

**PUBLIC UTILITIES COMMISSION
OF THE
STATE OF CALIFORNIA**

General Order 164-E

(Supersedes General Order 164-D)

**RULES AND REGULATIONS GOVERNING STATE SAFETY OVERSIGHT
OF RAIL FIXED GUIDEWAY SYSTEMS**

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IT IS ORDERED that the following rules and regulations governing the *safety* oversight of *Rail Transit Agencies (RTA)* and *Rail Fixed Guideway Systems* shall hereafter be observed in this State unless otherwise directed by the California Public Utilities Commission (Commission). Terms defined in the Definition section are italicized throughout this General Order.

1 GENERAL PROVISIONS

- 1.1 **Authority.** These rules and regulations are authorized by and implement the provisions of 49 U.S.C. 5329; Title 49 of the Code of Federal Regulations (CFR), Part 674¹, State Safety Oversight; Sections 778 and 99152 of the California Public Utilities Code, and other applicable Federal and State laws.
- 1.2 **Applicability.** These rules and regulations are applicable to all *Rail Transit Agencies (RTAs)* and *Rail Fixed Guideway Systems* in California.
- 1.3 **Additional Rules.** The Commission may make such additional rules and regulations or changes to these rules and regulations as necessary for the purpose of *safety*.
- 1.4 **Exemptions or Modifications.** Requests for exemption from, or modification of, these rules and regulations shall contain a full statement of the reasons justifying the request.

¹ Pursuant to section 20030(e) of the Moving Ahead for Progress in the 21st Century Act (Pub. L. 112-141; July 2012) (“Map 21”), the statute now codified at 49 U.S.C. 5330, title “State Safety Oversight,” will be repealed three years after the effective date of 49 CFR Part 674 on March 16, 2016. No later than three years after the effective date of the 49 CFR Part 674, the regulations now codified at 49 CFR Part 659 will be rescinded.

A request must demonstrate that *safety* would not be reduced by the proposed exemption or modification. Any exemption or modification so granted shall be limited to the particular case covered by the request. All exemptions or modifications shall require Commission approval.

- 1.5□ The Commission Division responsible for rail fixed guideway safety shall adopt a program standard procedures manual establishing processes and procedures that govern its rail fixed guideway safety program activities.
- 1.6□ For the purpose of construing these rules, *may* is permissive and *shall* is mandatory.

2 DEFINITIONS

- 2.1□ *Accident* means an *Event* that involves any of the following: a loss of life; a report of a *serious injury* to a *person*; a collision involving a *rail transit vehicle*; a runaway train; an evacuation for life *safety* reasons; or any derailment of a *rail transit vehicle*, at any location, at any time, whatever the cause.
- 2.2□ *Accountable Executive* means a single, identifiable individual who has ultimate responsibility for carrying out the *Public Transportation Agency Safety Plan* of a public transportation agency; responsibility for carrying out the agency's Transit Asset Management Plan (see 49 CFR Part 625); and control or direction over the human and capital resources needed to develop and maintain both the agency's *Public Transportation Agency Safety Plan* and the agency's Transit Asset Management Plan.

- 2.3□ *Certifiable Elements List* means a list that contains all facilities, systems, rail at-grade crossings, and other items that are subject to *safety certification* due to their *safety* functions.
- 2.4□ *Contractor* means an entity that performs tasks on behalf of *FTA*, Commission, or *RTA* through contract or other agreement.
- 2.5□ *Corrective Action Plan (CAP)* means a plan developed by a *RTA* that describes the actions the *RTA* will take to minimize, mitigate, control, correct, or eliminate risks and *hazards*, and the schedule for implementing those actions.
- 2.6□ *Director* means the Director of the Commission's division overseeing rail transit safety, or the Deputy Director overseeing rail transit safety.
- 2.7□ *Event* means an *accident, incident* or *occurrence*.
- 2.8□ *Existing Industry Standards* means the currently accepted industry and professional engineering standards and/or guidelines relating to the design, construction, operation, and maintenance of *Rail Fixed Guideway Systems* such as ANSI, APTA, AREMA, ASCE, ASEE, ASME, FRA, FTA, IEEE, NFPA, and others.
- 2.9□ *FRA* means the Federal Railroad Administration, an agency within the United States Department of Transportation.
- 2.10□ *FTA* means the Federal Transit Administration, an agency within the United States Department of Transportation.
- 2.11□ *Hazard* means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock or infrastructure of a *RTA*; or

damage to the environment.

- 2.12 □ *Hazard Analysis* means any analysis performed to identify *hazards* for the purpose of their elimination, mitigation, or control.
- 2.13 □ *Incident* means an *Event* that involves any of the following: a personal injury that is not a *serious injury*; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a *rail transit agency*.
- 2.14 □ *Individual* means a *passenger*, employee, contractor, pedestrian, trespasser, or any person on *RTA-controlled property*.
- 2.15 □ *Investigation* means the process used to determine the causal and contributing factors of an *accident, incident, or hazard*, for the purpose of preventing recurrence and mitigating risk.
- 2.16 □ *Mainline* means all tracks used for the purpose of the movement of *passengers on rail transit vehicles*. *Mainline* does not include storage tracks, yard tracks or other tracks used for the purpose of storage.
- 2.17 □ *Major Projects (Projects)* means new rail systems or extensions, the acquisition and integration of new vehicles and *safety* critical technologies into existing service or major *safety* critical redesign *projects*, excluding functionally and technologically similar replacements.
- 2.18 □ *Occurrence* means an *event* without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a *RTA*.

