
CALIFORNIA PUBLIC UTILITIES COMMISSION 2007 TRIENNIAL ON-SITE SAFETY REVIEW SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN

RAIL TRANSIT SAFETY SECTION
RAIL TRANSIT AND CROSSINGS SAFETY BRANCH
CONSUMER PROTECTION AND SAFETY DIVISION
CALIFORNIA PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

October 3, 2007

FINAL REPORT



Richard W. Clark, Director
Consumer Protection and Safety Division

2007 ON-SITE SAFETY REVIEW
SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN'S
RAIL TRANSIT SAFETY PROGRAM

ACKNOWLEDGEMENT

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

Ni Liu, Lead Auditor	Noel Takahara
Dain Pankratz	

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1. EXECUTIVE SUMMARY

The California Public Utilities Commission's (Commission) Consumer Protection and Safety Division (CPSD), Rail Transit Safety Section staff (staff) conducted the second triennial on-site safety and security review of the San Francisco International Airport AirTrain's system safety program in August 2007.

Staff conducted a security review entrance conference with airport personnel on August 10, 2007. Transportation Safety Administration (TSA) representatives headed the meeting and the security review. On August 20, 2007, staff also conducted a safety review entrance conference with the management of AirTrain and its contractor Bombardier.

The 2007 on-site safety and security review was conducted in three phases. The first phase consisted of TSA's security review from August 13 to August 15, 2007. The second phase included facilities and equipment inspections on August 16 and 17, 2007. Staff conducted the third phase, the on-site safety review, from August 20 to August 23, 2007. The on-site safety review focused on verifying the effective implementation of the safety and security program plans.

Staff conducted a safety review exit conference with AirTrain and Bombardier personnel on August 31, 2007. Staff provided AirTrain and Bombardier personnel with a synopsis of the preliminary review findings and recommendations for corrective actions.

Staff utilized 15 checklists to perform the on-site safety review. The review results indicated that AirTrain has an effective system safety program and has made significant improvements to their safety program in comparison to findings in the 2004 review. Staff identified areas where changes should be made to further improve AirTrain's system safety program. The identified areas are described in the Activities/Findings and Recommendations section of the pertinent checklists along with recommendations to correct the identified findings. Of the 15 checklists, staff made five recommendations for

corrective action in four checklists. Recommendations for corrective actions are directed in the areas of General Order 95 compliance, deficiency tracking, and documentation.

The Introduction for this report is presented in Section 2. The background, in Section 3, contains a description of the AirTrain guideway system and the 2004 triennial review results. Section 4 describes the review procedure. The review findings and recommendations are depicted in Section 5. Appendix A contains TSA executive summary for their on-site security review. The AirTrain 2007 triennial safety review checklist index and the recommendations list are included, respectively, in Appendices B and C. The 15 safety review checklists are presented in Appendix D.

2. INTRODUCTION

The Commission's General Order (GO) 164-D, *Rules and Regulations Governing State Safety Oversight of Rail Fixed Guideway Systems*, effective May 3, 2007, and the Federal Transit Administration's (FTA) Rule, Title 49 Code of Federal Regulations (CFR) Part 659, *Rail Fixed Guideway Systems; State Safety Oversight*, require the designated state safety oversight agency to perform a review of each rail transit agency's system safety program at a minimum of once every three years. The purposes of the triennial review are to evaluate the effectiveness of each rail transit agency's System Safety Program Plan (SSPP) and System Security Plan (SSP) and to assess the level of compliance with applicable Commission General Orders. Staff conducted the last AirTrain review in May 2004.

On July 20, 2007, staff mailed a letter to the Deputy Airport Director of the San Francisco International Airport advising him that the triennial review has been scheduled for August 2007. The letter included 15 checklists that served as the basis for the review. Three of the 15 checklists outlined inspection of guideway, electric power systems, and emergency egress. The remaining checklists focused on the verification of the effective implementation of the safety and security program plans.

On August 10, 2007, staff attended the security review entrance conference with San Francisco International Airport's Aviation Security Manager, AirTrain's Manager, and Operations Administrator. TSA representatives headed the security review entrance conference to describe the methods and checklists they will be using to review AirTrain's security program. Staff conducted the safety inspections from August 16, 2007 to August 17, 2007. On August 20, 2007, staff conducted a safety review entrance conference with AirTrain's Manager, Operations Administrators, Bombardier's San Francisco Service Delivery Center's Director, Safety Engineering Specialist, and Technical Services Supervisor.

Staff then proceeded with the on-site safety review and records review from August 20, 2007 to August 23, 2007. At the conclusion of each review activity, staff provided the AirTrain and/or Bombardier representative/s with a summary of the preliminary findings and discussed any recommendations for corrective actions.

On August 31, 2007, staff conducted a safety review exit meeting with AirTrain's Manager, Operations Administrators, Bombardier's San Francisco Service Delivery Center's Director, Safety Engineering Specialist, and Technical Services Supervisor. Attendees were given a synopsis of the findings from the 15 checklists and recommendations for corrective actions where applicable.

3. BACKGROUND

A. SYSTEM DESCRIPTION

AirTrain is a fully-automated people mover that operates 24 hours every day, providing free service throughout the San Francisco International Airport (SFO). The SFO AirTrain was the first system to feature the CITYFLO 650 communication-based automatic train control by Bombardier Transportation. It was originally contracted to Bombardier as a design-build-operate-maintain project. The system is owned by the airport and currently operated and maintained by Bombardier. This is the fifth year the system has been in service.

With a fleet of 38 CX-100 people movers, the 10 km (6 mi) system serves nine stations, connecting all the airport's terminals, parking garages, and the Bay Area Rapid Transit (BART) station with the Rental Car Center. AirTrain operates on the Red Line and the Blue Line. The Red Line connects all terminals, terminal garages, and the BART Station. The Blue Line connects all terminals, terminals garages, and the BART station with the Rental Car Center.

B. 2004 TRIENNIAL REVIEW

Staff performed the first review of AirTrain's System Safety Program in May 2004. Ten (10) recommendations for corrective action resulted from twelve (12) checklists. The majority of the recommendations focused on system safety administration/management. The most significant of these recommendations was the need to develop and implement an internal safety audit program.

The report on the 2004 safety review of AirTrain was granted by Commission Resolution ST-73, dated December 2, 2004. AirTrain has developed and completed all corrective actions to implement the recommendations, including the development and implementation of an internal safety audit program, prior to the 2007 review.

4. REVIEW PROCEDURE

Staff conducted the review in accordance with the Rail Transit Safety Section Procedure RTSS-4, *Procedure for Performing Triennial On-site Safety and Security Reviews of Rail Transit Agency*.

