System Security Program Plan include a process for evaluating emergency drills and exercises. <ul style="list-style-type: none"> ○ Verify this process is linked to the corrective action and hazard management program requirements of the SSPP. ○ Verify procedures require the development of after action reports for all real-life emergencies and practice drills and exercises. 	√	C.O.- MOU's not in place but in progress to develop UASI -123 –surberban commumtle(???) (suburban commute??)

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SSPP Element # 11 System Security and Emergency Management: A description of the process used to develop an approved, coordinated schedule for Security and emergency management program activities, which include: (i) meetings with external agencies; (ii) security and emergency planning responsibilities and requirements; (iii) process used to evaluate security and 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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ○ Verify the methodology used and provide the schedule for conducting Threat, Vulnerability Assessment (TVA) ○ Ensure that CTA has a process to update the TVA based on security improvement ○ Verify that CTA has a process for managing the output of TVA. (risk reduction and mitigation strategies) 	<p style="text-align: center;">√</p> <p style="text-align: center;">√</p> <p style="text-align: center;">√</p>	
	<ul style="list-style-type: none"> ○ Verify CTA's process for incorporating TVA and the Safety Certification Process into major projects, extensions, and new vehicle and equipment procurement ✓ Verify that CTA has Identified the controls in place that address the personal security of passengers and employees ✓ Ensure that the scope is identified in the System Security Program Plan and Program ✓ Verify that the security and law enforcement functions that manage and support implementation of the System Security Program Plan are identified. ✓ Verify who is the authority which oversees the operation and management of CTA, including its security and police force ✓ Review the rail transit agency's process for conducting internal security reviews to evaluate compliance and measure the effectiveness of the system security plan ✓ Verify the types of internal management reviews that are conducted, the frequencies of the reviews, and the person(s) responsible. ✓ Verify and review the most recent annual and previous three year schedule including findings and corrective actions to address identified deficiencies 	<p style="text-align: center;">√</p>	

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SSPP Element # 11 System Security and Emergency Management: A description of the process used to develop an approved, coordinated schedule for Security and emergency management program activities, which include: (i) meetings with external agencies; (ii) security and emergency planning responsibilities and requirements; (iii) process used to evaluate security and 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ✓ Review the CTA's process for making its system security plan and accompanying procedures available to the oversight agency for review and approval ✓ Review the authority that establishes the System Security Program Plan, including statutory requirements and the CTA's relationship with the RTA oversight agency. ✓ Verify what the process is for annual preparation and submittal of the System Security Program Plan by CTA to the RTA. ✓ Verify the process for the annual approval of the System Security Program Plan by RTA 	<ul style="list-style-type: none"> √ √ √ √ 	
11.3 Rules Review	<ul style="list-style-type: none"> ✓ Review any rules related to security & emergency response and determine if they have been updated to address current conditions and distributed to appropriate CTA personnel. Verify when EOP & System Security Program Plan procedures were last reviewed and revised. Determine who was involved in the review and revision process (safety, security, emergency responders, operations, maintenance, committees, contractors, the SSO agency, etc.)? 	√	committee mtgs w/ series of questions when Plm drafts were distributed (???)
JP (consid)	<ul style="list-style-type: none"> ✓ Determine if revisions were evaluated to ensure they would not create new hazards or system risks? 	√	
11.4 Records Review	<ul style="list-style-type: none"> ✓ Review documentation to verify that a drill/exercise schedule has been created and followed: <ul style="list-style-type: none"> ○ When was the last one performed? ○ Was an after action report developed? ○ Was the after action report used to make changes to the CTA's EOP and/or procedures? If so, have these changes been communicated to CTA personnel? 	<ul style="list-style-type: none"> √ √ √ 	

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SSPP Element # 11 System Security and Emergency Management: A description of the process used to develop an approved, coordinated schedule for Security and emergency management program activities, which include: (i) meetings with external agencies; (ii) security and emergency planning responsibilities and requirements; (iii) process used to evaluate security and 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ○ CTA has held periodic Fire Life Safety meetings with police and fire departments in the applicable CTA jurisdictions. ○ Emergency response agency familiarization activities have occurred as scheduled. ○ Corrective actions have been implemented. <ul style="list-style-type: none"> ✓ Verify System Safety Program Plan, Emergency Operations Plan and System Security Program Plan procedures include Threat and Vulnerability Identification, Assessment, and Resolution. ✓ Review documentation to determine that current security conditions are reviewed, analyzed, updated and distributed (as appropriate). ✓ Review the System Security Program Plan to determine if an up-to-date system description, scope of the program, organizational structure and management of the security program at CTA. 	✓ ✓ ✓ ✓ ✓	FLS meeting In process CFP as required. Had table of identified hazards but no description of TWA (??) methodology Crime statistics analysis for deployment
11.5 Interviews with CTA Safety Personnel	Interview CTA Safety Department representatives to discuss the CTA's emergency planning, training, and drill/exercise program. <ul style="list-style-type: none"> ✓ Ask for an overview of this process. ✓ Ask for specific examples of coordination with emergency response agencies on emergency planning and drill/exercises. ✓ Ask the representatives to describe the biggest challenges they face in coordinating or supporting the CTA's emergency planning process. 	✓ ✓ ✓ ✓	Field exercises - JP coordinates JP, manipson(????) need substitute "need more of me" . Funding for drills, exercises, training

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
11.6 Interviews with Other CTA Personnel	<ul style="list-style-type: none"> ✓ Conduct random interviews of five transit personnel to verify they are familiar with the CTA's emergency response procedures. ✓ Conduct five random interviews of transit personnel to verify that they have received training. ✓ Conduct interview of transit personnel to determine that System Security Program Plan management activities occur. Including responsibilities, functions, and any committees that address concerns in security ✓ Conduct interviews with transit personnel to determine if the System Safety Program Plan, Emergency Operations Plan and System Security Program Plan are implemented and evaluated. (verify that a implementation schedule is being used) 	✓ ✓ ✓ ✓	Control CTR 120 Racing Would like emergency planning to evolve to a full-time staff
11.7 Field Observations	Inspect the Operations Control Center to determine if: <ul style="list-style-type: none"> ✓ SOPs, lists, and plans are available, current and accessible; ✓ If these items are used during emergency response; and ✓ If the CTA's safety function checks on the availability and accessibility of these materials from time to time during accident investigations, internal audits, or other activities. ✓ Review the security and emergency preparedness logs and documentation (if applicable) <p>If possible, attend at least one (1) emergency drill or field exercise to verify its performance and assess its quality in testing the CTA's System Security Program Plan, EOP procedures.</p>	✓ ✓ ✓ ✓ ✓ ✓ ✓	CPD Officer assigned to OCC 3pm to 11pm for rapid DBRO trust (???) and follow up video direct review services Review vehicle axl for 20 police cars assigned to CPD public transportation section

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Checklist
completed by:

Dates of Review:

Persons

Interviewed: Kelly Brookine, GM control center
Marvin Hicks Manger Control Center
Vanessa Saffold Manager control center

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SSPP Element # 12 Internal Safety Audits: A description of the process used to ensure that planned and scheduled internal safety audits 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 oversight agency.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
12.1 Document Review	<p>Verify that SSPP includes a description of the processes used by the transit agency to perform internal safety audits.</p> <ul style="list-style-type: none"> ✓ Verify this process is consistent with Part 659 and the SSO agency's requirements. ✓ Verify SSPP identifies what departments and functions are subject to review. ✓ Verify SSPP clearly defines roles and responsibilities for performing the internal safety audits. ✓ Verify this process is fully endorsed by the GM/CEO. ✓ Verify the internal safety audit process and any findings are tied to the hazard management process defined in the SSPP. ✓ Verify internal safety audit process findings are analyzed to determine if they pose a hazard. ✓ Verify the SSPP includes a description of the process used to document and communicate internal safety audit results to appropriate personnel and departments, as well as the SSO agency. ✓ Verify the SSPP and/or referenced or supporting procedures require that CAPs be developed, documented, and implemented to address internal safety audit findings and concerns. 	<p>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</p>	<p>SSPP Chapter 12 references the CTA Internal Safety Audit Procedure, dated March 2008.</p>
12.2 Rules Review	<p>Review any rules related to the conduct of the CTA's internal safety audit process and determine if they have been updated to reflect current conditions and distributed to appropriate CTA personnel.</p>	<p>✓</p>	

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
12.3 Records Review	Review CTA documents/records to determine if: <ul style="list-style-type: none"> ✓ A Three-Year Internal Safety Audit Schedule was developed and submitted to the SSO agency. ✓ Internal safety audit procedures have been developed and submitted to the SSO agency for each audit area. ✓ The internal safety audits have been performed as scheduled and following the procedures submitted to the SSO agency. ✓ The scope of audit activities includes the required elements specified in the SSO agency Program Standard and in 49 CFR Part 659. ✓ Internal safety audits have been properly documented and include references for documents and activities reviewed, criteria for evaluation, and notes to support findings and recommendations. ✓ An Annual Report has been submitted to the SSO agency for each of the last three (3) years documenting the results of the internal safety audit process. ✓ The Annual Report is accompanied by a letter from the GM/CEO, stating the CTA's compliance status with its SSPP and corrective actions for elements determined not to be in compliance. ✓ Corrective actions to address findings from the internal safety audit process were scheduled and implemented. 	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	CTA Annual Safety Audit Reports for 2007, 2008, and 2009 and backup documentation were reviewed.

