

GENERAL ORDER NO. 175

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

**RULES AND REGULATIONS GOVERNING ROADWAY WORKER PROTECTION  
PROVIDED BY RAIL TRANSIT AGENCIES AND RAIL FIXED GUIDEWAY  
SYSTEMS**

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Rail Transit Agencies (RTA) and Rail Fixed Guideway Systems (RFGS) operating in California shall comply with the following rules governing roadway worker protection.

## 1 GENERAL PROVISIONS

- 1.1 *Authority.* These rules and regulations are authorized by and implement the provisions of 49 U.S.C. § 5330; 49 C.F.R. § 659; and California Public Utilities Code Sections 778 and 99152, as well as the California Public Utilities Code sections establishing each individual transit agency within California.
- 1.2 *Purpose.* The purpose of these rules and regulations is to provide a safe working environment for RTA roadway workers. These rules and regulations are intended to ensure that each RTA adopts a program for roadway workers containing specific rules for protecting these workers from the danger of being struck by trains or other on-track equipment.
- 1.3 *Applicability.* These rules and regulations are applicable to all RTAs in California. These rules and regulations do not prohibit RTAs from implementing rules that provide greater safety. These rules and regulations do not apply to fire protection and law enforcement personnel. These rules and regulations exclude track that is being constructed until any RTA vehicles or employees occupy the construction area, except for RTA employees who must occupy the area to perform inspections needed during construction, and who will do so under the construction contractor's protections and regulatory obligations.
- 1.4 *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.
- 1.5 *Exemptions or Modifications.* Requests for exemptions or modifications from these rules and regulations shall contain a full statement of the reasons justifying the request. 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 matter covered by the request and shall require Commission approval.

## 2 DEFINITIONS

- 2.1 *Confirmed Hold* means a specific procedure that can be used as specified in this General Order to hold rail transit vehicles including on-track equipment, out of a work location as follows: The Control Center will instruct a rail transit vehicle operator to stop at a designated location, and the rail transit vehicle operator will confirm to the Control Center that the vehicle is actually stopped at the designated location. Roadway workers will not be permitted to enter the work zone until the EIC receives notification from the Control Center that a Confirmed Hold has been verified for each approaching rail transit vehicle. The Confirmed Hold will not be lifted until the EIC has determined all roadway workers are safely clear of the tracks and confirms the release of the work location to the Control Center.
- 2.2 *Employee* means a person employed by an RTA in California, or a contractor working on behalf of such RTA.
- 2.3 *Employee in Charge (EIC)* means the RTA employee with responsibility for supervising and ensuring safety, including use of roadway worker protections, at a right-of-way worksite. In the case of a minor task as defined herein, the EIC would be the roadway worker performing the minor task if alone.
- 2.4 *Fifteen-second rule, or 15-second rule*, means a rule that requires a roadway worker to be clear of approaching rail transit vehicles 15 seconds before a rail transit vehicle moving at the maximum authorized speed on that track can pass the location of the roadway worker.
- 2.5 *Job Safety Briefing* means a meeting conducted at the job site by the employee in charge of the work that focuses on the hazards of the work

to be performed and the provisions to eliminate or protect against those hazards. The term is further defined through the requirements for a job safety briefing provided in this General Order.

2.6 *Minor tasks* are defined as those tasks without tools unless specified herein where an individual can continue to look out at least every 5 seconds for approaching rail transit vehicles and where they can be performed without violating the 15 second rule. Minor tasks are limited to the following:

- a. retrieving or removing an item from the right-of-way, or
- b. lining switches, including the use of a switch bar, or
- c. placing or removing flags, or
- d. taking photographs with an RTA-issued or RTA-approved camera, or
- e. a visual inspection at one specific fixed location, deemed an immediate need.

Tasks and tools not listed herein may be performed and used upon written request to the Director with copy to the affected employees' representative(s) and written concurrence from the Director or Deputy Director of the Consumer Protection and Safety Division.

2.7 *Near-miss* means an incident infringing on the safety of a roadway worker on or near the tracks, but without contact or injury.