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- 2.19 *Passenger* means a *person* who is on board, boarding, or alighting from a *rail transit vehicle* for the purpose of travel.
- 2.20 *Person* means any *individual*.
- 2.21 *Public Transportation Agency Safety Plan (PTASP)* means the comprehensive agency safety plan for a *RTA* required by 49 U.S.C. 5329(d) and based on a *Safety Management System*. Until one year after the effective date of *FTA's PTASP* final rule, a *System Safety Program Plan (SSPP)* developed pursuant to 49 CFR 659 will serve as the *RTA's* safety plan.
- 2.22 *Rail Fixed Guideway System (RFGS)* means any light, heavy, or rapid rail system, monorail, inclined plane, funicular, trolley, cable car, automatic people mover, or automated guideway transit system used for public transit and not regulated by the *Federal Railroad Administration* or not specifically exempted by statute from Commission oversight.
- 2.23 *Rail Transit Agency (RTA)* means the entity that plans, designs, constructs, and/or operates a *RFGS* and is within the jurisdiction of the Commission.
- 2.24 *Rail Transit Agency-Controlled Property* means property that is used by the *RTA* and may be owned, leased, or maintained by the *RTA*.
- 2.25 *Rail Transit Vehicle* means an *RTA's* rolling stock, including but not limited to *passenger* and maintenance vehicles.
- 2.26 *Safety* means freedom from harm resulting from unintentional acts or circumstances.
- 2.27 *Safety Certification* is the series of acts or processes that collectively verify the *safety* readiness of a *Project* for public use.

2.28 □ *Safety Certification Plan (SC Plan)* means a *Project*-specific document developed by a *RTA*, which ensures that elements critical to *safety* are planned, designed, constructed, analyzed, tested, inspected, and implemented, and that employees are trained and rules and procedures followed, in compliance with the *RFGS* and regulatory *safety* requirements.

2.29 □ *Safety Certification Verification Report (SCVR)* means a *Project*-specific document that will be the final certificate of compliance verifying that the *Project* complies with all *safety* requirements identified by a *RTA*'s *SC Plan*.

2.30 □ *Safety Design Criteria* means the organized listing of *safety* codes, regulations, rules, design procedures, existing industry standards, recommended practices, analyses, handbooks and manuals prepared to provide guidance to *Project* designers in development of technical specifications that meet minimum *safety* parameters.

2.31 □ *Safety Management System (SMS)* means the formal, top-down, organization-wide data-driven approach to managing *safety* risk and assuring the effectiveness of *safety* risk mitigations. *SMS* includes policies, procedures, and practices for the management of *safety* risk.

2.32 □ *Security* means freedom from harm resulting from intentional acts or circumstances.

2.33 *Serious injury* means any injury which: (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers,

toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second or third-degree burn(s), or any burns affecting more than 5 percent of the body surface.

2.34 *Staff* means Commission employees responsible for the *safety* oversight of the *RTAs*.

2.35 *System Safety Program Plan (SSPP)* means a document adopted by a *RTA* detailing its *safety* policies, objectives, responsibilities, and procedures. Until one year after the effective date of the *FTA's PTASP* final rule, a *System Safety Program Plan (SSPP)* developed pursuant to 49 CFR 659 will serve as the *RTA's safety* plan.

2.36 *System Security Plan (Security Plan)* means a document adopted by a *RTA* detailing its *security* policies, objectives, responsibilities, and procedures.

3 REQUIREMENTS FOR SYSTEM SAFETY PROGRAM PLANS

3.1 Each new *RTA* shall submit its initial *SSPP* (see Section 2.21 and 2.35) to *Staff* for Commission approval. No new *RTA* shall begin transit operations prior to Commission approval of its initial *SSPP*. Each *RTA* shall annually certify, prior to February 15th of each year, by a letter to *Staff* that it has reviewed the *SSPP* to determine whether the plan should be modified or updated. If a *RTA* determines revisions of the *SSPP* are necessary, the *RTA* shall submit the revised *SSPP* to *Staff* with a request for approval. If the revised *SSPP* is acceptable to *Staff*, *Staff* shall issue a formal letter to the *RTA* approving the revised *SSPP* as consistent with Section

3.2, best industry practices, and in furtherance of the public's interest in system *safety* and *security*. If it is not acceptable, *Staff* shall provide written explanation of the reasons for its rejection to the *RTA*, and if the *RTA* disagrees, it shall file a formal application seeking approval by the Commission.