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SSPP Element # 12 Internal Safety Audits: A description of the process used to ensure that planned and scheduled internal safety audits 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 oversight agency.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
12.4 Interviews with CTA Safety Personnel	Interview CTA Safety Department representatives to determine if: <ul style="list-style-type: none"> ✓ The internal safety audit process assesses implementation of the CTA's SSPP, including the use of field verification methods to verify the condition of infrastructure and rules compliance activities. ✓ The CTA's internal safety audit process adequately addresses interdepartmental and interagency communication issues. ✓ The interdepartmental and interagency communications process and requirements are clearly defined in detail. ✓ Any deviations from the approved procedure, identified during an internal safety audit or by any other means, are brought to the attention of management. ✓ There is a process in place for addressing and overcoming non-responsiveness of other CTA departments in responding to internal safety audit findings. 	✓ ✓ ✓ ✓	
12.5 Field Observations	Prior to the Three Year Safety Review, participate in at least one (1) internal safety audit conducted by the CTA's Safety Department and one (1) internal audit conducted with the support of another CTA department.		[Not covered during triennial.]

Checklist completed by: T. Luglio

Dates of Review: 5/5/10

Persons Interviewed:

Sara Schwanke, GM, Safety and Risk Compliance, CTA

David Wright, Manager II System Safety, CTA

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SSPP Element # 13 Rules Compliance: A description of the process used by CTA 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			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
13.1 Document Review	<ul style="list-style-type: none"> ✓ Review SSPP to verify that contents include the CTA's processes for developing, maintaining and ensuring compliance with operating and maintenance rules and procedures having a safety impact. ✓ Verify that the SSPP lists or references all operating and maintenance rules and procedures subject to review. ✓ Verify that the SSPP identifies all techniques used by the CTA to assess effective implementation of, and compliance with, operating and maintenance rules with safety impacts. ✓ Verify that the SSPP identifies how supervisors are evaluated to assess their effectiveness in overseeing implementation of, and compliance with, operating and maintenance rules with safety impact. ✓ Verify that the SSPP specifies that concerns identified through the CTA's rules compliance programs are reported to the Safety Department for inclusion in the hazard management process. 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ 	<p>The evaluation of supervisors' effectiveness in measuring rule compliance is not specified in SSPP.</p> <p>Though concerns regarding safety-critical rule violations are reported to the Safety Department, this process isn't currently specified SSPP Section 13.</p>
13.2 Rules Review	<p>Review the status of the CTA's operating and maintenance rules and procedures:</p> <ul style="list-style-type: none"> ✓ When was the last time the operating rulebook was reviewed and revised? ✓ Is the CTA keeping to the review/revision schedule specified in the SSPP and/or referenced and supporting procedures? ✓ Have all operators and other necessary personnel been given a copy of the most current rulebook as specified in the SSPP? ✓ Determine how many operating bulletins are issued each year and how the CTA Safety Department is involved in the review, approval and dissemination of these bulletins. ✓ How long to do operating bulletins typically stay in effect? Does the CTA have a process in place to review operating bulletins to determine when they should be incorporated into the rulebook? 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ 	<p>January 2009</p> <p>Review/revision done on as-needed basis – no set schedule</p> <p>Safety personnel are part of committee involved in review and update of bulletins.</p> <p>Dependent on the bulletin. Rulebook revision is completed as needed; most bulletins are temporary. No issues with CTA process.</p>

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SSPP Element # 13 Rules Compliance: A description of the process used by CTA 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			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
Rules Review <i>continued</i>	<ul style="list-style-type: none"> ✓ Does the CTA Safety Department conduct assessments to evaluate safety-related impacts to rules changes and bulletins? ✓ How does the CTA ensure that updated rules and bulletins are addressed in CTA initial, remedial, and refresher training? ✓ How does the CTA ensure that updated maintenance procedures are addressed in initial, remedial, and refresher training courses provided for maintenance personnel? ✓ Has the SSO agency received a copy of the current operating rulebook and current versions of the most germane maintenance procedures? ✓ Review agendas and minutes from Rules Committee meetings to verify that they took place as specified in SSPP or supporting rules/procedures. ✓ Assess level of involvement of the Safety Department in supporting the CTA's Rules Committee. ✓ Confirm that a thorough review was conducted as specified in the SSPP. 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ ✓ ✓ 	<p>Training and Instruction personnel part of committee involved in review and update of rules and bulletins</p> <p>Committee process in place is not formalized.</p> <p>Safety is part of committee.</p>
13.3 Records Review	<ul style="list-style-type: none"> ✓ Review documentation to verify that the CTA performs ride-alongs and other formal observations of train operators as specified in the SSPP. ✓ Review documentation to verify that operations employees are evaluated based on their performance during unannounced observations to determine their compliance with safety rules, procedures, and/or practices. ✓ Review past accident records to verify if any accidents were caused by a failure to follow operating rules and procedures. <ul style="list-style-type: none"> ○ If so, verify what steps were taken to correct these issues (i.e., employee retraining, suspension, dismissal, etc.). ✓ Review CTA "Fitness for Duty" program documentation, and ensure 	<ul style="list-style-type: none"> ✓ ✓ ✓ 	

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<p>that the following are addressed:</p> <ul style="list-style-type: none"> ○ Medical Monitoring ○ Hours of Service ○ Fatigue Management ○ Drug & Alcohol Program ○ Over-the-Counter Medications ○ Stress <p>✓ Review documentation to verify that supervisors are citing operating and maintenance personnel for rule violations. <i>If there is no record of employees being disciplined for failing to follow a rule or procedure, then the supervisor is not likely performing these activities appropriately.</i></p> <p>✓ Randomly select six (6) employees from the following safety sensitive job classifications:</p> <ul style="list-style-type: none"> ○ Train Operators ○ Supervisors ○ Train Controllers ○ Power and Support Controllers ○ Other OCC Employees <p>✓ Review the selected employees' "time on duty" records prepared during a three- month period in the past 18 months to determine if they complied with the minimum rest requirements specified by the CTA.</p>	<p>✓</p>	<p>Employees must take a pre-employment physical examination; though there is no requirement for ongoing physical exams of safety sensitive employees, CTA does require employees absent eight or more days to receive a physical exam to return to work.</p> <p>Review team observed more than 500 rail operator check forms; approximately 10 noted anything other than "operated correctly." (Note that Efficiency Testing by Managers does regularly cite rule violations).</p> <p>No issues with CTA requirements for minimum rest (currently 8 hours). CTA is aware of APTA Standard for Hours of Service and indicates it is working toward implementation.</p>

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SSPP Element # 13 Rules Compliance: A description of the process used by CTA 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

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
13.4 Interviews with Other CTA Personnel	<ul style="list-style-type: none"> ✓ Interview operations supervisory staff to determine how they monitor employee compliance with rules and procedures. ✓ Interview operations supervisory staff to determine their familiarity with rules and procedures. ✓ Conduct random interviews of operators to verify how often they receive training on rules and procedures and how the transit agency monitors their compliance with rules and procedures. 	✓ ✓ ✓	
13.5 Field Observations	<ul style="list-style-type: none"> ✓ At random, select several operating procedures (5) and ride the system to verify that these rules are being followed ✓ At random, select several operating procedures (5) and ride the system with a CTA supervisor (if possible) to verify that these rules are being followed. ✓ Select Three (3) locations that store operator history for rules checks. Review a sample of ten percent of records for the past year to determine if they are complete and detailed. ✓ Conduct a visit to the CTA control center to review a sample control center logs and sample records from work zone and clearance establishments. ✓ Conduct a visit to the CTA main line tower to observe operations 	✓ ✓ ✓ ✓ ✓	
13.6 Inspections and Measurements	<ul style="list-style-type: none"> ✓ Conduct a random sample inspection of transit operators to determine if they are carrying their rulebook, if they have the proper safety equipment in their cabs, and if their radios are functioning. ✓ Accompany line management personnel during compliance checks and assess how these checks are conducted and ensure that final reporting matches the findings in the field. 	✓ ✓	

Checklist completed by: R. Kogan
 Dates of Review: 5/3 to 5/7/10
 Persons Interviewed: See list