2.8 *On-track Equipment* is a subset of the comprehensive Rail Transit Vehicle definition herein, and means any equipment besides revenue vehicles used for any purpose, including but not limited to testing, inspection, and maintenance. The definition is included to avoid possible confusion in subsections herein where a Rail Transit Vehicle mistakenly might be assumed to be only a vehicle in revenue passenger service.

2.9 *Place of Safety* means a space where a person or persons can safely get sufficiently clear of any rail transit vehicle, including any on-track equipment, moving on any track.

- 2.10 *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.
- 2.11 *Rail Transit Agency (RTA)* means the entity that plans, designs, constructs, and/or operates a RFGS.
- 2.12 *Rail Transit Vehicle* means an RTA's rolling stock, including but not limited to passenger and maintenance vehicles.
- 2.13 *Right-of-way* means a strip of land that is granted, through an easement or other mechanism, for transportation purposes which includes the RTA's rails, track, crossties, ballast, bridges, underpasses, tunnels, wayside signals, near-track communication facilities, and stations, excluding platforms.
- 2.14 *Roadway Worker* means any employee who performs any work on the right-of-way.
- 2.15 *RTA Contractor* means an entity that performs tasks on behalf of the RTA.
- 2.16 *RWP* – Roadway worker protection.
- 2.17 *System Safety Program Plan (SSPP)* means a document adopted by an RTA detailing its safety policies, objectives, responsibilities, and procedures.
- 2.18 *Track Zone* means an area within six (6) feet of the outside rail on both sides of the track.
- a. The track zone definition is intended to provide a threshold that can be identified by workers as an area where a person or equipment could be struck, or has the potential to be struck, by the widest equipment that could occupy the track. The zone provides additional space away from the widest revenue rail transit vehicle that could occupy the track to address the potential for inadvertent movement into the area where a person

or roadway working equipment could be struck.

- b. This zone should be widened, or extra safety provisions put in place, to safely accommodate any movement that might be anticipated into the area. Examples include equipment placed just outside the zone that has a bucket or swing boom that could extend far enough to be struck, or have the potential to be struck, or roadway maintenance machines that might be wider than revenue rail transit vehicles.

2.19 *Watchperson*, sometimes called a lookout, means an employee who has been trained and qualified on roadway worker protection rules and procedures, whose sole duty is to provide effective warning in compliance with the 15-second rule to roadway workers of approaching rail transit vehicles as defined herein, including trains or any on-track equipment, who does not perform or assist in any other work aside from the watchperson duty, and who remains clear of the track zone as defined herein.

### 3 RTA RESPONSIBILITIES

- 3.1 Each RTA shall adopt and implement a program that will afford safety to all its roadway workers.
- 3.2 Each RTA shall adopt RWP rules that satisfy the requirements of this General Order.
- 3.3 Each RTA shall adopt a training program in accordance with Section 8.
- 3.4 Each RTA shall maintain for a minimum of three years records of employee-reported unsafe acts or conditions that could result in a roadway worker accident or incident. Records may be kept as part of an RTA's *Near-Miss Program* and recordkeeping specified in Section 9.
- 3.5 Each RTA shall create and maintain a separate dedicated manual excerpting all necessary roadway worker safety procedures and rules from its rule book(s), make it freely available to roadway workers, and ensure that roadway workers have easy access to the manual when

performing job functions.

- 3.6 Within 90 days from the effective date of this General Order, each RTA shall submit their new or revised roadway worker protection program, including the separate manual specified in Section 3.5, to Commission Staff.
- 3.7 Each RTA shall include RWP rules in its compliance testing program to ensure compliance, to assess the degree of compliance, and to make any necessary changes to enhance compliance.
- 3.8 If an RTA uses flag protection to provide roadway worker safety, it shall establish written flag protection procedures and rules and include those rules in the manual described in Section 3.5.
- 3.9 Each RTA shall establish what safety equipment a person working accessing the track zone is required to use. At a minimum each RTA shall require high visibility clothing (safety vests or jumpsuits) to be worn by all employees who access the track zone. Each RTA shall determine what is appropriate for high visibility clothing consistent with industry standards.
- 3.10 Anyone allowed access to the track zone, by request, easement, or other form of permission, shall either complete the required RWP training or be escorted by an RWP-trained employee.