3.2□ The *SSPP* shall include, at a minimum:

- a.□ A policy statement signed by the *RTA's accountable executive* that endorses the *safety* program and describes the authority that establishes the *SSPP*.
- b.□ A clear definition of the goals and objectives for the *safety* program and stated management responsibilities to ensure they are achieved.
- c.□ An overview of the *RTA's* management structure, including:
 - i.□ An organization chart;
 - ii.□ A description of how the *safety* function is integrated into the entire *RTA* organization; and
 - iii. The line of authority and responsibility for *safety* related matters.
- d.□ The process used to control changes to the *SSPP*, which must at least:
 - i.□ Specify annual assessment for updating the *SSPP*; and
 - ii.□ Require coordination with the Commission and provide timeframes for submission, revision, and approval.
- e.□ A description of the specific activities required to implement the system *safety* program, including:
 - i.□ Tasks to be performed by the rail transit *safety*

- function, by position and management accountability, specified matrices and/or narrative format; and
- ii. *Safety* related tasks to be performed by other rail transit departments, by position and management accountability, specified matrices and/or narrative format.
- f. A description of the process used by the *RTA* to implement its *hazard* management program including activities for:
- i. *Hazard* identification;
 - ii. *Hazard investigation*, evaluation and analysis;
 - iii. *Hazard* mitigation, control, and elimination;
 - iv. *Hazard* tracking; and
 - v. Requirements for ongoing reporting to the Commission in relation to *hazard* management activities and status.
- g. A description of the process used by the *RTA* to ensure that *safety* concerns are addressed in modifications to existing systems, vehicles, and equipment that do not require formal *safety certification*.
- h. A description of the *safety certification* process used to ensure that *safety* concerns and *hazards* are adequately addressed prior to initiation of *Projects* and subsequent *Projects* to extend, rehabilitate, or modify an existing system, or to replace vehicle and equipment. (Refer to Sections 11 and 12 for *Project Requirements for Safety Certification Plan* and *Requirements for Safety Certification Verification*)

Report.)

- i. □ A description of the process used to collect, maintain, analyze, and distribute *safety* data within the *RTA*, to ensure the *safety* function receives the necessary information to support implementation of the system *safety* program.
- j. □ A description of the process used to perform *accident* notification, *investigation*, and reporting, including:
 - i. □ Notification thresholds for internal and external organizations;
 - ii. □ *Accident 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. □ Ensuring full participation and coordination with the Commission.
- k. □ A description of the process used to develop an approved, coordinated schedule for all emergency management program activities, including:
 - i. □ Meetings with external agencies;
 - ii. □ Emergency planning responsibilities and requirements;
 - iii. A process used to evaluate emergency preparedness, including a plan for and the frequency of emergency drills;
 - 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.
- l. A description of the process used to ensure that planned and scheduled internal *safety* reviews are performed to evaluate compliance with the *SSPP*, including:
 - i. Identification of the departments and functions subject to review;
 - ii. Responsibility for scheduling reviews;
 - iii. The process for conducting reviews, including the development of the checklists and procedures and issuing of findings;
 - iv. Reporting requirements;
 - v. Tracking the status of recommendations and *CAPs*;
and
 - vi. The means for ensuring full participation and coordination with *Staff*.
- m. A description of the process used 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 rules and procedures by employees, such as performance testing;
 - iii. Techniques used to assess the effectiveness of supervision relating to implementation of operating

- and maintenance rules; and
- iv. A process for documenting results and incorporating them into the hazard management program.
- n. A description of the process used for facilities and equipment *safety* inspections, including:
 - i. Identification of the 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 in the *hazard* management process.
- o. 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.
- p. A description of the training and certification program for employees and *contractors*, including:
 - i. Categories of *safety*-related work requiring training and certification and the required retraining and recertification period for each category;
 - ii. A description of the training/retraining and certification/recertification program for employees and *contractors* in *safety*-related positions;
 - iii. Process used to maintain and access employee and *contractor* training records; and
 - iv. A process used to assess compliance with training and

- certification requirements.
 - q.□ A description of the configuration management control process, including:
 - i.□ The authority required to make configuration changes;
 - ii.□ A process for making changes; and
 - iii.□ A process and assurances for notifying all involved departments.
 - r.□ 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, *RTA* property; and
 - ii.□ Processes for ensuring that employees and *contractors* know and follow the requirements.
 - s.□ A description of the hazardous materials program, including the process used to ensure knowledge of and compliance with program requirements.
 - t.□ A description of the drug and alcohol program and the process used to ensure knowledge of and compliance with program requirements.
 - u.□ A description of the measures, controls, and assurances in place to ensure that *safety* principles, requirements and representatives are included in the procurement process.
- 3.3□ *Staff* may perform inspections, *investigations*, and reviews of the design, construction, operation, maintenance and administration of each *RTA* to assess whether the actual

safety procedures and practices of the *RTA* comply with its *SSPP*. *RTA* shall permit *Staff* to have access to all facilities, documents, and records, and shall provide reports when requested.