Staff developed fifteen (15) checklists to cover various aspects of system safety responsibilities, using FTA guidelines, Commission requirements, AirTrain safety and security documents, Bombardier safety and security documents, and the staff's knowledge of the transit system. The 15 checklists are included as Appendix D.

Each checklist identified the FTA SSPP elements and characteristics reviewed, results of the review, and recommendations for improvement, where applicable. The methods used to perform the review include:

- Inspections of equipment and infrastructure
- Reviews of inspection and maintenance records
- Discussions with AirTrain management
- Reviews of rules, procedures, policies, and records
- Interviews with rank and file employees
- Follow-up to the 2004 AirTrain triennial review

The review checklists concentrated on requirements that affect the safety of train operations and are known or believed to be important in reducing safety hazards, preventing accidents, and increasing security.

5. FINDINGS AND RECOMMENDATIONS

Through the various review and inspection activities, staff concluded that AirTrain has an effective system safety program. Review findings identified areas where changes should be made to further improve AirTrain's system safety program. The review identified five recommendations from the 15 checklists outlined below:

1. Inspections and Maintenance

No deficiencies – No recommendations.

2. General Order 95 Inspection

Deficiencies found:

- High voltage warning signs located on the running rail have faded.
- High voltage warning signs were found to be out of compliance with GO 95.79.5.

Recommendations:

1. AirTrain should conduct a system-wide power rail inspection to replace the faded high voltage warning signs in accordance with GO 95.79.5.
2. AirTrain should install a sign bearing the words "Danger," "Electric Third Rail," and "Keep Away" in letters at least 3 inches in height installed, in accordance with GO 95.79.5, at all the locked emergency egress/maintenance access doors of each station.

3. Authority and Responsibility for System Safety Program

Deficiency found:

- There is no formal process for documenting the completion of all corrective actions for identified deficiencies from the weekly facility inspection.

Recommendation:

3. AirTrain should ensure that deficiencies found during the weekly facility inspection and the resultant corrective action plans are tracked to completion in accordance with GO 164-D.3.2.I.v.

4. Hazard Management Process / Safety Data Collection and Analysis

No deficiencies – No recommendations.

5. System Modification and Safety Certification

No deficiencies – No recommendations.

6. Accident/Incident Investigations

No deficiencies – No recommendations.

7. Emergency Response Planning and Training

Deficiency found:

- There was no documentation on the implementation of corrective actions resulted from the annual emergency response exercise.

Recommendation:

4. AirTrain should ensure corrective action plans that result from the annual emergency exercises are tracked to completion in accordance with GO 164-D.3.2.k.iv.

8. Internal Safety Audits

No deficiencies – No recommendations.

9. Training and Certification Program / Drug and Alcohol Program

No deficiencies – No recommendations.

10. Configuration Management

Deficiency found:

- No formal documentation or process exists that verify all personnel affected by the vehicle/system modification have been notified and trained as necessary.

Recommendation:

5. AirTrain should create a formal procedure/documentation to ensure that all personnel affected by vehicle/system modifications are informed and receive necessary training relevant to the changes in accordance with GO 164-D.3.2.q.iii..

11. Hazardous Materials Program

No deficiencies – No recommendations.

12. Procurement

No deficiencies – No recommendations.

13. System Security

No deficiencies – No recommendations.

14. Hours of Service

No deficiencies – No recommendations.

15. Rules Compliance

No deficiencies – No recommendations.

APPENDIX A
TSA EXECUTIVE SUMMARY

October 3, 2007

U.S. Department of Homeland Security



Transportation
Security
Administration

EXECUTIVE SUMMARY

Ms. Georgetta Gregory
Supervisor Rail Transit Safety Section
State of California Public Utilities Commission
Consumer Safety and Protection Division
Rail Operations and Safety Branch
320 W. 4th Street, Room 500
Los Angeles, CA 90013

Re: State of California Public Utilities Commission (CPUC) Tri-ennial Safety and Security
Audit of the San Francisco International Airport AirTrain (AirTrain) System

Dear Ms. Gregory:

On behalf of the Surface Transportation Security Inspection Program (STSIP), the following reflects the results of our involvement with your organization and the AirTrain system safety/security personnel during August and September, 2007 at San Francisco International Airport (SFIA), as part of CPUC's Tri-ennial Safety and Security Audit process. Acting as your "security agent" in this process, we utilized the TSA Baseline Assessment and Security Enhancement (BASE) Review checklist to document and baseline the internal processes, procedures and policies inherent to the AirTrain system in light of the most recent CFR 49 Part 659 requirements.

Following our review of AirTrain documents and interviews of key personnel, we compared our findings with the Security Plan requirements contained in CPUC General Order No. 164-D, Sections 4 and 5. This letter provides a summary of our findings with respect to compliance with those sections.

The information collected reflects information contained in various documents including:

- SFIA Airport Security Plan (ASP),
- AirTrain System Security Plan (SSP),
- AirTrain System Safety Program Plan (SSPP),
- SFIA Emergency Management Plan,
- AirTrain Operating System Rule Book.

Personnel interviews were also conducted with the AirTrain Manager, Operations Manager, Operations Administrator and management personnel of AirTrain's contracted operator, Bombardier.

In addition, STSIP personnel inspected AirTrain facilities and observed operations, including an AirTrain emergency response exercise.

Our findings of deficiencies are as follows:

- The AirTrain SSP is a separate document as required but has not been signed by the AirTrain Manager pending review and approval the document by CPUC. (GO-164-D, Sec. 4.3.a)
- A process for conducting internal security reviews to evaluate compliance and measure the effectiveness of the Security Plan is not described in the SSP. (GO-164-D, Sec 4.3.d)
- A process for making the SSP available for CPUC review and approval is not described in the SSP. (GO-164-D, Sec. 4.3.e)
- A schedule of internal security audits to be performed during each calendar year has not been established. (GO-164-D, Sec 5.3)
- As a schedule for internal security audits has not been developed, annual security audits have not been performed nor documented. (GO-164-D, Secs. 5.1 and 5.5)
- Annual reports and formal letters certifying compliance with the SSP have not been submitted to CPUC. (GO-164-D, Secs. 5.5.a, 5.5.b and 5.5.c)

It should be noted that the deficiencies identified all relate to documentation required in the referenced sections of GO-164-D. While these deficiencies need remediation, it is also important to note that based on our overall review of documents, interviews and system observations, we found that the AirTrain system has a progressive and effective security program in place. Unlike other stand-alone transportation systems, AirTrain is fully integrated with the security and emergency response components of San Francisco Police and Fire Departments assigned to SFIA and benefits from inclusion in protective measures applicable to all of SFIA.