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SSPP Element # 14 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; and (iv) description of how results are entered into the hazard management process.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
14.1 Document Review	<ul style="list-style-type: none"> ✓ Review CTA's SSPP and/or referenced and supporting procedures to: <ul style="list-style-type: none"> ○ Ensure that they identify the facilities and equipment subject to regular safety-related inspection and testing. ○ Ensure that they identify the techniques used to conduct the inspections and testing. ○ Ensure that they include or reference inspection schedules and procedures. ○ Ensure that they provide a description of how results from the inspections are entered into the CTA's hazard management process. ✓ Review the transit agency's "Facilities Maintenance Plan" and/or "System Operations and Maintenance Plan" to ensure it specifies general categories and inspection requirements of safety-related facilities and equipment. 	✓ ✓ ✓ ✓ ✓	
14.2 Rules Review	Review any rules related to facilities and equipment inspections and determine if they have been updated and distributed to CTA personnel.	✓	
14.3 Records Review	<ul style="list-style-type: none"> ✓ Review the safety inspection schedules, checklists, and procedures to be used to inspect facilities and equipment and ensure that they are consistent with the SSPP and referenced/supporting procedures. ✓ Review checklists to be used by inspectors to ensure that items to be inspected are listed and include safety-related characteristics. ✓ Review the inspection procedures and verify that testing and measurement criteria for facilities and equipment are included and to verify the use of machine guarding and appropriate hazardous materials storage. ✓ Review the inspection procedures for maintenance facilities and shops to verify that compliance with personal protective equipment (PPE), 	✓ ✓ ✓ ✓	

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SSPP Element # 14 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; and (iv) description of how results are entered into the hazard management process.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
Records Review <i>continued</i>	<p>Material Safety Data Sheets (MSDS), inspections of equipment, housekeeping inspections, inspection to verify industrial hygiene, conduct of fire drills, and facilities evacuation plans are required.</p> <ul style="list-style-type: none"> ✓ Review past documentation to verify that inspections are being performed and documented according to the SSPP and referenced/supporting procedures. <ul style="list-style-type: none"> ○ Is an inspection report developed? ✓ ○ Is this report provided to Safety Department for review? ✓ ✓ Verify audit checklists include an examination of tools and test equipment used by the mechanics and ensure test equipment and measurement devices are properly calibrated according to the transit system's QA procedures and if the mechanic has available to them the necessary tools denoted in the "Maintenance Manuals" to perform the required tasks. ✓ ✓ Verify that if hazardous conditions are identified, are they analyzed according to hazard management process and tracked until mitigated? ✓ ✓ Verify that the "<i>Hazard Tracking Log</i>" includes facilities and equipment hazards found during the transit agency's inspections. ✓ ✓ Check a sampling of hazards identified during inspections to ensure they are immediately reported, documented, and tracked through resolution. ✓ ✓ Check a sampling of "<i>Corrective Action Plans</i>" to determine timeliness of resolution and ensure follow-up activities are performed, hazard resolution has taken place, and a measure of the effectiveness of implemented hazard controls has taken place. ✓ ✓ Review three facilities for corresponding fire alarm, fire management panels, signage, exit signs, fire extinguisher signs and fire sprinkler system inspection, testing, and maintenance records to determine if: <ul style="list-style-type: none"> ○ The required annual fire alarm inspections and fire sprinkler ✓ 		

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SSPP Element # 14 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; and (iv) description of how results are entered into the hazard management process.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	system inspections were performed during the past year as specified in the referenced procedure. <ul style="list-style-type: none"> ○ The inspections were properly documented and noted discrepancies were corrected in a timely manner. ○ Other inspections, testing, and maintenance were performed as specified in the referenced procedure. ○ The inspections, testing, or maintenance were properly documented and noted discrepancies were corrected in a timely manner. ○ The signage is easily identified and clear 	✓ ✓ ✓ ✓	
14.4 Interviews with Other CTA Personnel	✓ Randomly select employees and ask if they are familiar with the CTA's PPE requirements, location of MSDS sheets, facilities evacuation plan, and when the last fire drill was conducted. <ul style="list-style-type: none"> ○ Verify that answers are consistent with OSHA requirements and the SSPP and/or referenced or supporting procedures. ○ Who is responsible for updating MSDS sheets, and identify the location of the chemical storage location. Ask CTA employee how they deal with MSDS and chemical storage areas. ○ Identify what PPE policies are in place and how do they check for compliance. 	✓ ✓ ✓	Fire drills are not conducted in stations or during field inspections and work order completion. MSDS sheets are kept at CTA Headquarters. Cleaning chemicals kept in Rail Janitor's Room. Suggest keeping a local copy of MSDS sheets at the CA booth for easy access.

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
14.5 Field Observations	<ul style="list-style-type: none"> ✓ Periodically participate in the transit agency's facility and equipment inspections to ensure that they are conducted in accordance with the SSPP and the CTA's checklists. ✓ If shop safety meetings are conducted, "tool box talks" etc., periodically attend to ensure that they are conducted as denoted in the approved SSPP. ✓ Verify if OSHA "Right to Know" poster is posted. ✓ Ask for their lost time injury rate and compare to industry standards. ✓ Verify that the OSHA injury/illness log is posted or on file. ✓ Verify spill containment and waste water reclamation process are in place to prevent environmental damage. ✓ Walk the inside and outside perimeter of the shop to look for any safety or security concerns. ✓ Review the shop signage for instructions/signage for no clearance/ track entry point for shop. ✓ Review the shop pits and fall protection policies to ensure that safety is included. 	<p style="text-align: center;">✓</p>	<p>[First and second are ongoing items not in triennial review.]</p> <p>Posted at shop.</p> <p>Spill kits are not standard equipment on work trucks. Suggest making them standard to handle fuel/oil leaks.</p> <p>West shops entry is not secured. There are no security guards to check IDs.</p>

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
14.7 Interviews with CTA Safety Personnel	<p>Interview Safety Department representatives to review the inspections they perform in the CTA's shops and facilities:</p> <ul style="list-style-type: none"> ✓ Ask these representatives to explain the activities they perform during these inspections and the conditions under which they perform them. ✓ Ask these representatives to describe the process through which corrective actions are developed, implemented and tracked to address findings from the inspections. <p>Interview Safety Department representatives to review the accident and injury rates at the CTA maintenance shops.</p> <ul style="list-style-type: none"> ✓ Discuss the most significant shop safety issues and what is being done to address them. <p>Ask if the State EPA has conducted an audit of the facilities and if they found any problems.</p> <ul style="list-style-type: none"> ✓ If so, what corrective actions were taken by the transit agency? 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	<p>Quarterly safety & fire inspection performed by Safety's Investigations & Inspections section. Formal Safety Inspection checklist is used. Inspection/checklists include OSHA & hazmat compliance.</p> <p>Checklist includes violations and comments section with work order # and status column.</p> <p>Review included witnessing Kimball shop inspection.</p> <p>Monthly injury reports prepared & distributed by Safety track injuries by type and location.</p> <p>Repeat problem area is water in pits & on the shop floor. Improvements are on the Facilities Maintenance capital improvements list.</p>

Checklist completed by: D. Barber

Dates of Review: 5/7/10

Persons Interviewed:

Bob Burns (Training & Safety Observation)
 Paris Galmore (Inspections & Investigations),
 Tom Drozd (GM System Maintenance – Shops & Facilities)
 Kevin Lockney (Chief of Facilities Initiatives)
 Mike Turbov (Machinist Foreman – North Side)
 George Domingez (Manager – Kimball Shop)

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SSPP Element # 15 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
15.1 Document Review	<ul style="list-style-type: none"> ✓ Verify that the SSPP provides a description of the CTA's maintenance audits and inspection program, including identification of the affected facilities and equipment to be audited/inspected, maintenance cycles, and required documentation. ✓ Review the transit agency's SSPP to identify referenced plans, such as "Original Equipment Manufacturer (OEM) Recommendations," "Fleet Management Plan," "Facilities Maintenance Plan," and/or "System Operations and Maintenance Plan." <ul style="list-style-type: none"> ○ Review the identified plans to verify the specific facilities and equipment are included in their maintenance program and that they are consistent with items to be audited. ✓ Verify that a process has been created (and documented in the SSPP) to integrate concerns identified during maintenance audits and inspections into the transit agency's hazard management process. 	√	SSPP provides a good overview of the maintenance process. A separate Facilities Maintenance Plan is also published, though it is somewhat out of date and needs to be revised. CTA is working on this revision currently.
15.2 Rules Review	Review any rules related to maintenance audits and inspections and determine if they have been updated and distributed to CTA personnel.	√	See Power & Way Department SOPs, including those on audits.
15.3 Records Review	<ul style="list-style-type: none"> ✓ Conduct a general review of maintenance records and documentation to verify that maintenance is being performed and documented. <ul style="list-style-type: none"> ○ Does the system use Maximo or a similar electronic system? ✓ Randomly select one system element to audit at a CTA reporting location (Track, Power or Signals) and review the same amount of maintenance records for those elements for the past year. Check to see that: <ul style="list-style-type: none"> ○ The preventive maintenance (PM) performed was consistent with the transit agency's maintenance program; ○ The PMs were conducted on schedule; ○ The proper type of PM was conducted according to the maintenance cycles promulgated in the maintenance 	√	<p>Maintenance is being performed and documented.</p> <p>CTA uses both paper and electronic resources for planning and tracking.</p>