- 3.4□ Each *RTA* shall undergo an on-site review of the implementation of its *SSPP* by *Staff* at least once every three years to verify compliance with and evaluate the effectiveness of the *SSPP*. *Staff* may conduct the on-site review with its own personnel or by employing the services of a *contractor* other than the *RTA*.
- 3.5□ Following each triennial on-site review, the Commission will issue a resolution based upon the *Staff* findings and recommendations, including an analysis of the efficacy of the *SSPP* and the need, if any, for updating the plan.

4 REQUIREMENTS FOR SYSTEM SECURITY PLANS

- 4.1□ Each new *RTA* shall submit its initial *Security Plan* to *Staff* for Commission approval. No new *RTA* shall begin transit operations prior to Commission approval of its initial *Security Plan*. Each *RTA System Security Plan* must be developed and maintained as a separate document and shall not be part of the *RTA's SSPP*. Each *RTA* shall annually certify, prior to February 15th of each year, to the Commission by letter to *Staff*, that it has reviewed the *Security Plan* to determine whether the plan should be modified or updated. If a *RTA* determines revision of the *Security Plan* is necessary, the *RTA* shall submit the revised *Security Plan* to *Staff* with a request for approval. If the

revised *Security Plan* is acceptable to *Staff*, *Staff* shall issue a formal letter to the *RTA* approving the revised *Security Plan* as consistent with Section 4.3, best industry practices, and in furtherance of the public's interest in system *safety* and *security*. If it is not acceptable, *Staff* shall provide written explanation of the reasons for its rejection to the *RTA*, and if the *RTA* disagrees, it shall file a formal application seeking approval by the Commission.

- 4.2□ The *Security Plan* shall address the personal *security* of *passengers*, employees, and the general public. *FTA*'s applicable report shall serve as a set of guidelines for preparation of the *Security Plan*. Procedural details that the *RTA* classifies as confidential information to prevent or mitigate breaches of *security* shall not be revealed in the *Security Plan*. *RTAs* should identify all information they deem confidential for *security* purposes pursuant to Public Utilities Code Section 583.
- 4.3□ At a minimum, the *Security Plan* shall address the following:
- a.□ Identify the policies, goals, and objectives for the *security* program endorsed by the *RTA*'s *accountable executive*.
 - b.□ The process for managing threats and vulnerabilities during operations, and for *Projects*, extensions, new vehicles and equipment, including integration with the *safety* certification process.
 - c.□ The controls in place that address the personal *security* of *passengers* and employees.
 - d.□ The process for conducting internal *security* reviews to

evaluate compliance and measure the effectiveness of the *Security Plan*.

- e.□ The process for making the *Security Plan* and accompanying procedures available to the Commission for review and approval.
 - f.□ The process for notifying, investigating, and reporting *security* breaches.
- 4.4□ *Staff* may perform inspections, *investigations*, and reviews of the design, construction, operation, maintenance and administration of each *RTA* to assess whether the actual *security* procedures and practices of the *RTA* comply with its *Security Plan*. *RTA* shall permit *Staff* access to all facilities, documents, and records.
- 4.5□ Each *RTA* shall undergo an on-site review of the implementation of its *Security Plan* by *Staff* at least once every three years to verify compliance with and evaluate the effectiveness of the *Security Plan*. *Staff* may conduct the on-site review with its own personnel or by employing the services of an organization other than the *RTA*.
- 4.6□ Following each triennial on-site review, the Commission will issue a decision based upon *Staff* findings and recommendations, including an analysis of the efficacy of the *Security Plan* and the need, if any, for updating the plan.

5 REQUIREMENTS FOR INTERNAL SAFETY AND SECURITY AUDITS

- 5.1□ Each *RTA* shall annually perform planned and scheduled internal *safety* and *security* audits to evaluate compliance

and measure the effectiveness of its *SSPP* and *Security Plan*.

- 5.2□ All of the elements described in Sections 3 and 4, and the *RTA's SSPP* and *Security Plan* shall be included in the scope of the activities to be audited by each *RTA*. This total scope must be completely covered by the internal *safety* and *security* audit conducted within a 3-year period, and every 3-year period thereafter.
- 5.3□ Each *RTA* shall prepare a schedule of internal *safety* and *security* audits to be performed during each calendar year.
- 5.4□ Each *RTA* shall submit this schedule, including any subsequent changes, to *Staff* at least 30 calendar days before any scheduled audits.
- 5.5□ Each *RTA* shall perform each internal *safety* and *security* audit in accordance with written checklists by personnel technically qualified to verify compliance and judge the effectiveness of the *SSPP* activity or *Security Plan* activity being audited. Each *RTA* shall provide the checklists to *Staff* prior to the audit. The auditors may be organizationally assigned to the unit responsible for management of the activity being audited, but they must be independent from the first line of supervision responsible for performance of the activity being audited.
- 5.6□ Each *RTA* shall document the internal *safety* and *security* audit in an annual report that covers the audits performed during each calendar year.
 - a.□ The annual report shall state the results of each audit in terms of the adequacy and effectiveness of the *SSPP* and the *Security Plan*. It shall include the status of

subsequent findings and corrective actions.