Once again, we appreciate the opportunity to be of assistance to CPUC in conducting the security portion of the Tri-ennial Audits.

Sincerely,

Ken W. Dixon
Inspector
Transportation Security Administration
Surface Transportation Security Inspector Program
245 So. Spruce Avenue
South San Francisco, CA 94080

Cc: Mr. H. Lee Mitchell – SFO AirTrain
Ms. Ni Liu, CPUC

APPENDIX B

AIRTRAIN 2007 TRIENNIAL SAFETY REVIEW INDEX OF CHECKLISTS

AirTrain 2007 TRIENNIAL SAFETY REVIEW	
INDEX OF CHECKLISTS	
Checklist No.	Element
1	Inspections and Maintenance
2	General Order 95 Inspection
3	Authority and Responsibility for System Safety Program
4	Hazard Management Process / Safety Data Collection and Analysis
5	System Modification and Safety Certification
6	Accident/Incident investigations
7	Emergency Response Planning and Training
8	Internal Safety Audits
9	Training and Certification Program / Drug and Alcohol Program
10	Configuration Management
11	Hazardous Materials Program
12	Procurement
13	System Security
14	Hours of Service
15	Rules Compliance

APPENDIX C

AIRTRAIN 2007 TRIENNIAL SAFETY REVIEW RECOMMENDATIONS LIST

AIRTRAIN 2007 TRIENNIAL SAFETY REVIEW RECOMMENDATIONS LIST

No.	Recommendation	Checklist No.
1	AirTrain should conduct a system-wide power rail inspection to replace the faded high voltage warning signs in accordance with GO 95.79.5.	2
2	AirTrain should install a sign bearing the words "Danger," "Electric Third Rail," and "Keep Away" in letters at least 3 inches in height installed, in accordance with GO 95.79.5, at all the locked emergency egress/maintenance access doors of each station.	2
3	AirTrain should ensure that deficiencies found during the weekly facility inspection and corrective action plans are tracked to completion in accordance with GO 164-D.3.2.l.v.	3
4	AirTrain should ensure that corrective action plans that result from the annual emergency exercises are tracked to completion in accordance with GO 164-D.3.2.k.iv.	7
5	AirTrain should create a formal procedure/documentation to ensure that all personnel affected by vehicle/system modifications are informed and receive necessary training relevant to the changes as required in accordance with GO 164-D.3.2.q.3.	10

APPENDIX D

AIRTRAIN 2007 TRIENNIAL SAFETY REVIEW CHECKLISTS (1 THROUGH 15)

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	1	Element	Inspections and Maintenance
Date of Review	8/16/2007	Department	Engineering and Maintenance
Reviewer	Ni Liu	Persons Contacted	AirTrain: Derek Phipps and Michael Robert; Bombardier: Danny Cunha, Dave Dorman, Alfredo Hinojosa, and Marla McPherson

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. Site information Management System (SIMS) Database

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Staff will conduct a visual inspection along the guideway at selected segments throughout the system to determine if the guideway is well maintained.
2. Staff will review inspection and maintenance records for at least two separate inspection/maintenance periods during the last year on train control equipment to determine if:
 - A. Maintenance inspections have been conducted.
 - B. The required documentation has been prepared with required signatures and dates.
 - C. Noted defects were corrected in a timely manner.
3. Staff will also review inspection and maintenance records for at least three selected vehicles during the last year to determine if:
 - A. The inspection and maintenance required by the referenced procedure were performed as required.
 - B. The required documentation has been prepared with required signatures and dates.
 - C. Noted discrepancies were corrected in a timely manner.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff conducted the guideway and wayside inspections at two selected segments:
 - a. West side of track from the Rental Car Center Station to the north storage area. The selected segment is well-maintained.
 - b. North side of track from the Garage G Station to the International Terminal G Station. The selected segment is well-maintained.

Staff also reviewed the following wayside inspection and maintenance records for randomly selected inspection/maintenance periods:

- a. Weekly wayside inspection for the weeks of March 30, 2006 and August 6, 2007.
- b. Annual wayside inspection for 2007: one defect open and closed on July 6, 2007.
- c. Monthly Guideway inspection for February 2006 and 2007.

No deficiencies were found from the record review.

2. Staff reviewed the following equipment inspection and maintenance records for randomly selected inspection/maintenance periods:
 - a. Annual ground switch inspection for 2006.
 - b. Annual switch inspection for 2007.
 - c. Monthly switch inspection for January 2006 and 2007.
 - d. Annual Piston Buffer Inspection for 2006.
 - e. Monthly rotary lift inspection for June 2006 and 2007.
 - f. Annual seismic sensor inspection for 2006.
 - g. Annual wayside and tie breakers inspection for 2006: missing initial on one item. The deficiency has been addressed with a dual review and verification of all non-daily inspection and maintenance records starting from 2007.

No deficiencies were found from the record review.

3. Staff reviewed the following vehicle inspection and maintenance records for randomly selected inspection/maintenance periods:
 - a. Daily vehicle inspection for August 1, 2007.
 - b. Two-day vehicle inspection from August 11 and 12, 2007 on cars 5, 7, 13, 14, 29, and 32.
 - c. 6,500 mile vehicle inspection for July 2007 on cars 5, 10, and 22.
 - d. 19,500 mile vehicle inspection for December 2006 on cars 2, 11, and 27:
 - i. One non-critical deficient item has been entered into the system to be inspected on the next maintenance cycle.
 - ii. One defect opened on December 6, 2006 and closed on December 11, 2006.
 - e. 39,000 mile undercarriage and interior/exterior inspections for November 2006 on car 36: four defects opened on November 6, 2006 and closed on November 8, 2006.
 - f. 78,000 mile undercarriage and interior/exterior inspections for October 2006 on car 18:
 - i. One defect opened on October 16, 2006 and closed on October 17, 2006.
 - ii. One defect missing the date of completion. The deficiency has been addressed with a dual review and verification of all non-daily inspection and maintenance records starting from 2007.