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
<p>Records Review <i>continued</i></p>	<ul style="list-style-type: none"> ○ program. ○ Verify that the CTA frequency of conducting PM inspections is compliant with CTA procedures ○ Review the files for completeness and quality. ✓ Randomly select one system element to audit at a CTA reporting location and review the same amount of failure history and hazard tracking logs for the previous year. Note if a correlation between the PM maintenance cycle and corrective action/hazard reports exist in possible PM procedural deficiencies. ✓ Review corrective action and failure records and note repetitive failures that might indicate mechanic error and/or training requirement, ineffective procedure, and/or material deficiencies. ✓ Review "Maintenance Manuals", "Preventive Maintenance Checklists", "Inspection Records", "Original Equipment Manufacturer Recommendations (OEM)" if available, "Corrective Maintenance Records", "Operational QA/QC Program", and other documented information and/or procedures, guidelines, etc. Randomly cross check documents for consistency, i.e. document control. <ul style="list-style-type: none"> ○ Verify all documentation has dates, approvals, and control numbers. ○ Verify that documentation is available for all identified maintenance elements. ○ Verify that the documentation is current, consistent with each other, readily available to end users, and written and illustrated for the intended users. ✓ Review CTA track inspection reports for two (2) separate two-month periods during the last year to determine if: <ul style="list-style-type: none"> ○ All mainline tracks, yard leads, and transfer tracks were inspected as specified in the CTA's SSPP, track standards, and supporting procedures. 		<p>Performed records audits as noted in triennial report bibliography. Also checked track, signal, and power equipment as noted in the report. Several findings related to maintenance process are found in that document.</p> <p>See triennial report for exact areas checked.</p>

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
<p>Records Review <i>continued</i></p>	<ul style="list-style-type: none"> ○ The required inspections were properly documented and noted defects were corrected in a timely manner. ✓ Review CTA geometry car inspection reports for two (2) separate two-month periods during the last year to determine if: <ul style="list-style-type: none"> ○ All mainline tracks were inspected quarterly and all yard leads and transfer tracks were inspected annually by a geometry car. ○ The required inspections were properly documented and noted defects were corrected in a timely manner. ✓ Review CTA rail defect reports during the last three (3) years to determine if: <ul style="list-style-type: none"> ○ All mainline tracks were inspected biennially by a device capable of detecting internal flaws in the running rails. ○ The required inspections were properly documented and noted defects were corrected in a timely manner. ✓ Review CTA track inspection reports for at least three (3) separate month-long periods during the last three (3) years to determine if: <ul style="list-style-type: none"> ○ All mainline and yard turnouts were inspected as required by on-foot inspection. ○ The required inspections were properly documented and noted defects were corrected in a timely manner. ✓ Review the methodology by which the transit agency manages maintenance information/records (MMIS), whether electronically or manually. ✓ Verify that the MMIS is available to supervisors and mechanics responsible for maintenance and inspection. ✓ Verify that the MMIS tracks inspection and maintenance cycles, failure reports, out of service equipment, materials, corrective action items, and other related maintenance tracking items, etc. ✓ Review past documentation to verify that safety concerns and hazards 		<p>Completed as noted in triennial report. Generally no major problems with inspection frequency.</p> <p>In addition to reviewing overall inspection frequency, a detailed audit of inspection records and defect histories was performed for each of the track segments and signal locations checked in the field. A few paperwork discrepancies were resolved within the audit period, and appeared to be caused by misfiling, etc.</p>

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
Records Review <i>continued</i>	<p>identified from maintenance audits and inspections are being fed into the CTA's hazard management process.</p> <ul style="list-style-type: none"> ✓ Review random sampling of three (3) system elements per location and ensure that the appropriate checklists, i.e. ("<i>Inspection Card</i>") include item inspected, type inspection performed, date of inspection, mechanic performing inspection, responsible supervisor, supervisor and mechanic approval signature, that all items associated with the type inspection have been properly inspected, and that deficient items have been properly documented and/or repaired. 		
15.4 Interviews with Other CTA Personnel	<p>Interview CTA representatives from operations and maintenance and ask them to explain how safety data collected by their personnel and in their information systems is shared with the CTA Safety Department and other CTA divisions. For example, has the Maintenance of Way department identified any problems related to what may be poor quality track components (i.e., track inserts, concrete ties, plates, etc.) and has this information been shared with the procurement department to assure different vendors are used in the future. Ask them to provide examples of this process, including data from inspections that may indicate quality or maintenance issues.</p> <p>Randomly interview maintenance personnel, including both supervisors and mechanics, to verify that they have available the most current maintenance procedures and that they understand and have been properly instructed on using the information.</p> <ul style="list-style-type: none"> ✓ Ask these personnel if they have access to the testing and measurement equipment or devices that may be specified by inspection and testing procedures. ✓ Ask these personnel if they know of any immediate safety concerns or hazards that are the result of poor maintenance activities. ✓ Interview maintenance supervisors to verify how they communicate these issues to the CTA's Safety Department and other departments. 	√	<p>Discussed the safety data and hazard management process, separately with Safety, Power & Way management, and Power & Way maintenance representatives. They all described basically the same approach (and were consistent with SSPP content), and expressed fairly good confidence in that methodology.</p> <p>Each maintenance check noted in the triennial report also included a discussion of the tools and materials needed to perform the task. No issues were identified in these areas.</p>

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ○ Note if their responses are consistent with what is stated in the SSPP and referenced/supporting procedures. <p>Interview CTA operations and maintenance personnel supporting the CTA's internal safety audit process to:</p> <ul style="list-style-type: none"> ✓ Obtain an overview of how these department representatives support the Safety Department in conducting the internal safety audit. ✓ Assess the level of effort devoted to supporting the CTA's internal safety audit process. ✓ Determine how required expertise for auditing specific functions, such as track or signal inspection, is provided to ensure the rigor and quality of the internal safety audit. ✓ Assess the level of commitment to the internal safety audit process evidenced by these representatives from CTA operations and maintenance departments. <p>Interview CTA operations and maintenance personnel supporting the CTA's internal safety audit process to:</p> <ul style="list-style-type: none"> ✓ Obtain an overview of how these department representatives support the Safety Department in conducting the internal safety audit. ✓ Assess the level of effort devoted to supporting the CTA's internal safety audit process. ✓ Determine how required expertise for auditing specific functions, such as track or signal inspection, is provided to ensure the rigor and quality of the internal safety audit. ✓ Assess the level of commitment to the internal safety audit process evidenced by these representatives from CTA operations and maintenance departments. 		<p>See also supplemental checklist re. internal audits: Both Safety and Power & Way personnel (together and independently) expressed confidence in and support for the internal audit process.</p>

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
15.5 Field Observations	<ul style="list-style-type: none"> ✓ Observe at least one (1) major Preventive Maintenance Interval, Audit or Inspection at 3 field reporting locations to verify how the process is being implemented. ✓ Conduct five (5) major inspection locations/segments and conduct field audits that mix both general condition checks with validation of a CTA PM procedure. ✓ Ask Operations and Maintenance department representatives to review and demonstrate the systems used by their departments to report, analyze, and track safety. 	√	As noted in the triennial review report, this assessment included walking inspections with Track Maintainers in three separate inspection territories, and observation of maintenance practices in signals areas including interlocking rooms, switch machines, trip stops, and other areas.
15.6 Inspections and Measurements	<ul style="list-style-type: none"> ✓ Pick one (1) maintenance element at random and field review a sampling of the most recent completed preventive maintenance reports (PMs), and, through visual inspection, to the extent possible, whether the required maintenance procedure was completed. <ul style="list-style-type: none"> ○ This is best done by using the <i>"Preventive Maintenance Checklist"</i> with each item on the list correlated with a specific procedure. Note any areas from the checklist that simply say "checked," "tightened," or "tested" without specific readings. These items should be noted as deficiencies if specific readings are supposed to be noted in the maintenance documentation. ✓ Using contractor services, in-house personnel, or FRA-certified track inspectors, perform detailed visual and dimensional inspections/measurements of sample sections of mainline track, switches, crossovers, and turnouts to determine if the selected components are in compliance with the CTA's track standards. ✓ Using contractor services, in-house personnel, or FRA-certified vehicle inspectors, select and inspect at least one (1) vehicle from each of the CTA's vehicle fleets to determine if the CTA is maintaining its vehicles properly and adequately. ✓ Using contractor services, in-house personnel, or FRA-certified signal 	√	Completed: See above and triennial report for details of areas reviewed. Some findings were produced in Track, Power, and Signals as a result of this particular checklist item and interaction with related written procedures. [Note catenary not checked – Skokie has been converted to third rail.]