- b.□ Prior to the 15th of February each year, the *RTA* shall submit to *Staff* the annual report for the internal *safety* and *security* audits performed during the preceding year for initial evaluation.
- c.□ The annual report must be accompanied by a formal letter of certification signed by the *RTA's accountable executive* indicating that the *RTA* is in compliance with its *SSPP* and *Security Plan*. If the *RTA* determines that findings from its internal *safety* and *security* audits indicate that the *RTA* is not in compliance with its *SSPP* or *Security Plan*, the *accountable executive* must identify the activities the *RTA* will take to achieve compliance.
- d.□ *Staff* shall perform an initial evaluation of the *RTA's* Internal *Safety* and *Security* Audit Annual Report and indicate whether *Staff* will recommend its approval or its rejection to the Commission. If *Staff* recommends rejection, *Staff* shall identify the areas in the report that, in *Staff's* determination, require correction. The *RTA* shall have the option to revise the report and resubmit to *Staff*. If the *RTA* does not agree with the rejection, *RTA* shall meet and confer with *Staff* in an effort to resolve the disagreement. If no resolution is achieved through negotiation, the *RTA* shall apply to the Commission for approval pursuant to the formal application procedure under the Commission's Rules of Practice and Procedure. If *Staff* recommends

approval, it shall issue a formal letter approving the report as consistent with the plans approved under Sections 3 and 4.

6 REQUIREMENTS FOR HAZARD MANAGEMENT PROCESS

Each *RTA SSPP*'s discussion of the *hazard* management process shall include a process to identify and resolve *hazards* during operations, including any *hazards* resulting from system extensions and modifications, operational changes or other changes within the rail transit environment. The *hazard* management process must, at a minimum:

- a.□ Define the approach to *hazard* management and the implementation of an integrated system-wide *hazard* resolution process.
- b.□ Specify the sources of, and mechanisms to support the on-going identification of *hazards*.
- c.□ Define the process by which identified *hazards* are evaluated and prioritized for elimination or control.
- d.□ Identify the mechanism used to track to resolution the identified *hazard(s)*.
- e.□ Define minimum thresholds for the notification and reporting of *hazard(s)* to *Staff*.
- f.□ Specify the process for reporting of *hazard* resolution activities to *Staff*.

7 REQUIREMENTS FOR REPORTING EVENTS

- 7.1□ Each *RTA* shall submit notification of immediately reportable *accidents* to the Commission in the manner directed by

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Staff. An immediately reportable *accident* is one that meets or exceeds the thresholds established in Section 7.2. The *RTA* shall notify *Staff* within two hours of any immediately reportable accident.

- 7.2□ Immediately reportable *accidents* include:
- a.□ A fatality (occurring at the scene, or within 30 calendar days following the *accident*);
 - b.□ One or more *persons* suffering *serious injury*, as defined in Section 2.33;
 - c.□ A collision involving a *rail transit vehicle* and any other vehicle, object, or individual;
 - d.□ A derailment of any *rail transit vehicle* at any location, at any time, whatever the cause;
 - e.□ An evacuation for life safety reasons; or
 - f.□ A runaway train.
- 7.3□ The *RTA* shall provide as part of the notification:
- a.□ The time and date of the *accident*;
 - b.□ The location of the *accident*, including the Commission highway-rail grade crossing number, if applicable;
 - c.□ The number of fatalities and/or injuries;
 - d.□ The *rail transit vehicles* involved in the *accident*, if any;
 - e.□ The factor from Section 7.2 that makes the *accident* immediately reportable;
 - f.□ Narrative description of the *accident*, as known at the time of reporting; and
 - g.□ The emergency response organizations at the scene of the *accident*.

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- 7.4□ Concurrent notification to the *FTA* is required for all immediately reportable *accidents*.
- 7.5□ A *RTA* that shares track or with shared rights-of-way with the general railroad system and is subject to the *FRA* *accident* notification requirements, shall, within two hours, notify *Staff* of any *accident* requiring notification to the *FRA*.
- 7.6□ Each *RTA* shall submit written *accident* reports on forms prescribed by *Staff*. Each *RTA* shall submit such written reports within 30 calendar days after the last day of the month in which the *accident* occurred. Each *RTA* shall file written reports for all immediately reportable *accidents* and develop sufficient records for *Safety Management System (SMS)* analysis.
- 7.7□ Each *RTA* shall file a monthly *accident* corrective action summary report. Each *RTA* shall file this report in a format acceptable to *Staff* within 30 calendar days from the last day of the month covered. Each *RTA* shall file the monthly summary report whether or not any reportable *accident* occurred during the month.
- 7.8□ Each *RTA* shall report *incidents* to *FTA* within 30 days via the National Transit Database and develop sufficient records for *SMS* analysis. If a *RTA* or *Staff* later determines that an *incident* meets the definition of an *accident*, that *event* must be reported as set forth in Sections 7.1 through 7.7.
- Incidents* include the following:
- a.□ A personal injury that is not a *serious injury*;
 - b.□ One or more injuries requiring medical transportation away from the *event*; and

c.□ Damage to facilities, equipment, rolling stock or infrastructure that disrupts the operations of a *rail transit agency*.