No deficiencies were found from the record review.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	2	Element	General Order 95 Inspection
Date of Review	8/17/2007	Department	Engineering and Maintenance
Reviewer	Ni Liu	Persons Contacted	AirTrain: Derek Phipps and Michael Robert; Bombardier: Jeffery Douglas, Dave Dorman, Alfredo Hinojosa, and Marla McPherson

REFERENCE CRITERIA

1. Site information Management System (SIMS) Database
2. CPUC General Order 95
3. CPUC General Order 128

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Staff will inspect selected segments of the running rail to determine if they are in compliance with General Order 95.
2. Staff will also inspect selected substations to determine if they are in compliance with General Order 128.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff conducted the running rail inspection west side of track from the Rental Car Center Station to the north storage area. The selected segment is well-maintained and cleared of vegetations. However,
 - a. High voltage warning signs located on the running rail have faded; and
 - b. High voltage warning signs cannot be found to be out of compliance with GO 95.79.5.
 Staff also reviewed the monthly power rail inspection for July 2006 and 2007.
2. Staff conducted the Power Distribution System (PDS) inspection at two selected locations:
 - a. Maintenance & Storage Facility (MSF):
 - i. The facility is securely locked and alarmed.
 - ii. The facility is organized and well-maintained.
 - iii. High voltage warning signs are posted on all doors and covers of enclosures that provide access to components energized to high voltages.
 - iv. Feeder breakers are located inside the locked facility.
 - b. International Terminal G (ITG):
 - i. The facility is securely locked and alarmed.
 - ii. The facility appeared to be organized and well-maintained.
 - iii. High voltage warning signs are posted on all doors and covers of enclosures that provide access to components energized to high voltages.
 - iv. Feeder breakers are located inside the locked facility.

Staff also reviewed the following PDS inspection and maintenance records for randomly selected inspection/maintenance periods:

- a. Weekly Automatic Train Control (ATC) inspection for the weeks of March 31, 2006 and March 24, 2007.
- b. Weekly PDS inspections for the weeks of May 5, 2006 and May 6, 2007.
- c. Monthly PDS inspections for April 2006 and 2007.
- d. Annual PDS inspections for 2005 and 2006.
- e. Semiannual Uninterruptible Power Supply (UPS) inspection for 2006: UPS inspections are conducted by Odyssey Power. Prior to 2007, no formal documentation could be found for tracking the recommendations resulting from the inspection. The recommendations have been incorporated into the database as of 2007.
- f. Annual UPS inspection for 2006.

No deficiencies were found from the record review.

Staff witnessed the maintenance facility interrupt switch testing.
No deficiency was found from the testing.

Lastly, staff verified that the PDS plans contain the name and title of the responsible qualified person.

Recommendations:

AirTrain should conduct a system-wide power rail inspection to replace the faded high voltage warning signs in accordance with GO 95.79.5.

AirTrain should install a sign bearing the words “Danger,” “Electric Third Rail,” and “Keep Away” in letters at least 3 inches in height installed, in accordance with GO 95.79.5, at all the locked emergency egress/maintenance access doors of each station.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	3	Element	Authority and Responsibility for System Safety Program
Date of Review	8/22/2007	Department	Management
Reviewer	Ni Liu	Persons Contacted	AirTrain: Lee Mitchell and Michael Robert

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. General Order 164–D

CHARACTERISTICS AND METHOD OF VERIFICATION

Staff will discuss with management and review communication records within the last year to:

- A. Determine the source, frequency, and depth of safety information exchanged between:
 - a. San Francisco International Airport
 - b. Bombardier
 - c. AirTrain
- B. Determine the involvement of management in safety and security activities and decision making.
- C. Verify that the SSPP update procedure was employed when the current SSPP was being revised.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

- A. Staff interviewed with AirTrain management and determined the following safety information exchange activities are conducted on a regular basis:
 - a. Daily (Monday to Friday) 8:45 a.m. briefing:
 - i. Attendees: Airport Director, Airport Chief Operating Officer, and representatives from various groups within the airport including AirTrain.
 - ii. Content: anything that may affect the operations of the airport. Safety, security, or any operating issues from the previous day.
 - b. Weekly Facility Inspection:
 - i. Attendees: AirTrain and Bombardier.
 - ii. Content: visual inspection of the facility.
 - c. Weekly Action Item Review Meeting:
 - i. Attendees: AirTrain and Bombardier.
 - ii. Content: Safety Issue Action Item List and Incident Action Item Log.
 - d. Quarterly AirTrain Safety and Security Committee (ASSC) Meeting:
 - i. Attendees: airport, AirTrain, Bombardier, CPUC, local fire department, and local police department.
 - ii. Content: Action Item List, SSPP revision, and safety/security summary from the local fire department and police department.
 - e. Monthly Industrial Safety Committee Meeting:
 - i. Attendees: airport and AirTrain.
 - ii. Content: discussion of airport employees' injuries, access to the AirTrain guideway, and concerns with AirTrain.

Staff also reviewed the following meeting/inspection records:

- a. Weekly facility inspection record for 2006, which included: checklist, deficiency, comments, and signatures. However, the record does not show the status or completion date for the completion of all the corrective actions. Discussion with the AirTrain personnel found that there is no formal process for documenting the completion of all corrective actions for identified deficiencies from the weekly facility inspection.
 - b. Deficiencies found during the weekly inspections.
 - c. Safety Issue Action Item List, which included: due date, opened date, title, assigned to, priority, and category.
 - d. Closed Safety Issues List, which included: closed status and progress of each item by date.
 - e. Incident Action Item Log, which included: item, issue, action, responsible party, due date, complete date, and status.
 - f. Quarterly ASSC meeting agenda, attachments, and minutes for 2006.
- B. Staff reviewed records kept by AirTrain for two safety-related items initiated by Bombardier:
- a. Fall protection system for working on the roof of the vehicle:
 - i. Change Order signed off by AirTrain, agreeing to the installation of the system.
 - ii. Copy of the Invoice from the vendor.
 - b. Lighting replacement:
 - i. Request for Service to the Airport Facility Operations and Maintenance personnel with completion date.
- C. Staff reviewed all of the 2006 quarterly ASSC Meeting minutes and found each minutes capturing SSPP revision discussion.
- Staff also reviewed e-mail exchange between ASSC members discussing the SSPP revision.