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
Inspections and Measurements Cont.	<p>inspectors, perform detailed inspections of selected mainline train control and signal systems and components to ensure that they are being maintained to the CTA's standards.</p> <p>✓ Using contractor services or in-house personnel, inspect a minimum of three (3) separate overhead catenary system segments to determine if they are in compliance with CTA standards. Also, inspect a minimum of three (3) Traction Power Substations to determine if they are in compliance with CTA standards.</p>		

Checklist completed by: Daniel Hauber

Dates of Review: May 3-6/Track and May 11-13/Signals

Persons Interviewed: See triennial report section for complete list of persons interviewed and documents reviewed.

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
15.8 Interviews with CTA Safety Personnel	Interview representatives from the Safety Department to determine: <ul style="list-style-type: none"> ✓ How they coordinate with the CTA's maintenance functions to ensure that inspections and audits are being performed as required for safety-critical systems, such as track, structures, train control, transit vehicles, tunnel ventilation and flood control, elevators, escalators, and communications. ✓ How they receive assurances that these safety-critical systems are inspected/tested and/or serviced on a scheduled, periodic basis. ✓ How they receive assurances that, if an inspection were to indicate that a safety-critical system failed or was found to be in an out of tolerance condition, operations would be restricted to maintain safety until such time as an appropriate remedial action has been completed. ✓ Any independent inspections/audits performed by Safety Department representatives. 	√ √ √ √	Safety does audit every 3 years as per RSSPP requirement. Safety does quarterly random track inspection to verify condition and repairs. Safety does annual inspection of all elevated structure walkways and all subway tunnels. No process to regularly verify that inspections are done on schedule. Hazardous conditions are reported as part of Hazard Management, such as the AF800 and AF500 signal circuit failures in 2009-10 and improper train berthing in 2008. Safety does its own inspections of track, elevated walkway, subway, stations, shops

Checklist completed by: D. Barber

Dates of Review: 5/4/10

Persons Interviewed: Safety, Security & Risk Compliance:

Sara Schwanke, GM

David Wright (Inspections & Investigations)

John Plante (Emergency Preparedness)

Jessica Rio (Data, Analysis & Audit)

Bob Burns (Training & Safety Observation)

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
15.9 Interviews with CTA Safety Personnel	Interview representatives from the Safety Department to determine: <ul style="list-style-type: none"> ✓ How they coordinate with the CTA's maintenance functions to ensure that inspections and audits are being performed as required for safety-critical systems, such as track, structures, train control, transit vehicles, tunnel ventilation and flood control, elevators, escalators, and communications. ✓ How they receive assurances that these safety-critical systems are inspected/tested and/or serviced on a scheduled, periodic basis. ✓ How they receive assurances that, if an inspection were to indicate that a safety-critical system failed or was found to be in an out of tolerance condition, operations would be restricted to maintain safety until such time as an appropriate remedial action has been completed. ✓ Any independent inspections/audits performed by Safety Department representatives. 	√	[Process is the same for Track, Power, and Signals] Safety performs ongoing internal audits of Power & Way Department maintenance functions. The depth and scope of these internal audits have both increased in recent years. Safety and Power & Way also coordinate to perform several types of joint equipment audits and inspections. These include special elevated walkway inspections, subway inspections, and rule compliance audits.

Checklist completed by: Daniel Hauber

Dates of Review: May 3-14, 2010

Persons Interviewed: [For Safety – Power & Way interaction in particular] Sara Schwanke, Adrian Cabral, William Mooney, Carrie Wagener, Mike Lowder, Dave Ellsworth, Midway Track Maintainers (first shift, inspection), and Midway Track Roadmaster.

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SSPP Element # 16 Training and Certification Program for Employees and Contractors: A description of the training and certification program for operations, maintenance and security preparedness, including: (i) categories of safety/security-related work requiring training and certification; (ii) a description of the training and certification program for employees and contractors in safety/security-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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
16.1 Document Review	<p>Verify that, in the SSPP, SEPP and referenced or supporting procedures, CTA has established a ensure that employees and contractors are qualified to perform their job duties in compliance with Operations, Maintenance and Emergency Response established rules and procedures.</p> <ul style="list-style-type: none"> ✓ Verify that the referenced or supporting procedures describe the categories of safety-related work requiring training and certification. ✓ Verify that the SSPP and referenced or supporting procedures describe the training and certification program for employees and contractors in Operations, Maintenance, and Emergency response positions. ✓ Verify that the SSPP and referenced or supporting procedures describe the process used to maintain and access employee training records. ✓ Verify that the SSPP and referenced or supporting procedures describe the process used to assess compliance with training and certification requirements. ✓ Conduct interviews with a representative sample of rank and file CTA operations and maintenance personnel to verify their familiarity with the SSPP, the CTA's safety programs and authorities, and their obligation to perform work safely and to report safety issues and potential hazards. ✓ Conduct interviews with a representative sample of CTA employees to verify that they are aware of emergency response procedures and responsibilities. 	✓	<p>Except as noted below, SSPP appropriately describes training programs in place, but does not state specifically for all positions whether or not recertification is required. Even if it is not, this should be noted.</p> <p>SSPP does not address training programs in place for Rail Controllers.</p> <p>SSPP does not address Rail (vehicle) Maintenance Training Program.</p> <p>CTA managers interviewed were aware of the SSPP and its overarching role in promoting safety systemwide. All reported active involvement of the Safety Department in their training activities.</p>
16.2 Rules Review	Review any rules related to the training and certification program for employees and determine if they have been updated and distributed to CTA personnel.	✓	CTA Trainlines, General Bulletins, and other changes to SOPs and practices are integrated into training programs, as found in the review.
16.3 Records Review	<ul style="list-style-type: none"> ✓ Through a records review: <ul style="list-style-type: none"> ○ Verify that a process for maintaining and accessing employee operations, maintenance and emergency preparedness training 	✓	Rail Transit Operations, Rail Instruction/Training, Rail (vehicle) Maintenance Training, Rail Control Center, the Safety Department, and the Union all have processes in

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VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
<p>Records Review <i>continued</i></p>	<p>records is in accessible.</p> <ul style="list-style-type: none"> ○ Verify that categories of safety-related work requiring training and certification have been identified. ○ Verify that employee and contractor job classifications requiring initial and refresher training and certification have been identified. ○ Verify that the CTA has process is in place to assess compliance with its training and certification requirements. ○ Verify that corrective actions taken to discipline employees and contractors for failure to follow established procedures once trained and certified are established and consistent. <p>Review training programs to verify:</p> <ul style="list-style-type: none"> ○ That training consists of both classroom and hands-on training. <p>Verify that contractor training requirements are specified in contract documents.</p> <ul style="list-style-type: none"> ○ Review documents and verify that requirements are being met. <p>Review past documentation to verify training oversight and discipline processes.</p> <p>Randomly select at least six (6) CTA employees in each of the following classifications:</p> <ul style="list-style-type: none"> ○ Train operator ○ Operation Control Center (OCC) Supervisor ○ Line Supervisor ○ Yard Supervisor 		<p>place to record and track employee training.</p> <p>All of the above-listed departments have identified training and certification requirements by employee classification.</p> <p>The CTA's internal safety audit process, coupled with departmental training needs reviews are in place to assess and assure compliance with training intervals.</p> <p>The CTA has taken corrective actions to address incomplete training.</p> <p>As appropriate, training incorporates classroom and hands-on components.</p> <p>Contractor training requirements are laid out in specific contract documents.</p> <p>Security and Safety training records from 2008 and 2009 for the following employees were reviewed:</p> <ul style="list-style-type: none"> ● Train Operators ● Rail Supervisors ● Switchmen ● Yardmen ● Flagmen

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SSPP Element # 16 Training and Certification Program for Employees and Contractors: A description of the training and certification program for operations, maintenance and security preparedness, including: (i) categories of safety/security-related work requiring training and certification; (ii) a description of the training and certification program for employees and contractors in safety/security-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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ○ Track Inspector ○ Vehicle Maintainer <p>Review training and recertification records for the above employees for the past two (2) years to determine if:</p> <ul style="list-style-type: none"> ○ The employee has completed the initial training program and refresher and remedial training as necessary. ○ The course content was appropriate and adequate to meet training and recertification requirements. ○ The employee has been recertified at the correct frequency and currently meets the criteria to operate a vehicle or perform maintenance work. ○ The training addressed employee responsibilities for the safety & security of CTA passenger, property and personnel. 		<ul style="list-style-type: none"> ● Towermen ● Customer Agents/Assistants ● Control Center Controllers ● Power Controllers ● Railcar Maintainers ● Power & Way Maintainers ● Facilities Maintainers ● System Maintainers ● Senior Managers & Executives <p>Most operating and maintenance training was completed on-time, except as noted.</p> <p>Controller training was not completed on-time, but deficiency has been addressed.</p> <p>Train operator refresher training on doors and announcements was not consistently applied and/or recorded in employee records.</p> <p>Safety programs incorporated detailed information on safety-related subjects.</p> <p>Training and recertification requirements are well-planned and described.</p>

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SSPP Element # 16 Training and Certification Program for Employees and Contractors: A description of the training and certification program for operations, maintenance and security preparedness, including: (i) categories of safety/security-related work requiring training and certification; (ii) a description of the training and certification program for employees and contractors in safety/security-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.

VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
16.4 Interviews with CTA Safety Personnel	Conduct interviews with representatives from the Safety Department to: <ul style="list-style-type: none"> ✓ Assess the role of safety in supporting and evaluating the CTA's training needs and programs. ✓ Verify that training programs are reviewed and revised as necessary to ensure accuracy and relevance to current operations and maintenance. 	✓	<p>Safety Department personnel conduct internal audits of training programs and are scheduled to complete a three-year audit this year. The Safety Department plays an appropriate role per requirements of 659. Departments stated that Safety serves as a resource.</p> <p>Safety Department administers much of the safety and security training for Power & Way, Facilities, and System maintainers.</p> <p>All training programs reviewed were reviewed and revised in the past three years. Safety bulletins, trainlines, and other pertinent, timely documentation is incorporated into training.</p> <p>Ongoing refresher training is offered.</p>
16.5 Field Observations	<ul style="list-style-type: none"> ✓ Ask Operations/Maintenance department representatives to review and demonstrate the systems used by their departments to report, analyze, and track safety. (Item moved from checklist 9) ✓ Verify that appropriate personal protective equipment (PPE) is provided and used as required by the MSDS, material manufacturer, and the transit agency. (Item moved from checklist 19) ✓ Verify MSDSs are readily available to all employees and contractors of the transit agency and that they have been properly instructed on the use of the MSDS system. (Item moved from checklist 19) 	✓	<p>All department representatives were able to provide information about how training programs are administered and how training records are kept and training levels are tracked.</p> <p>PPE & MSDS are covered appropriately in training programs; PPE & MSDS use are addressed in other areas of the RTA review.</p>

Checklist completed by:
Christopher E. Wallgren, TRA

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Dates of Review:

Rail Transit Operations Training – May 10, 2010
Rail Maintenance Training – May 11, 2010
Power & Way; Facilities; Safety Training – May 12, 2010
Emergency Operations Plan (Training) – May 13, 2010
Rail Control Center – May 13, 2010

Persons Interviewed:

Rail Transit Operations

Carol Stewart Taylor, Manager, Instruction Programs Development
Kenneth Hughes, Transportation Manager, Rail Instruction
Dorothy Bester, Transportation Manager, Rail Instruction
Jocelyn Howard, Coordinator of Administration

Rail Maintenance (Vehicles) Training

David Kowalski, Director, Maintenance – Rail
Thomas Dietrich, Manager II, Maintenance
George Cavelle
James Layman
Christopher Hegarty, Manager, Rail Engineering Technical Services
Larrice Taylor
Philip Lamont, General Manager, Rail Car Heavy Maintenance

Power & Way; Facilities; Safety Training

Robert Burns, Manager, Training and Safety Observations
Vince Genna, CTA Safety Training
Robert Stucko, CTA Safety Training
Sara Schwanke
Peter Gnof, Jr.
Ghassan Nouti
Erin Carsele
Gus Nouti
Pete Graf

Emergency Operations Plan

John R. Plante, J.D., Senior Manager, System Safety & Environmental Affairs

Rail Control Center

Kelley Brookins, General Manager, Control Center

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SSPP Element # 17 Configuration Management and Control: 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
17.1 Document Review	<ul style="list-style-type: none"> ✓ Verify that the SSPP and/or referenced and support procedures provide a description of the CTA's configuration management control process. ✓ Verify that this process includes: <ul style="list-style-type: none"> ○ the authority to make configuration changes, ○ process for making changes, and ○ assurances necessary for all involved departments to be formally notified. ✓ Verify that a "<i>Configuration Management Plan (CMP)</i>" or similar document has been established by the CTA to guide its program. 		<p>RSSPP Chapter 17 only provides general references to project management processes and the Safety Certification Program, which is not the same as Configuration Management. The role of the Safety Certification Committee is references, but that has only been used on the Brown Line Project, for which Safety Certification was only done for the construction phase.</p> <p>No Configuration Management Plan was provided.</p>
17.2 Rules Review	Review any rules related to the CTA's Configuration Management and Control process and determine if they have been updated and distributed to CTA personnel.	√	CIP Program Management Procedure P120, Configuration Management is used for all CTA projects. It is supported by CIP Project Management Procedure P103, Web-Based Project Management System Records Management, ProjectNet. A briefing was received on CTA's ProjectNet system and how it is used to manage project documentation and system configuration. Its use is guided by a manual and it applies to all CTA projects.
17.3 Records Review	<p>Review CTA training curriculums and materials related to configuration management to assess how the CTA trains its employees on this topic</p> <ul style="list-style-type: none"> ✓ Verify the "<i>Configuration Management Plan</i>" includes as a minimum the following: <ul style="list-style-type: none"> ○ The system's baseline system configuration process. ○ A tracking mechanism for the evolution of the system through its life cycle. ○ An Interface process or an attendant "Interface Coordination Document" that defines this process and responsibilities. 	√	CTA has no Configuration Management Plan, but a briefing was provided CTA's ProjectNet system that is used to manage project documentation and system configuration. Its application appears very effective, but is not mentioned in the RSSPP Chapter 17. Training on ProjectNet is provided to CTA and others involved in project management/ documentation and configuration management.

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SSPP Element # 17 Configuration Management and Control: 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
Records Review <i>continued</i>	<ul style="list-style-type: none"> ○ Methods used to track configuration control changes, such as engineering change requests (ECRs), engineering change notices (ECNs), field modification instructions (FMIs), etc. ○ The establishment of a Configuration Control Board (CCB) or similar organization to review change requests and ensure that all departments within the agency that are affected by the proposed change are represented. ○ Roles, responsibilities and authority for configuration control activities for all departments including their involvement on the Configuration Control Board. ○ Integration of the Configuration Control Board with the functional organization. ○ Classification of configuration control changes and coordination activities. ○ The configuration management process is coordinated with the System Modification Review and Approval Process and the Safety and Security Certification Process. ✓ Randomly select two (2) safety critical changes that were executed in the last 12 months to ensure documentation was properly updated to include at a minimum: <ul style="list-style-type: none"> ○ As-built drawings ○ As-built specifications ○ Interface control documentation ○ Rules, procedures and policies ○ Training documents ○ Operations and maintenance manuals ✓ Randomly select an ECR, ECN and FMI and verify that: <ul style="list-style-type: none"> ○ Proper forms were used. ○ Forms were properly circulated by the CCB. ○ Change was reviewed and approved by the CCB. 		

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SSPP Element # 17 Configuration Management and Control: 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> ○ Change was reviewed and approved by the General Manager. ○ Change was circulated to the proper departments for execution 		
17.4 Interviews with CTA Safety Personnel	<p>Interview Safety Department representatives to assess their knowledge of the CTA's configuration management process and the activities they perform to support this process.</p> <ul style="list-style-type: none"> ✓ Verify through questioning that CTA personnel have access to the CTA's configuration management system and document control program. ✓ Verify through questioning that CTA Safety Department personnel provide appropriate review and sign-off of updated documents prepared by other CTA departments. ✓ Verify through questioning that the CTA Safety Department follows the CTA's configuration management process in updating its own documents and plans. ✓ Verify through questioning that configuration changes are assessed for potential hazards and entered into the CTA's hazard management process as appropriate. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	Safety has access to ProjectNet, which provides document and configuration control.
17.5 Interviews with Other CTA Personnel	<ul style="list-style-type: none"> ✓ Conduct employee interviews and document reviews of configuration management-related materials to verify that: <ul style="list-style-type: none"> ○ the rest of the transit agency has access to the configuration management plan, and ○ they are using it. ✓ Interview individuals that have been identified as having responsibility in the "<i>Configuration Management Plan</i>" and/or "<i>Interface Control Document</i>" to verify their understanding of the plans and how they coordinate with the CTA's Safety Department on configuration management issues. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	Interviewed people responsible CIP Program Management Procedure P120, Configuration Management, and CIP Project Management Procedure P103, Web-Based Project Management System Records Management, ProjectNet.