7.9□ Each *RTA* shall collect, track and analyze data on *occurrences* to reduce the likelihood of recurrence, inform the practice of *SMS* and make available for *Staff* and/or *FTA* review. *Occurrences* include the following:

- a.□ No personal injury;
- b.□ Close calls or near misses;
- c.□ *Safety* rule violations;
- d.□ Violations of *safety* policies;
- e.□ Damage to catenary or third-rail equipment that do not disrupt operations; and
- f.□ Vandalism or theft.

7.10□ *RTA*'s not receiving federal financial assistance authorized under 49 U.S.C. Chapter 53 are exempt from reporting to the *FTA* as required by Sections 7.4 and 7.8.

8 REQUIREMENTS FOR INVESTIGATING ACCIDENTS

8.1□ Although the Commission is ultimately responsible for the sufficiency and thoroughness of all *accident investigations*, each *RTA* shall investigate, on behalf of the Commission, all reportable *accidents* involving a *rail transit vehicle* or taking place on *rail transit agency-controlled property*. *Staff* may also perform a separate, independent *investigation* of any such *accident*.

8.2□ The *accident investigations* performed by each *RTA* shall be conducted in accordance with written procedures. Each

RTA Accident Investigation Procedure, including any changes, shall be submitted to *Staff* for review.

8.3□ When investigating *accidents* that require immediate notification per Section 7.2, the *RTA* shall:

- a.□ Notify *Staff* when additional *investigation* is conducted by an *investigation* team or panel performing interviews, questioning witnesses, or conducting inspections, measurements, examinations, or tests, etc. as part of the *investigation* beyond the initial on scene *investigation*;
- b.□ Provide for *Staff*'s participation to the fullest extent possible in *accident investigations*, and make all information related to the *accident investigation*, including data from event recorders, available to *Staff* for review;
- c.□ Document in a written report each item investigated, the *investigation* findings, the most probable cause of the *accident*, contributing causes, and recommendations for corrective action to prevent a recurrence of the *accident*;
- d.□ If necessary, prepare a *CAP* as a part of the *investigation* report or in a separate document. (For *CAP* detail refer to Section 9);
- e.□ Submit its final *investigation* report within 60 calendar days of the *occurrence* of the *accident*. If the *investigation* takes longer than 60 calendar days to complete, the *RTA* shall submit interim status reports every 30 calendar days; and
- f.□ If the final investigative report is acceptable to *Staff*,

Staff shall issue a formal letter to the *RTA* approving the report as consistent with best industry *investigation* procedures and in furtherance of the public's interest in system *safety* and *security*. If it is not acceptable, *Staff* shall identify the areas in the report to be corrected. If the *RTA* does not agree with the rejection, *Staff* shall either conduct its own *investigation*, or communicate its disagreement with the findings of the *accident investigation* to the *RTA* and meet and confer with the *RTA* in an effort to make mutually agreeable findings. If such agreement is not reached, the *RTA's* report and a statement of the reasons why *Staff* disagrees shall be formally filed with the Commission.

8.4□ No *Investigation* report or recommendation of the Commission, nor any *investigation* report of a *RTA* submitted to the Commission, shall be admissible as evidence in any action for damages based on or arising out of matters covered therein, pursuant to Public Utilities Code Section 315.

9 REQUIREMENTS FOR CORRECTIVE ACTION PLANS

9.1□ *Rail Transit Agencies* shall develop *CAPs* for the following:

- a.□ Results from *investigations*, in which identified causal and contributing factors are determined by *RTA* or *Staff* as requiring corrective actions.
- b.□ Recommendations contained in the *Staff* triennial *safety* and *security* review reports as adopted by the Commission.

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- c.□ The *RTA's* Internal *Safety* Audit findings, as required by Section 5 of this General Order.
 - d.□ Inspection findings identified by *Staff* through its inspection reports issued to the *RTAs*.
 - e.□ *Hazards* identified by the *RTA* through its *hazard* management process, when appropriate.
- 9.2□ Each *RTA* shall submit an *investigation CAP* to *Staff* within 60 calendar days of the *occurrence* of the *accident* as part of the *investigation* report or in a separate document. If the *CAP* implementation takes longer than 60 calendar days to complete, the *RTA* shall submit interim status reports every 30 calendar days. The *CAP* shall identify the action to be taken with an accompanying implementation schedule, and the individual or department responsible for the implementation.
- 9.3□ Each *RTA* shall submit a *CAP* based on the recommendations contained in the *Staff* triennial *safety* and *security* review reports as adopted by the Commission. The *CAP* shall identify the action to be taken with an accompanying implementation schedule, and the individual or department responsible for the implementation. Each *RTA* shall submit to *Staff* *CAP* interim status reports according to the Commission Resolution.
- 9.4□ Each *RTA* shall submit a *CAP* based on the findings of the internal *safety* audit required by Section 5 of this General Order. The *CAP* shall identify the action to be taken, with an accompanying implementation schedule, and the individual or department responsible for the implementation.