#### 4 RIGHTS AND RESPONSIBILITIES

- 4.1 Right to a job safety briefing. Each RTA shall require that a job safety briefing be performed prior to the performance of any job duty that may occur on the right-of way, and shall require that all roadway workers at the job participate.
- 4.2 Right to discuss and confirm understanding. In any job safety briefing provided prior to work on the right of way, an RTA shall grant each roadway worker the right to discuss and confirm understanding of the safety provisions to be provided.

- 4.3 Right to challenge. Each RTA shall provide every roadway worker the right to challenge, and/or refuse, in good faith, any RWP assignment he or she has reason to believe is unsafe or would violate any RWP rule or procedure. The roadway worker must describe the safety or rule concern and remain clear of the track until the challenge is resolved.
- 4.4 Right and responsibility to report unsafe acts or conditions. Each RTA shall provide opportunities for roadway workers to report to the RTA any unsafe acts or conditions that could result in an accident or incident, and shall not discourage such reporting.
- 4.5 Each RTA shall ensure that every roadway worker knows they have a responsibility to ascertain that track zone safety is established and understood prior to entering the track zone.
- 4.6 Each RTA shall ensure that every roadway worker knows they have a duty to warn other roadway workers and employees in an unprotected track zone to move to the clear.
- 4.7 Shared responsibility. Each RTA shall communicate to its roadway workers that each worker ultimately is responsible for his or her actions at a work site, and that compliance with the roadway worker protection rules are designed to require actions that will keep workers safe and must be followed consistent with this section.

## 5 JOB SAFETY BRIEFING

- 5.1 Each RTA shall require that an EIC provide a job safety briefing prior to any roadway work within the RTA right-of-way. The job safety briefing for each roadway worker must include a discussion and explanation of the job function, rules, and procedures for carrying out job duties. The job safety briefing shall include the following aspects as applicable:
  - a. The general work plan.
  - b. The hazards involved and the means by which safety is to be provided to the roadway workers through compliance with these roadway worker safety rules and procedures. Special attention

shall be given to the presence of roadway maintenance machines, to the presence of any adjacent tracks, and to any need to widen the track zone according to the provisions of the track zone definition in section 2.18.b.

- c. Personal Protective Equipment.
- d. Identification and location of key personnel such as a watchperson, and an employee-in-charge.
- e. Appropriate flags and proper flag placement.
- f. A “place of safety” shall be predetermined that will allow workers to move to the safe area at least 15 seconds before any approaching rail transit vehicle moving at the maximum speed authorized on that track can pass the location of the roadway worker.
- g. The means for determining if and how the 15-second rule will be met shall be discussed including:
  - i. Determination of sight distance.
  - ii. Visibility conditions.
  - iii. Ambient noise interference.
  - iv. Maximum rail transit vehicle speeds.
  - v. Time needed to disengage from the work.
  - vi. Location of places of safety.
  - vii. Time to get to the place of safety.
  - viii. Adjacent tracks, the hazards associated, and provisions to address those hazards.
- h. The means of communication among the roadway workers to be used in the job performance, including communication with any roadway maintenance machine operators.
- i. Acknowledgement by each employee that they understand the rules to be used.
- j. If a watchperson is being used, each employee, including the

watchperson, must receive a review of the watchperson's duties, at a minimum to include the information in the definition herein of a watchperson, as follows: The watchperson's sole duty is to provide effective warning in compliance with the 15-second rule to roadway workers of approaching rail transit vehicles, including trains or any on-track equipment, does not perform or assist in any other work aside from the watchperson duty, and remains clear of the track zone.

- 5.2 If there is any change in the scope of work or crew after the initial safety briefing, a follow-up job safety briefing shall be conducted.
- 5.3 In the case of an individual roadway worker moving from one location to another (Section 6.1) or performing a minor task (Section 6.2), the job safety briefing will be a discussion, between the roadway worker and the employee providing the authorization to enter the roadway, of the protection to be used.