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SSPP Element # 17 Configuration Management and Control: 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
17.6 Field Observations	Have a CTA employee provide a demonstration of the CTA's configuration management and document control system.	✓	A demonstration of ProjectNet was provided.
17.7 Inspections and Measurements	During the course of facility visits, ask to see various operating manuals, rule books and other documents to verify that they are current.	✓	Performed by others who conducted facility visits.

Checklist completed by: T. Luglio

Dates of Review: 5/6/10

Persons Interviewed:

Jim Harper (Deputy Chief Engineer)
 Leah Dawson (Chief of Capital Construction Financials, Facilities Maintenance, Construction and Engineering/Power & Way)
 Sara Schwanke (General Manager – Safety and Risk Compliance)
 John Plante (Senior Manager, System Safety and Environmental Affairs)
 Adrian Cabral (System Safety Engineer, System Safety)
 Kevin Vogt (Construction Safety, System Safety)
 Erin Carsele (Project Manager – Power & Way Maintenance, Construction and Engineering)

Additional Persons with Chicago Transit Partners for ProjectNet:

Michael Goff (ProjectNet Manager)
 Christer Bohman (QA/QC Manager)

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SSPP Element # 18 Local, State and Federal Requirements: 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, CTA controlled property; and (ii) process for ensuring the employees and contractors know and follow the requirements.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
18.1 Document Review	<ul style="list-style-type: none"> ✓ Verify that the SSPP and referenced/supporting procedures include a description of the safety program for employees and contractors that includes applicable local, state, and federal requirements. ✓ Verify that the SSPP and referenced/supporting procedures include safety requirements that employees and contractors must follow when working on, or in close proximity to, rail transit agency controlled property. ✓ Verify that the SSPP and referenced/supporting procedures include a process for ensuring the employees and contractors know and follow the requirements. 	Ch 18, pp 68-69 ✓ ✓	Requirements are identified. Associated training requirements and programs are described in Chapter 16 which is not referenced. Requirements are listed. There are safety personnel and programs involved with the oversight of contractor and employee safety but this responsibility is not described in the SSPP.
18.2 Rules Review	If not already covered by other activities, review any rules related to local, state and federal requirements and determine if they have been updated and distributed to CTA personnel.	✓	Bulletins, SOP's, Rail Safety Training Manual
18.3 Records Review	<ul style="list-style-type: none"> ✓ Verify construction projects have specific procedures in place to ensure worker protection and public safety by fostering an awareness and concern for safety on the job site. ✓ Verify that the transit agency's employee and contractor safety programs incorporate all elements required by local, state or federal law. ✓ Verify that the safety requirements that employees and contractors must follow when working on, or in close proximity to transit agency controlled property, are in place. ✓ If the agency has ever had a problem with complying with local, state, or federal requirements, review past documentation to verify how the issue was handled and resolved by the agency. ✓ Verify that implementation of these procedures is the responsibility of the contractor organization performing the work and the transit agency. ✓ Verify the transit agency's operating and maintenance safety rules and procedures are included in construction contracts to bind contractors 	✓ ✓ ✓ ✓ ✓ ✓	Verified CTA Construction Safety Manual, and incorporation of requirements into CTA construction contracts. Compliance with OSHA requirements verified by quarterly facility inspections performed by Safety. Specified in Rail Safety Training Manual, SOP's and Bulletins. Deficiencies identified through inspections are corrected and verified. Applicable rules are part of required Construction Safety Manual that is incorporated into all construction contracts for implementation by the contractors.

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SSPP Element # 18 Local, State and Federal Requirements: 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, CTA controlled property; and (ii) process for ensuring the employees and contractors know and follow the requirements.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
	<ul style="list-style-type: none"> and employees to fulfilling their roles and responsibilities safely. ✓ Verify that the transit agency has a process in place for ensuring employees and contractors know and follow safety rules and procedures. ✓ Verify appropriate forms of disciplinary action are taken consistently to correct employees and contractors who have not followed established safety rules and procedures. 	<ul style="list-style-type: none"> ✓ ✓ 	<p>Contractor Safety Manager and CTA construction safety inspections assure rule compliance.</p> <p>Compliance checks are performed by Safety. Observation of work activities by safety personnel was witnessed. Issues of minor non-compliance were addressed through re-instruction in the field. The forms indicate that the issues have been closed out.</p>
18.4 Interviews with CTA Safety Personnel	Interview CTA Safety Department representatives to discuss the local, state and federal requirements addressed by the CTA in this section of the SSPP.	✓	Work Zone/ROW requirements and OSHA/shop requirements were discussed.
18.5 Interviews with Other CTA Personnel	<ul style="list-style-type: none"> ✓ Randomly interview employees and contractor personnel to determine their levels of awareness regarding local, state, and federal laws. <ul style="list-style-type: none"> ○ Are they aware of OSHA Right to Know regulations? ✓ Are contractors aware of the penalties that may be imposed if they fail to comply with laws and regulations? 		
18.6 Field Observations	<ul style="list-style-type: none"> ✓ Conduct field inspections of CTA facilities to verify basic OSHA or state equivalent requirements are being met (i.e., general housekeeping of maintenance facilities, employee use of PPE, hazardous materials storage and MSDS locations, provision of eye wash stations, first aid kits, and fire extinguishers, provision of fall protection and/or warning systems around maintenance pits, etc.). ✓ Conduct field inspections of contractor work sites to verify contractors are following required safety rules and procedures specified in contract documents. 	<ul style="list-style-type: none"> ✓ ✓ 	<p>Kimball Rail Shop – 5/7/10</p> <p>Belmont Station (Red Line) – 5/5/10 Red Line Grand and North/Clybourn Stations; Green Line structural column relocation work site – 5/7/10</p>

Checklist completed by: D. Barber, T. Luglio

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Dates of Review: 5/5/10 & 5/7/10

Persons Interviewed: (see below)

ROW Safety field review 5/5: Kevin Vogt (Construction Safety)

Shop Safety field review 5/7:

Bob Burns (Training & Safety Observation)

Paris Galmore (Inspections & Investigations),

Tom Drozd (GM System Maintenance – Shops & Facilities)

Kevin Lockney (Chief of Facilities Initiatives)

Mike Turbov (Machinist Foreman – North Side)

George Domingez (Manager – Kimball Shop)

Sara Schwanke (General Manager – Safety, Security & Risk Compliance)

Robert Whitmann (General Manager – CTA Construction)

Erin Carsele (Project Manager – Power & Way Maintenance, Construction and Engineering)

Construction Site Tour 5/7: Kevin Vogt (Construction Safety, System Safety)

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Three Year Safety & Security Reviews of Chicago Transit Authority

SSPP Element # 19 Hazardous Materials Programs: A description of the hazardous materials program including the process used to ensure knowledge of and compliance with the program requirements.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
19.1 Document Review	Verify that the SSPP and/or referenced and supporting procedures contain a description of the hazardous materials program, including the process to ensure knowledge of and compliance with the program requirements.	Ch 19, p 70 ✓	Responsibilities are assigned by the RSSPP to Safety (Training & Observation and Industrial Hygiene) and to Facilities Management (Environmental Affairs)
19.2 Rules Review	Review any rules related to the CTA's hazardous materials program and determine if they have been updated and distributed to CTA personnel.	✓	SOP's, Safety Bulletins, Shop Emergency Response/Spill Control plans

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Three Year Safety & Security Reviews of Chicago Transit Authority