Recommendations:

AirTrain should ensure that deficiencies found during the weekly facility inspection and corrective action plans are tracked to completion in accordance with GO 164-D.3.2.l.v.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	4	Element	Hazard Management Process / Safety Data Collection and Analysis
Date of Review	8/21/2007	Department	Safety
Reviewer	Noel Takahara	Persons Contacted	AirTrain: Michael Robert; Bombardier: Dave Dorman

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. Health, Safety, and Environment (HSE) Alert Process
3. TTS HSE Investigation Procedure
4. TTS HSE Reporting
5. Safety Concern/Hazard/Near Miss (SCHNM) Report Decision Making Flowchart
6. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Through interview and record review for the past three years, staff will determine the implementation of the hazard management program, including activities for:
 - A. Hazard identification
 - B. Hazard notification
 - C. Hazard tracking
 - D. Follow-up
2. Through interview and record review for the past three year, staff will also review safety data collected and its incorporation into the hazard management program.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff interviewed AirTrain and Bombardier personnel and determined:
 - a. HSE (Health, Safety, and Environment) Alerts are bulletin announcements of workplace safety. These announcements are displayed on a bulletin board in plain view and readily accessible to employees. The HSE alerts offer warnings and safety advices from incidents involving industrial safety. These alerts are sent to all Bombardier facilities from a centralized source - Bombardier Transportation Headquarters in Pittsburgh.
 - b. The Hazard Assessment Manual is a collection of documents outlining risks and hazards associated with certain localized tasks, such as shock hazards from preventive HVAC maintenance and fall hazards from station door head maintenance.
 - c. The Safety Concern/Hazard/Near Miss (SCHNM) form can be submitted by employees or concerned individuals whenever an issue involving safety arises. SCHNM forms are filed and administered by the Bombardier Safety Engineering Specialist. SCHNM form data is input into a global database system.

2. Staff interviewed AirTrain and Bombardier personnel and determined the administration of the SCHNM forms and the global database system acts as a means of hazard tracking and control. In addition, the AirTrain Operations Administrator also tracks hazards of concern to AirTrain.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	5	Element	System Modification and Safety Certification
Date of Review	8/21/2007	Department	Engineering
Reviewer	Ni Liu	Persons Contacted	AirTrain: Derek Phipps; Bombardier: Alfredo Hinojosa

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. Configuration Control and As-Built Drawings at Service Delivery Centers(SDCs)
3. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

Staff will review documents on any system modifications to determine their compliance with the SSPP, Section 15.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

Staff interviewed AirTrain and Bombardier personnel and determined the following:

- a. There has been no additional guideway to the existing system since startup.
- b. There has been no additional station to the existing system since startup.
- c. There has been no replacement, rehabilitation, or expansion to the existing fleet.

Staff also reviewed the document packet for the reprogramming of the Automatic Train Protection (ATP) Central Processing Unit (CPU) in the vehicle Automatic Train Control (ATC) cradle. The document packet clearly demonstrated the communication between AirTrain, Bombardier headquarter, and Bombardier SDC. The packet reviewed has been signed off by Drafting Manager and engineers. The packet has also been witnessed and signed off by representative from AirTrain.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	6	Element	Accident/Incident Investigations
Date of Review	8/23/2007	Department	Maintenance and Safety
Reviewer	Ni Liu	Persons Contacted	AirTrain: Lee Mitchell, Derek Phipps, and Michael Robert; Bombardier: Dave Dorman

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. HSE Alert Process
3. TTS HSE Investigation Procedure
4. TTS HSE Reporting
5. Reporting, Investigation, HSE Database Entries and Alerts – as it relates to the SCHNM Report Form
6. SCHNM Report Decision Making Flowchart
7. General Order 164-C and 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Through interview and record review, staff will verify reportable incidents/accidents in the past three years for their compliance with the applicable General Order.
2. Staff will also review the only incident reported to the CPUC for documents verifying the completion of corrective actions.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff interviewed AirTrain and Bombardier personnel and determined that in the past three years, under G.O. 164-C:
 - a. No event resulted in a fatality or serious injury.
 - b. No fire or other hazardous event has occurred that required the evacuation of passengers or fire suppression activities conducted by a fire department.
 - c. No accident/incident resulted in property damage in excess of \$100,000.
 - d. No unacceptable hazardous conditions have occurred.
- Staff also interviewed AirTrain and Bombardier personnel and determined that in the past few months, under G.O. 164-D (effective May 3, 2007):
- a. No event resulted in a fatality.
 - b. No accident/incident required immediate medical attention of two or more individuals away from the scene.
 - c. No accident/incident resulted in property damage in excess of \$25,000.
 - d. No mainline derailment has occurred.
 - e. No collision with an individual on the guideway has occurred.
 - f. No collision between vehicles has occurred.
 - g. No evacuation has taken place.

2. Staff reviewed records for the following three incidents/unacceptable conditions:
 - a. Power isolation joints were found to have the ability to conduct electricity when wet:
 - i. Letter to CPUC dated December 4, 2003 reporting the unacceptable condition.
 - ii. SFIA Bombardier AirTrain Power Rail Isolation Joint Block Leakage Problem and Solution Report dated April 27, 2005. The report stated all the isolation joints have been replaced and tested.
 - b. Unscheduled door open alarm does not report to Central Control via the Operational Radio System (ORS):
 - i. Letter to CPUC dated April 7, 2003 reporting the unacceptable condition.
 - ii. Letter to CPUC dated April 9, 2003 with the proposed solution.
 - iii. Letter to CPUC dated April 9, 2003 reporting the successful implementation of the proposed solution.
 - c. Collision between two trains during integrated testing prior to startup:
 - i. Flexiblok ATP Product Team Final Report for SFIA dated October 2, 2002. The report contained recommendations, corrective actions and completion date, and testing.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	7	Element	Emergency Response Planning and Training
Date of Review	8/16/2007	Department	Management, Safety, and Training
Reviewer	Ni Liu	Persons Contacted	AirTrain: Lee Mitchell, Derek Phipps, and Michael Robert; Bombardier: Jeffery Douglas, Dave Dorman, Alfredo Hinojosa, and Marla McPherson

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. AirTrain Operating System San Francisco International Airport Rule Book, July 2007
3. Emergency Action & Fire Protection Plan Maintenance & Storage Facility (MSF)
4. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Through interview and record review, staff will verify the annual review and update of the emergency evacuation procedure within the Operator's Rule Book.
2. Staff will also review records for emergency drills and training for AirTrain and emergency response personnel to determine:
 - A. The frequency, scope, and participants of emergency drills.
 - B. The emergency drills were evaluated with recommendations documented and addressed.
 - C. AirTrain employees have been trained in emergency response as appropriate to their position.
3. Staff will conduct testing on emergency access/egress at selected locations throughout the system.
4. Staff will also review records of regular sensor testing on selected vehicles.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff interviewed AirTrain and Bombardier personnel as well as reviewed e-mail communications for 2005 and 2006. Although the Operator's Rule Book has been reviewed throughout the year, there was no formal process for the review. This has been corrected in the 2007 revision of the Rule Book, which identified the annual review of the Operator's Rule Book.
2. Staff reviewed the following annual exercises:
 - a. 2005 Annual Emergency Preparedness Exercise:
 - i. Scope included: system familiarization for external agencies, exercise emergency procedures, exercise communication between agencies, and test new luggage procedure.