- 9.5□ Each *RTA* shall submit a *CAP* based on the findings of any *Staff* inspections issued to the *RTA*. The *CAP* shall identify the action to be taken with an accompanying implementation schedule, and the individual or department responsible for the implementation.
- 9.6□ Each *RTA* shall submit each *CAP* to *Staff* with a request for review and approval. If the *CAP* is acceptable to *Staff*, *Staff* shall notify the *RTA* approving the *CAP* as consistent with Sections 9.1 through 9.5 inclusive, best industry practices, and in furtherance of the public's interest in system *safety* and *security*. If it is unacceptable to *Staff*, *Staff* shall identify the areas in the plan that, in its determination, require correction, and communicate that information to the *RTA*. If the *RTA* does not agree with the rejection, *RTA* shall meet and confer with *Staff* in an effort to resolve this disagreement. If no resolution is achieved through negotiation, the *RTA* shall apply to the Commission for approval pursuant to the application procedure under the Commission's Rules of Practice and Procedure.
- 9.7□ Where immediate or emergency corrective actions are required to ensure immediate *safety*, the *RTA* may implement the corrective action prior to *Staff* approval, provided timely notification of the *CAP* is provided to *Staff* and *Staff* subsequently provided review and approval.
- 9.8□ If the National Transportation Safety Board (NTSB) investigates an *accident* involving a *RTA*, *Staff* and the *RTA* shall meet to address NTSB's findings and determine the appropriate corrective actions to be taken based on those

findings and all other information available on the accident.

9.9□ Each *RTA* shall submit to *Staff* verification that the corrective action(s) has been implemented as described in the *CAP*, or that a proposed alternate action(s) has been implemented with the agreement of *Staff*.

9.10□ Where corrective actions have been taken prior to the due date for *CAP* submittal, evidence of the corrective action taken may be substituted for submittal of a proposed *CAP*.

10 REQUIREMENTS FOR AT-GRADE RAIL CROSSINGS

10.1□ The procedures described in this section apply to the construction of all at-grade crossings (crossings) established after the effective date of this General Order.

10.2□ In the initial phase, the *RTA* shall consult with *Staff* during the process of developing a Draft Environmental Impact Report (DEIR) for *projects* that require such a document to be prepared. For other proposed crossings, where a DEIR is not required, the *RTA* shall consult with *Staff* prior to initiating preliminary engineering. The purpose of this consultation is for the *RTA* to provide its reasons and supporting evidence, why the at-grade crossing is not a good candidate for closure or grade separation. *Staff* shall provide feedback by a letter to the *RTA*. The following information is to be provided to *Staff* as part of the consultation:

- a.□ Current and projected rail operations. If the crossing is planned to be used by other types of trains such as freight trains, the number, type and speed(s) of trains shall be provided;

- b. Current and projected highway usage – number, type (cars, trucks, buses, pedestrians, bicyclists, etc.), and speed of vehicles;
- c. Existing and projected facilities that generate traffic in the area, such as shopping centers, major industries, schools, entertainment venues, or emergency services (hospitals, fire stations, police departments, etc.); and
- d. Preliminary drawings and/or aerial photographs, or site maps of the crossing and vicinity – include information on nearby roads to determine if they can accommodate additional vehicular traffic if existing intersections are eliminated.

10.3 In the second phase, the *RTA* shall request Commission authorization for every crossing during the preliminary engineering phase of the *project*. At its option, the *RTA* may choose either of the following processes to request Commission approval:

- i. Filing a Rail Crossing Hazard Analysis Report (RCHAR) as outlined below; or
- ii. Filing a formal application in accordance with the Commission’s Rules of Practice and Procedure.

10.4 If the *RTA* chooses option (i) in Section 10.3, it shall submit to *Staff* a RCHAR listing every at-grade rail crossing. The RCHAR shall include the following:

- a. Detailed engineering drawings for each at-grade crossing;
- b. Proposed rail operations;
- c. Updates of data provided during consultation (see Section 10.2);

d. Analysis of identified *hazards* at each proposed at-grade crossing; such as:

- Queuing on tracks
- Pedestrian movements
- Turning movements
- Sightlines

e. Identification of *hazard* mitigation measures, such as:

- Crossing warning devices
- Active and passive signs
- Median islands
- Fencing and channelization

10.5 After a RCHAR that meets the requirements of Section 10.4 is submitted, *Staff* shall schedule field diagnostic review meetings, with all affected agencies, within 60 days after receiving the RCHAR, to assess the *safety* aspects of the proposed at-grade crossing design(s). Within 90 days after the field diagnostic reviews are completed, *Staff* shall provide preliminary recommendations to the *RTA* pertaining to the design of each at-grade crossing.

10.6 If the *RTA* accepts *Staff's* preliminary recommendations, then those recommendations will be considered to be final and the *RTA* shall submit plans incorporating the changes for approval by Commission Resolution.