SSPP Element # 19 Hazardous Materials Programs: A description of the hazardous materials program including the process used to ensure knowledge of and compliance with the program requirements.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
19.3 Records Review	<p>Select at random six (6) CTA employees who handle hazardous materials.</p> <p>a. Review their employee file to verify that they have received specific training regarding reporting requirements, inventory control and storage, product release or spill, and the response and cleanup of spill incidents.</p> <ul style="list-style-type: none"> ✓ Verify that a hazardous materials (HazMat) program is documented in a hazardous materials plan or procedure. ✓ Verify that the transit agency has developed an OSHA or state equivalent compliant HazMat program (if applicable). ✓ Verify that the program includes a process to familiarize the employees with the hazards presented by materials used in the work place and the Employee Safety Program. ✓ Verify the program assigns roles and responsibilities to specific departments and personnel for reviewing and approving materials used or to be purchased and used on transit agency property. ✓ Verify that follow-up activities are performed to verify field use of approved materials to ensure that safe and proper use, handling, storage, and disposal methods are employed. ✓ Verify that MSDS for all chemicals and other materials that are currently used, or that are being considered for purchase and use are reviewed and approved prior to chemical purchase. ✓ Verify that hazardous materials discharge/spill reports for incidents that occurred during the past three (3) years have been prepared and filed. ✓ Verify that all MSDS are available to all personnel who work with hazardous materials. 	<p>✓</p>	<p>Training program verified with Safety dept. Training & Observation is responsible. Have training records for all employees on spreadsheet for last 10 years.</p> <p>Environmental Affairs develops Emergency Response and Spill Control Plans for each shop location as well as Bulletins and SOP's</p> <p>OSHA/Hazmat training conducted annually at shops by Safety Training & Observation.</p> <p>CTA Purchasing Procedures for Hazardous Material requires MSDS review/approval by Safety's Sr. Industrial Hygienist with Purchasing/Warehousing controls. Inspections semi-annually by Environmental Affairs and Quarterly by Safety Inspection & Investigation including documented findings & checklist</p> <p>Approvals and MSDS forms are documented and filed both in hardcopy and electronic database.</p> <p>No reportable spills</p> <p>Available on line at all shop MMIS or IPC Workstations for which employees have been trained</p>

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SSPP Element # 19 Hazardous Materials Programs: A description of the hazardous materials program including the process used to ensure knowledge of and compliance with the program requirements.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
19.4 Interviews with CTA Safety Personnel	<ul style="list-style-type: none"> ✓ Interview CTA Safety Department representatives to discuss the CTA's hazardous materials program and the role of the CTA Safety Department in enforcing this program. Be sure to discuss the following: <ul style="list-style-type: none"> ○ The procurement process for insecticides, herbicides, chemicals, and solvents. ○ If a MSDS for each hazardous material is on file with the System Safety Department. ○ If the approved MSDSs have been entered into an MSDS filing system for tracking. 	✓ ✓ ✓ ✓	Hardcopy and electronic database for system wide access Database system – includes current and prior approval status
19.5 Interviews with Other CTA Personnel	Interview CTA department managers to determine if hazardous materials are being handled properly. Be sure to discuss the following: <ul style="list-style-type: none"> a. The procurement process for insecticides, herbicides, chemicals, and solvents. b. If a MSDS for each hazardous material is on file with the System Safety Department. c. If the approved MSDSs have been entered into the MSDS filing system for tracking. 	✓ ✓ ✓	
19.6 Field Observations	Observe CTA maintenance personnel working with hazardous materials. Ensure that they follow all applicable rules and procedures. Note any discrepancies.		
19.7 Inspections and Measurements	<ul style="list-style-type: none"> ✓ Verify that appropriate personal protective equipment (PPE) is provided and used as required by the MSDS, material manufacturer, and the transit agency. ✓ Verify MSDSs are readily available to all employees and contractors of the transit agency and that they have been properly instructed on the use of the MSDS system. 	✓ ✓	Safety Sr. Industrial Hygienist has PPE requirements for all job classifications Access to MSDS information on line verified at Kimball shop.

Checklist completed by: D. Barber

Dates of Review: 5/5/10

Persons Interviewed: (see below)
 Chuck Webber (Environmental Affairs)

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Edward Miller (Sr. Industrial Hygienist)
Bob Burns (Training & Safety Observation)
Adrian Cabral (Safety)
Scott McAleese (Engineering)
Erin Carsele (Power & Way)

Regional Transportation Authority

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SSPP Element # 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
20.1 Document Review	<ul style="list-style-type: none"> ✓ Verify that the SSPP contains a description of the CTA's drug and alcohol program requirements. ✓ Verify that the CTA has a drug and alcohol policy and that it is consistent with federal and state requirements. 	<ul style="list-style-type: none"> ✓ ✓ 	
20.2 Rules Review	<ul style="list-style-type: none"> ✓ Review any rules related to the CTA's Drug and Alcohol Program and determine if they have been updated and distributed to CTA personnel and to contractors. 	<ul style="list-style-type: none"> ✓ 	
20.3 Records Review	<ul style="list-style-type: none"> ✓ Assess whether the CTA has ever undergone a federal or state audit of its drug and alcohol program. <ul style="list-style-type: none"> ○ If so, what were the outcomes? ○ Verify that all findings or recommendations been addressed. ✓ Review training program curriculums to verify the transit agency is training all employees regarding its drug and alcohol policy. ✓ Review CTA records and documents to determine the number of employees in safety sensitive positions who tested positive (or refused to take a test) during the past 3 years: <ul style="list-style-type: none"> ○ For pre-employment; ○ With a reasonable cause; ○ Post-Accident; ○ At random; ○ To return to Work; ○ As a follow-up. ✓ Confirm that this information was accurately reported to FTA through the CTA's annual submission to the Drug and Alcohol Management Information System (DAMIS). ✓ Confirm that the CTA has a policy in place for managing the use of Over-the-Counter drugs. 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ 	<p>Mandatory awareness training complete but not all Clerks receive Reasonable Suspicion training (they're responsible for doing a "fit for duty" check of operators first reporting for their shifts).</p> <p>Reviewed MIS Reports for 2007, 2008 and 2009</p>

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SSPP Element # 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (√)	Comment(s)
20.4 Interviews with Other CTA Personnel	Interview transit personnel, including supervisors, responsible for administering the program and verify they are familiar with the requirements and are implementing the program according to federal standards.	√	

Checklist completed by: R. Kogan

Dates of Review: May 6, 2010

Persons Interviewed: See list

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SSPP Element # 20a 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.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
20.5 Interviews with CTA Safety Personnel	✓ Interview CTA Safety Department personnel to verify that they are familiar with the requirements and are implementing the program according to federal standards.	✓	Program audits are performed by Employee Relations and records are reviewed by Safety.
	✓ Ensure that CTA Safety Department personnel support implementation of the CTA's post-accident drug and alcohol testing during accident investigations.	✓	D&A results are incorporated in the investigation process as Section 6.8 of CTA Procedure for Accident and Incident Investigation.

Checklist completed by: D. Barber

Dates of Review: 5/4/10

Persons Interviewed: (see below)
 Safety, Security & Risk Compliance:
 Sara Schwanke, GM
 David Wright (Inspections & Investigations)
 Jessica Rio (Data, Analysis & Audit)

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SSPP Element # 21 Procurement Process: A description of the measures, controls, and assurances in place to ensure that safety principles, requirements and representatives are included in CTA's procurement process.			
VERIFICATION METHOD	RECOMMENDED ACTIVITIES	Reviewed Element (✓)	Comment(s)
21.1 Document Review	Verify that the SSPP and any referenced or supporting procedures include a description of the process used by the CTA to ensure that safety issues and concerns are addressed in the procurement process.	Ch 21, p 72 ✓	Responsibility assigned to Purchasing & Warehousing with MSDS review/approval by Safety
21.2 Rules Review	Ensure that any updated rules relevant to the CTA procurement process are communicated appropriately.	✓	CTA Purchasing Procedures for Hazardous Material
21.3 Records Review	<ul style="list-style-type: none"> ✓ Verify that the SSPP contains a description of the basic procurement processes that must be followed by the transit agency to assure that safety concerns and issues are addressed. <ul style="list-style-type: none"> ○ Is the procurement process tied to the transit agency's hazard management process? ○ Are procurements of new equipment and material first reviewed by the Safety Department, engineering, operations, and/or maintenance staff to verify the new equipment or materials won't present a hazard to the existing system? ○ Do all procurement processes for hazardous materials address all appropriate rules and regulations? 	✓ ✓ ✓ ✓	Interviews confirm that the process functions as described in the RSSPP. All hazardous materials are analyzed by Safety with consideration for non-hazardous substitutions and PPE requirements Review by Technical Services (Skokie Rail), Tech Support (West Shops) and Safety. All hazardous material purchases, deliveries, handling and storage are controlled by P&W.
21.4 Interviews with CTA Safety Personnel	Interview Safety Department representatives and have them explain how they work through their procurement process to ensure that safety issues are identified, assessed, and resolved.	✓	Reviewed MSDS and PPE with Ed Miller
21.5 Interviews with Other CTA Personnel	Interview transit personnel responsible for procurement to verify that they are aware of, and are following, the CTA's processes to ensure that safety issues and concerns are addressed in the procurement process.	✓	Reviewed process & control procedures with P&W personnel.

Checklist completed by: D. Barber

Dates of Review: 5/7/10

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Persons Interviewed: (see below)

Jessica Rio (Data, Analysis & Audit)

Edward Miller (Sr. Industrial Hygienist)

Mark Ehmig (GM Warehouse Operations)

Geoffrey Urban (GM Purchasing)

Humberto Perez, Jr (Coordinator, Quality inspection – Materials)

Harry Paller (Manager Specifications & Inspections)

Patrick Hughes (Manager Warehousing & Purchasing)