- ii. Participants included: AirTrain Administration, Bombardier Transportation, San Francisco Fire Department (SFFD), San Francisco Police Department (SFPD), SFO Airport Communications, SFO Airport Duty Managers, SFO Emergency Planning, SFO Customer Service, and SFO Safety & Health.
 - iii. Evaluation forms were completed by participants rating the exercise and providing comments. Although debriefing summary contained of corrective actions, there was no documentation on the implementation of the corrective actions resulted from the annual emergency response exercise.
- b. 2006 SFO Functional Earthquake Exercise:
 - i. Main purpose was to evaluate the procedures for responding to a natural disaster.
 - ii. Participants included: Administrative Strike Team, selected Airlines, Airport Duty Mangers, Communications, Emergency Operations & Planning, Facilities, Operations & Maintenance / Building Inspection & Code Enforcement (FOM/BICE), Operations Services – Airfield, AirTrain, SFFD, SFPD, TSA/Covenant, San Francisco Office of Emergency Services (OES), San Mateo OES, and Mutual Aid Agencies.
 - iii. Reports and critiques section of the exercise report contained ratings and comments. After Action Report identified strengths, potential areas for further improvements, and follow-up actions. Follow-up actions were compiled into the Improvement Plan Matrix with responsible party and completion date.

Staff also reviewed the following emergency response trainings for Bombardier:

- a. 2005 Rule Book Training:
 - i. 4.2.6 Fire on the Guideway.
 - ii. 4.2.7 Fire or Smoke in Central Control.
 - iii. 4.2.8 Fire or Smoke in Other Facilities.
 - c. 2006 Rule Book Training:
 - i. 4.13.3 Level 7 or 8 of Garage A or Garage G Closure Due to an Emergency.
 - d. ICS Introduction training.
 - e. Fire Extinguisher Training:
 - i. 4.5.2 Train Stopped on the Guideway with Traction Power, with Unscheduled Door Alarm.
 - ii. 4.2.5 Smoke or Flames on the Guideway.
 - f. Hazardous Materials Training:
 - i. Chemicals: Common But Deadly.
 - g. Emergency Action & Fire Protection Plan Introduction Training:
 - i. 4.1 General.
 - ii. 4.2 Fire Emergency Response.
 - iii. 4.1.1 Smoke or Flame Onboard a Moving Train.
3. Staff simulated two scenarios of self-evacuation and found no defects with emergency access/egress:
- a. Evacuation from train to the Rental Car Center Station.
 - b. Evacuation from emergency walkway to the Rental Car Center Station.

4. Staff reviewed the following testing and inspection records:
 - a. Annual blue light station test for 2006.
 - b. Annual door control cabinet power supply for 2006 and 2007: one defect for 2007 opened on May 14, 2007 and closed on May 22, 2007.
 - c. Quarterly emergency door inspection for the second quarter of 2006 and 2007.
 - d. Daily station door inspection for August 13 and August 14, 2007.
 - e. Annual station door inspection for 2006.
 - f. Monthly station door inspection for January 2006 and 2007.

No deficiencies were found from the record review.

Recommendations:

AirTrain should ensure corrective actions plans that result from the annual emergency exercises are tracked to completion in accordance with GO 164-D.3.2.k.iv.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	8	Element	Internal Safety Audits
Date of Review	8/23/2007	Department	Management
Reviewer	Ni Liu	Persons Contacted	AirTrain: Lee Mitchell, Derek Phipps, and Michael Robert;

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Through interview and record review for the past three years, staff will determine if:
 - A. Internal Safety Audits has been scheduled and performed.
 - B. All elements of the SSPP are reviewed in an on-going manner and completed over a 3-year cycle.
 - C. RTSS representative was notified at least thirty (30) days before any of the scheduled audits begin.
 - D. Auditors were independent from the first line of supervision responsible for performance of the activity being audited.
2. Staff will also review the internal safety audits for the previous year to determine:
 - A. If the audits were properly documented and submitted to the CPUC prior to February 15.
 - B. The status of any corrective actions resulted from the internal safety audits in the past three years.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1.
 - A. Staff verified the existence of internal safety review checklists for 2003 – 2007. Staff also reviewed the 3-year internal safety review schedule for 2006 – 2008.
 - B. Staff reviewed the 3-year internal safety review schedule and found all auditable elements (Element 10 – 24) have been reviewed or has been scheduled for review over the 3-year cycle. The schedule contained: element number, title, auditors, and month and year for the audit. Staff also reviewed all of the checklists for 2006 and verified all scheduled reviews for 2006 have been performed.
 - C. Staff interviewed AirTrain personnel and found no internal safety audit has been performed after GO 164-D became effective (May 3, 2007). Staff reminded AirTrain personnel of the 30-day notification required by GO 164-D.
 - D. Staff reviewed the 3-year internal safety review schedule and found that reviews were performed by AirTrain personnel, who were all independent from the first line of supervision responsible for performance of the activity being reviewed.

2.

A. Staff reviewed a copy of the letter along with the 2006 Annual Internal Safety Audit Report that was sent to CPUC on January 10, 2007. The report contained: summary of open corrective action items, checklists used for the audit, and the 3-year internal safety review schedule.

B. Staff reviewed the following records to determine the status of the corrective actions for 2006 – 2007:

- a. Safety Issue Action Item List, which included: due date, opened date, title, assigned to, priority, and category.
- b. Closed Safety Issues List, which included: closed status and progress of each item by date.

Staff also reviewed the spread sheet used prior to 2006 for the status of the corrective actions, which included: item, issue, corrective action, responsible party, due date, complete date, and status.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	9	Element	Training and Certification Program / Drug and Alcohol Program
Date of Review	8/22/2007	Department	Safety and Training
Reviewer	Dain Pankratz	Persons Contacted	AirTrain: Derek Phipps; Bombardier: Dave Dorman and Alfredo Hinojosa

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. San Francisco International Airport SFO-AirTrain Operating System SDC Training Plan 2007
3. HR-22 Substance Abuse Policy
4. General Order 164–D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Staff will review documentation to verify if:
 - A. All employees have received safety and health training in accordance to SSPP, Section 13.2.
 - B. Training, certification, and refresher records are complete and in compliance with SSPP, Sections 13.4 and 13.6.
 - C. New hires, temporary personnel, and contractors in the past three years have received safety and health training.
2. Staff will also review documentation to verify if:
 - A. Random drug and alcohol testing has been performed in the past three years in accordance to SSPP, Section 21.1.
 - B. Post accident testing has been performed in the past three years in accordance to SSPP, Section 21.2.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff reviewed the employees' training & certification records and determined:
 - A. All employees were initially trained with an extensive 6-week training course. After the completion of the course, employees are further trained and certified in one or more of three areas: central control, manual driving, and recovery, as applicable to his/her position. Training is versatile utilizing classroom environment, written tests, oral tests, in-field (on the job) training, and probationary periods.
 - B. Documentation of the employee training records is stored along with the employee's file. Recertification courses are given annually and test content generally increases relative to the position. The recertification date is tracked by the Training Manager and supervisors are notified when the employee recertification is due. Staff reviewed the manual driving certificate for all employees currently having certification and determined that the certifications are current (with the exception of employees on leave or have changed

positions). Staff then randomly reviewed 3 employees' complete training records and determined that the employees have received initial training, certification, and annual recertification within one month of the due date as specified in SSPP. Weekly Toolbox meetings are also performed on Rulebook topics with documented employee participation.