10.7 If the *RTA* does not accept *Staff's* preliminary recommendations, then the *RTA* can request a meeting with *Staff* to discuss the design of the at-grade crossings. Within 30 days after this meeting, *Staff* shall provide their final recommendations to the *RTA*. If the *RTA* accepts *Staff's* final recommendations, the *RTA* shall submit final

plans incorporating the changes for approval by Commission Resolution.

- 10.8□ If the *RTA* and *Staff* cannot reach agreement on the design of specific at-grade crossings, then the *RTA* may file a formal application with the Commission for those crossings, in accordance with Section 10.3 (ii), where an agreement was not reached.
- 10.9□ Nothing in this General Order shall preclude the *RTA* from filing a formal application in accordance with Section 10.3 (ii) at any point in the process.

11 REQUIREMENTS FOR SAFETY CERTIFICATION PLAN

- 11.1□ Each *RTA* shall be responsible for *Safety Certification* of all *Projects*. The *RTA* shall ensure that all entities involved in design, construction, operation, and maintenance of all *Projects* shall comply with the requirements of the *Safety Certification* process.
- 11.2□ Each *RTA* shall prepare a *Project* specific *Safety Certification Plan (SC Plan)* for each of its *Projects*. Applicable *FTA* guidelines shall be used as a reference.
- 11.3□ Each *RTA* shall submit the *SC Plan* to *Staff* for review and Commission approval during the preliminary engineering phase. The *RTA* shall revise and expand the *SC Plan* as the *Project* progresses, as necessary. The *RTA* shall file any revision of the *SC Plan* with *Staff*. Within 45 calendar days, *Staff* shall approve or reject the proposed revisions.
- 11.4□ The *SC Plan* shall address *safety certification* management including organizational authority and responsibilities, *safety*

certification activities, processes and procedures, documentation requirements and responsibilities, and reporting requirements.

- 11.5□ The *SC Plan* shall describe the controls used to maintain effective communications and liaison with *Staff* throughout the life of the *Project*. It shall also include procedures to obtain and adequately address *Staff*'s written comments on *safety* and *security* design reviews conducted throughout *Project* development lifecycle.
- 11.6□ The *SC Plan* shall identify the process used to verify and document conformance with *safety* and *security* requirements during design, construction, testing, and operational readiness. The *SC Plan* shall include the following:
- a.□ The *hazard* management process to conduct *safety hazard analyses* and *safety hazard* resolution. The document shall include a list of *hazard analyses* to be performed. Each *RTA* shall submit *hazard analyses* to *Staff* upon request.
 - b.□ A list of all *safety* and *security* design criteria that will be used in the planning, design, and construction of *Projects*.
 - c.□ Certifiable elements and sub-elements list.
 - d.□ *Safety certification* audits conducted in accordance with written checklists to verify compliance and judge the effectiveness of the *SC Plan*.
 - e.□ Format of Conformance checklists, and a list of the actual checklists as they become available, the actual checklists shall be submitted upon request.

- f.□ *Safety Certification* milestones.
- g.□ Procedure for updates.

12□ REQUIREMENTS FOR SAFETY CERTIFICATION VERIFICATION REPORT

12.1□ Each *RTA* shall submit a *Safety Certification Verification Report* to verify *Project* compliance with the *SC Plan*.

12.2□ Each *RTA* shall submit the *SCVR* to *Staff* at least 21 calendar days prior to the start of service. The *SCVR* shall certify that: (a) all requirements of the *SC Plan* have been completed except for listed open items, if any, (b) that all *safety hazards* have been adequately mitigated, and (c) adequate restrictions/workarounds are in place to ensure the *safety* of operations until open items are closed. *Staff* shall respond to the *SCVR* within 14 calendar days of filing by indicating that it approves the *SCVR*, or identifying areas that are not acceptable to *Staff*. *Staff* shall give its approval of the *SCVR* by issuing a formal letter to the *RTA*. The *Staff's* approval letter will not bind the Commission, but shall constitute provisional Commission approval. The *Project* shall not be placed in service until the *SCVR* is provisionally approved by *Staff* in this manner.

12.3□ The *SCVR* shall include a:

- a.□ Letter of Intent to Operate;
- b.□ Final Project Verification of Safety; and
- c.□ Remaining Open Items List, if any, with appropriate workarounds.

13□ COMMISSION APPROVAL

- 13.1 □ Where formal Commission approval is required by this General Order, requests for Commission approval, shall be made by letter to *Staff* unless otherwise specified. *Staff* shall prepare a resolution on the request for Commission consideration at a public meeting.
- 13.2 □ All protests, comments, and appeals of initial *Staff* determinations shall be submitted to the Commission pursuant to the Commission's Rules of Practice and Procedure.

Dated March 22, 2018, (amended April 30, 2018) at San Francisco, California.

PUBLIC UTILITIES COMMISSION
STATE OF CALIFORNIA

By ALICE STEBBINS
Executive Director

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