## 6 MINIMUM CONTROLS/LIMITATIONS FOR EMPLOYEES PERFORMING DIFFERENT CATEGORIES OF WORK WHEN WITHIN THE TRACK ZONE ON ANY TRACK OTHER THAN YARD OR END-OF-LINE STORAGE TRACKS

Each RTA shall provide the protections specified in this section. The following categories of work and levels of protection proceed from low to high. A higher level of protection may be used for any category of work. Employees may occupy passenger platforms, except for the platform-edge warning strip, without the provisions in the sections below.

- 6.1 Moving from one location to another with full attention on surroundings. Does not apply to mixed traffic operations on surface streets and public areas such as pedestrian malls.
  - a. Roadway worker/crew must establish authorization for the identified area, and
  - b. Roadway worker(s) must be able to comply with the 15-second rule.

- c. Roadway workers may occupy General Order 143 series compliant walkways in tunnels and on elevated structures where there is insufficient clearance to remain clear of the track zone. Trains must be slowed to 25 miles per hour or less before roadway workers may occupy the track zone on the walkway.

6.2 Performing minor tasks, as defined in this General Order, with sufficient attention to surroundings.

- a. Roadway worker must establish authorization for identified work area, and
- b. Notification must be given to train operators, and
- c. Notification of reverse direction and other abnormal train movement must be provided to roadway worker, and
- d. Roadway worker must be able to comply with the 15-second rule, and
- e. One of the following, i or ii:
  - i. Trains must stop short of the work location unless the roadway worker communicates by radio to the train operator that the train may proceed. Trains approaching the work location must sound an audible warning until it is acknowledged by the roadway worker. Upon radio communication between the train operator and roadway worker that the train is stopped, the roadway worker may enter the track zone. Upon radio communication from the roadway worker that he or she is clear of the track zone or on a walkway under the provisions of Section 6.1.c, the train may proceed.
  - ii. Trains are held outside the work location under a Confirmed Hold as defined in this General Order.

### 6.3 Visual Inspections, Maintenance, and Repairs, Using Hand Tools, Machines, or Equipment

The provisions of this section must cover all roadway worker/crew activities not covered in sections 6.1 and 6.2.

- a. Roadway worker/crew must establish authorization for identified work area, and
- b. Communication between the controller, the train operator, and the EIC must be established, and the means by which protection is going to be provided documented and confirmed by these individuals, affirming that no worker will be permitted to enter the track zone until the provisions in this section are implemented, and
- c. Notification of reverse direction and other abnormal train movement must be provided to roadway worker(s), and
- d. On-rail vehicle movement into the work zone must be controlled by applying one or more of the following controls as appropriate:
  - i. with flags that indicate speed restrictions, advance warnings of stopping points, and stopping points: with watchpersons; and with all movements proceeding at a speed that will allow stopping within half the range-of-vision, limited also by a maximum miles-per-hour speed set by the EIC of 25 miles per hour or slower, or
  - ii. lining and locking switches or otherwise physically preventing entry and movement of rail transit vehicles, including on-track equipment, with a watchperson, or
  - iii. restricting work to times when propulsion power is down with verification from control that track is out of service, and barriers are placed that physically prevent rail transit vehicles, including on-track equipment, from entering the work zone, or

- iv. for RTAs with positive train control systems that are operating as designed across the entire system,
  - 1) with a watchperson: the control center shall establish red signals or stop commands as applicable to the system, or
  - 2) without a watchperson: the control center shall establish red signals or stop commands as applicable to the system and stop commands are physically locked in the field train room, by means such as a route prohibit, an imposed false occupancy, or other means that make it impossible for the control center to inadvertently allow proceed signals or commands into the work limits. Exception: When any rail transit vehicle, including on-track equipment, without an operating positive train control system is operating in the vicinity of the work area limits, a watchman must be provided.
  
- e. Rail transit vehicles, including on-track equipment, within working limits established by means of inaccessible track shall move only under the direction of the roadway worker in charge of the working limits, and shall move at a speed that will allow stopping within half the range-of-vision and also limited also by a maximum miles-per-hour speed set by the EIC of 25 miles per hour or slower.