- C. Staff randomly reviewed records of five employees for compliance with initial training. The employees had documentation verifying course completion and written tests in their training file.

The Training & Certification programs are well documented and consistently applied to the employees. Although the certification due date is not generated automatically and manager must constantly look at the files to determine who is due for testing, staff did not find any occasions where certification was not current.

2. Staff reviewed the drug and alcohol program and determined:

- A. For the last three years, random drug testing was exercised every few months. Testing is performed by a contracted licensed professional or by the local medical clinic. Tested employees are randomly selected by a computer program. The drug testing target is 50% of the employees to be tested annually. Staff found four instances of positive results from random drug and alcohol testing, in which cases disciplinary actions were taken against the employees. Staff also noticed that employees who have left work for longer than three months were tested upon their return. In addition, employee testing may be requested under supervisor's discretion.
- B. Staff reviewed the documents for post incident testing and found that employees involved in an incident that caused damage to equipments, switches, etc. were immediately tested. Incident details are documented with the employees' human resource file. In the four cases of post-incident testing reviewed, the results were negative.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	10	Element	Configuration Management
Date of Review	8/21/2007	Department	Engineering
Reviewer	Ni Liu	Persons Contacted	AirTrain: Derek Phipps; Bombardier: Alfredo Hinojosa

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. Configuration Control and As-Built Drawings at Service Delivery Centers(SDCs)
3. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Staff will review as-built drawings and applicable documentation to verify its accuracy and completeness.
2. Through interviews and record reviews, staff will determine if all departments involved in maintenance and operations were informed of any system changes including software updates.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff interviewed the AirTrain and Bombardier personnel and determined the Electronic Document Management System (EDMS) is the database used to obtain the latest revision to as-built drawings. The Engineering Change Notice (ECN) database is used to record changes to the as-built drawings. Staff reviewed ECN 40941, which has been signed off by engineers, Software Configuration Control (SCC), and Program Manager.
Staff also reviewed Field Request (FR) 928 and 1019, which documented:
 - a. Requesting party.
 - b. Concise action item description.
 - c. Detailed information.
 - d. Authorization matrix with: approve/reject by, status/date, and comments.
2. Staff reviewed the series of Temporary Change Authorizations (TCAs) to change the route of service to eliminate a bottleneck area. All the TCAs have been signed off by the SDC originator, SDC Manager, engineers, and Performance Manager.
Staff also reviewed the corresponding Change Order, which has been approved and signed off by AirTrain and Bombardier.
Although staff was informed of the familiarization training provided to operators and has reviewed the e-mail sent to supervisors of the change, no formal documentation or process exists that verify all personnel affected by the vehicle/system modification have been notified and trained of the changes as necessary
Lastly, staff reviewed the Bombardier document titled "O & M Technical Resolution Process," which contained flowchart illustrating the modification process.

Recommendations:

AirTrain should create a formal procedure/documentation to ensure that all personnel affected by vehicle/system modifications are informed and receive necessary training relevant to the changes in accordance with GO 164-D.3.2.q.3.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	11	Element	Hazardous Materials Program
Date of Review	8/20/2007	Department	Safety
Reviewer	Noel Takahara	Persons Contacted	AirTrain: Lee Mitchell and Michael Robert; Bombardier: Dave Dorman and Danny Cunha

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. San Francisco International Airport Hazard Communication (HAZCOM)
3. San Francisco international Airport SFO-AirTrain Operating System Health and Safety Manual Illness and injury Prevention Program
4. General Order 164–D

CHARACTERISTICS AND METHOD OF VERIFICATION

Through interview and record review, staff will determine if:

- A. Hazardous Substances List was made available for review by employees.
- B. All chemicals were stored and labeled in accordance to SSPP, Section 20.
- C. All employees who work with or are potentially exposed to hazardous chemicals have received training on the Hazardous Communications Standard.
- D. Emergency response involving hazardous materials were done in accordance to SSPP, Section 20.
- E. A procedure exists for the disposal of hazardous materials.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

A. Staff interviewed AirTrain and Bombardier personnel and determined that the Hazardous Substances List is available for review by employees via the Material Safety and Data Sheet (MSDS) Manual. The MSDS Manual is a collection of folders that contains data sheets for all hazardous chemicals used within the facility.

B. Staff conducted a visual inspection of selected chemicals and found the chemicals to be stored and labeled in accordance to SSPP, Section 20

C. Staff interviewed AirTrain and Bombardier personnel and determined that all employees are trained to handle hazardous materials during Rule Book training.

Staff also reviewed the training materials for the following topics:

- a. Chemicals: Common but Deadly
- b. Handling 55 lb drums

D. Staff interviewed AirTrain and Bombardier personnel and found no Emergency Response exercise involving hazardous materials has taken place.

E. Staff interviewed AirTrain and Bombardier personnel and determined the existence of a procedure for the disposal of hazardous materials.

Staff also conducted a visual inspection and found that there is a space reserved in the warehouse with disposal bins labeled to distinguish the item to be placed in the applicable bin such as aerosol cans.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	12	Element	Procurement
Date of Review	8/22/2007	Department	Storekeeping
Reviewer	Noel Takahara	Persons Contacted	Bombardier: Peggy Kiriaze

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Through interview and record review, staff will determine if:
 - A. Any material that has a potential safety impact has been procured in accordance to SSPP, Section 23.
 - B. Clear communication exists between:
 - A. Procurement
 - B. Requester
 - C. Management
 - D. Personnel affected by the new or replacement item
 - C. There are Materials Safety Data Sheets (MSDS) for all new or replacements chemicals in the past three years.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1.
 - A. Staff interviewed Bombardier personnel and found that hardware components are procured from Bombardier Transportation Headquarters in Pittsburgh. Replacement components are specified by the manufacturer and the manufacturer part numbers from the original design. When lead time from Pittsburgh becomes an issue, Original Equipment manufacturer (OEM) parts are procured locally using the specified part numbers. AirTrain Staff ensures that all system related parts/services procured locally are approved by the Local Staff Engineer.
 - B. Staff interviewed Bombardier personnel and found that purchasing forms are used to communicate procurement needs between staff and management.
 - C. Staff interviewed Bombardier personnel and found that MSDS are filed in a MSDS Manual. The MSDS Manual is a collection of folders that contain data sheets for all hazardous chemicals used within the facility.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	13	Element	System Security
Date of Review	8/22/2007	Department	Management
Reviewer	Ni Liu	Persons Contacted	AirTrain: Lee Mitchell and Michael Robert

REFERENCE CRITERIA

1. AirTrain System Security Plan (SSP) draft
2. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

Staff will discuss with management and review communication records within the last year to determine the source, frequency, and depth of security information exchanged between:

- A. San Francisco International Airport
- B. Bombardier
- C. AirTrain

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

Staff interviewed with AirTrain management and determined the following safety information exchange activities:

- a. Daily (Monday to Friday) 8:45 a.m. briefing:
 - i. Attendees: Airport Director, Airport Chief Operating Officer, and representatives from various groups within the airport including AirTrain.
 - ii. Content: anything that may affect the operations of the airport. Safety, security, or any operating issues from the previous day.
- b. Monthly Airlines Managers Meeting:
 - i. Attendees: AirTrain and domestic airline management.
 - ii. Content: security issues discussion.
- c. Monthly Emergency Operating Group Meeting:
 - i. Attendees: AirTrain, American Red Cross, Department of Homeland Security (DHS), Emergency Operations Center (EOC), Transportation Security Administration (TSA), and other agencies.
- d. Quarterly AirTrain Safety and Security Committee (ASSC) Meeting:
 - i. Attendees: airport, AirTrain, Bombardier, CPUC, local fire department, and local police department.
 - ii. Content: action Item List, SSPP revision, and safety/security summary from the local fire department and police department.

Staff also reviewed the following records for the quarterly ASSC meeting for 2006:

- a. Meeting agenda, which included a summary of the reports from SFFD and SFPD of security activities for the previous quarter.
- b. SFPD Airport Bureau Calls for Service from February 1, 2007 to April 30, 2007. The report included: code, description, count, case number, date, time, and location.

Recommendations:

None.

2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN

Checklist No.	14	Element	Hours of Service
Date of Review	8/20/2007	Department	Human Resources
Reviewer	Dain Pankratz	Persons Contacted	AirTrain: Derek Phipps; Bombardier: Karen Nelson and Marla McPherson

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005

CHARACTERISTICS AND METHOD OF VERIFICATION

1. Staff will review control documents to determine if the hours-of-service program is documented.
2. Staff will review the time on duty records for selected safety-sensitive employees for the past year to determine their compliance with the program.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

1. Staff reviewed the hours of service documentation program and determined that Bombardier documents the employee hours of service by:
 - a. A modern Automatic Data Processing (ADP) card scanner for clocking-in/out is used to enter the employee hours of service.
 - b. The reports are filed electronically into the payroll computer.
 - c. Reports are also redundantly filed on the network.
 - d. Bombardier also keeps a record of the employee's timesheet
 - e. Payroll is processed through ADP, in which ADP keeps a record of the employees timesheet
 - f. Hardcopies of all timesheets are filed monthly into binders
 - g. All records are properly filed and timesheets were quickly attained
2. Staff reviewed employee records for the past three years.
 - a. The Matrix below shows the audited period and employees. Employees that worked the most overtime during that period are documented in the Matrix.

Year	Week End Date	Employee	Overtime Hours
2007	7/20/07	E	8
2007	6/22/07	T	8
2007	1/19/07	D	8
2006	10/31/06	K	2
2006	5/14/06	G	8.75
2006	5/21/06	G	4.25
2005	5/1/05	E	8
2005	5/1/05	D	8
2005	4/10/05	D	8

- b. From the time periods reviewed, no circumstances were found of employee working more than a 12-hours day or having less than eight hours off work.
- c. Employees who usually worked overtime would work on their off days.
- d. Timesheets are redundantly reviewed for accuracy by employee, supervisor, Bombardier Human resources, AirTrain, and ADP.
- e. Employee work schedules are compared to the time worked to verify the overtime hours.

Recommendations:

None.

**2007 CPUC SYSTEM SAFETY & SECURITY REVIEW CHECKLIST FOR
THE SAN FRANCISCO INTERNATIONAL AIRPORT AIRTRAIN**

Checklist No.	15	Element	Rules Compliance
Date of Review	8/22/2007	Department	Safety
Reviewer	Dain Pankratz	Persons Contacted	AirTrain: Derek Phipps; Bombardier: Dave Dorman and Alfred Hinojosa

REFERENCE CRITERIA

1. San Francisco International Airport AirTrain System Safety Program Plan (SSPP) Revision 1, August 25, 2005
2. AirTrain Operating System San Francisco International Airport Rule Book, July 2007
3. General Order 164-D

CHARACTERISTICS AND METHOD OF VERIFICATION

Through interview and record review, staff will determine if:

- A. The Rule Book has been reviewed and updated in the past year in accordance to SSPP, Section 12.
- B. Standard Operations Procedures (SOPs) has been issued and distributed in the past year.
- C. The implementation of operating and maintenance rules and procedures has been assessed.
- D. The supervision relating to the implementation of operating and maintenance rules and procedures has been assessed.

ACTIVITIES / FINDINGS AND RECOMMENDATIONS

Activities / Findings:

Staff reviewed the rules compliance procedures and determined:

- A. The AirTrain Operating System Rule Book was updated on July 2007 by all the supervisors, training manager, and an appointed committee for accuracy. This rulebook has been distributed to the employees. Employees are periodically audited to assure they have the rulebook in their possession.
- B. Operation Procedures Manuals (OPM) are assigned to each employee. Employees are required to review the OPM and the employees' signature of the review is documented.
- C. Site Information Management System (SIMS) is an electronic database that creates a checklist and a brief instruction for operation and maintenance procedures. When more details are required, the maintenance manual or other documentation is referred to. This is a living database that is continually updated by the operations manager and used by employees for many tasks.
- D. In addition to developing the AirTrain Operating System Rule Book, supervisors conducting weekly Toolbox meeting select topics from the rulebook to discuss with employees. Supervisors also provide feedback to the training manager and operations manager for rulebook updates and revisions.

Recommendations:

None.