## 7 MINIMUM CONTROLS/LIMITATIONS FOR EMPLOYEES PERFORMING DIFFERENT CATEGORIES OF WORK WHEN IN THE TRACK ZONE ON YARD AND END-OF-LINE STORAGE TRACKS

- 7.1 Each RTA shall have and submit to Commission staff its yard and end-of-line storage track RWP program within 90 days of the effective date of this General Order and each time the plan is changed.
- 7.2 Each RTA shall comply with its yard and end-of-line storage track RWP

program.

## 8 ROADWAY WORKER PROTECTION TRAINING

- 8.1 Each RTA shall adopt an RWP training program for roadway workers so that each worker understands the hazards of working along the right-of-way and the methods to safely work on the right-of-way.
- 8.2 Each RTA shall adopt an RWP training program for any employee who may affect roadway worker safety, including their own safety. For example, the program shall cover employees such as rail transit vehicle operators, dispatchers, control center staff, and supervisors.
- 8.3 Each RTA shall make changes to its training program to address problems identified through the results of compliance testing, near-miss reports, reports of unsafe acts or conditions, and comments received on the training program.
- 8.4 No RTA shall assign an employee to perform the duties of a roadway worker unless that employee has received training in the RWP procedures associated with the work assignment to be performed. Any person who is escorted and being provided RWP safety by an RWP-trained employee is exempt from these training provisions.
  - a. Each RTA at least once every 24 months shall retrain all roadway workers and employees with RWP responsibilities on the RWP training program for roadway workers.
  - b. Records showing compliance with the requirement in subsection a. above shall be maintained for a minimum of three (3) years.
  - c. Each RTA shall provide an opportunity in its training program for roadway workers to raise and discuss issues regarding the effectiveness of the training program.
- 8.5 The training of all roadway workers at a minimum shall include:
  - a. Classroom training with the opportunity to ask the RWP trainer questions and raise and discuss RWP issues.
  - b. Experience in a representative field-setting.

c. The RTA's RWP rules and procedures.

- d. Recognition of all tracks and understanding of the space around them within which RWP is required.
  - e. The functions and responsibilities of various persons involved with RWP procedures.
  - f. Checks or tests to ensure the ability to comply with RWP instructions given by persons performing, or responsible for, on-track safety and RWP functions.
  - g. Signals given by a watchperson, and the proper procedures upon receiving a rail transit vehicle approach warning from a watchperson, including applicable operating and flagging rules.
  - h. The hazards associated with working on or near all tracks, including review of RWP rules and procedures.
  - i. Flag protection rules and procedures and how they are applied to roadway worker protection.
  - j. Classroom discussion of the compliance testing program requirements.
  - k. Classroom discussion of the RTA's RWP near-miss program including, but not limited to how to report near-misses.
- 8.6 Each Transit agency shall insure that their RWP training personnel are competent to provide effective RWP training, and at a minimum will consider the following:
- a. Experience and knowledge of effective training techniques.
  - b. Experience with the RTA's RWP rules
  - c. Knowledge of the RTA's RWP rules, program, operations, and operating environment, including applicable operating rules.
  - d. Knowledge of the training requirements specified in this General Order.

## 9 NEAR-MISS REPORTING PROGRAMS AND RECORDS

- 9.1 Each RTA shall develop and implement a program for reporting and recording near-misses regarding roadway worker protections.
- 9.2 RWP near-miss records shall be retained by the RTA for a period of three (3) years and shall be made available to CPUC staff on demand.
- 9.3 The near-miss program shall include:
  - a. A policy statement supporting the near-miss program signed by the CEO, and
  - b. A process to encourage and allow roadway workers to report near-misses, and
  - c. Methods to store, easily access, and track near-misses and corrective actions, and
  - d. Analyses to identify primary and contributory causal factors including root causes, and to implement corrective actions.
- 9.4 Each RTA shall submit a copy of its near-miss program to staff within 90 days of the effective date of this order and within 30 days of any subsequent modifications.
- 9.5 Each RTA shall reference their near-miss program in their SSPP.
- 9.6 Each RTA shall periodically review the effectiveness of its near-miss program taking into consideration industry practices and make adjustments if needed for increased effectiveness to achieve program goals.

- End -