

Decision **PROPOSED DECISION OF COMMISSIONER PETERMAN**
(Mailed 9/3/2013)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Consider
Roadway Worker Protections by Transit
Agencies in California.

Rulemaking 09-01-020
(Filed January 29, 2009)

**INTERIM DECISION ADOPTING GENERAL ORDER 175 FOR ROADWAY
WORKER PROTECTIONS ON CALIFORNIA'S RAIL TRANSIT SYSTEMS**

TABLE OF CONTENTS

Title	Page
1. SUMMARY	1
2. BACKGROUND	2
3. JURISDICTION	8
4. STANDARD OF REVIEW FOR SETTLEMENTS.....	10
5. RECOMMENDATIONS	11
5.1. The 2010 Recommendation and then-proposed GO	11
5.2. Parties’ Comments to the 2010 Recommendation (including the then-proposed GO).....	12
5.3. Summary of the 2012 Recommendation and the Proposed GO 175 and Changes to the 2010 Recommendation (including then- proposed GO).....	14
5.3.1. Graduated Protection Provisions Based On Levels of Hazard....	15
5.3.2. Modified Self-protection Provisions	17
5.3.3. Modified Flagging Provisions	18
5.3.4. Modified Definition of Fouling the Track.....	20
5.3.5. Early Warning Technology Requirements.....	22
5.3.6. Modified Near-miss Reporting Provisions.....	24
5.3.7. Modified Rules for Yard Tracks	29
5.3.8. Need for Reconciliation/Update to GO 172.....	30
5.3.9. Back-up Safety Devices on Non-Revenue On-Track Vehicles....	31
5.3.10. Positive Train Control.....	33
5.3.11. Regulatory Adaptability	34
5.3.12. Conclusion.....	35
6. DISCUSSION	36
6.1. The Recommendations and the Proposed GO 175 are Reasonable in Light of the Entire Record of this Proceeding.....	37
6.2. The Recommendations and the Proposed GO 175 are Consistent with the Law	38
6.3. The Recommendations and the Proposed GO 175 are in the Public Interest.....	39
6.4. Approval of the Recommendations and Adoption of the Proposed GO 175, as Modified.....	40
7. OTHER PROCEDURAL MATTERS	42
8. COMMENTS ON PROPOSED DECISION	42
9. ADDITIONAL MODIFICATIONS TO THE PROPOSED GO 175	45
10. ASSIGNMENT OF PROCEEDING	46
Findings of Fact	47

TABLE OF CONTENTS

Title	Page
Conclusions of Law.....	52
ORDER 54	
Attachment A - Roadway Worker Protection on California Rail Transit Systems	
Attachment B - Addendum to January 15, 2010, Staff Report on Roadway Worker Protection on California Rail Transit Systems	
Attachment C - General Order No. 175 (Including Interim Provisions)	

**INTERIM DECISION ADOPTING GENERAL ORDER FOR ROADWAY
WORKER PROTECTIONS ON CALIFORNIA'S RAIL TRANSIT SYSTEMS****1. SUMMARY**

This decision approves the transit roadway worker safety recommendations of the Commission's Consumer Protection and Safety Division (CPSD)¹, as reflected in the CPSD Report, dated January 15, 2010 (the 2010 Recommendation), attached to this decision as Attachment A, as modified in CPSD's Addendum to the 2010 CPSD Recommendation, dated October 19, 2012 (the 2012 Recommendation), attached to this decision as Attachment B and as further modified by decision. This decision adopts the General Order (GO) 175 attached to this decision as Attachment C. This decision also directs California's rail transit agencies² to begin the process of examining and planning for positive train control technology implementation.

The decision also adopts interim safeguards in addition to those rules previously recommended in the Proposed GO 175, subject to comment and pending the outcome of the investigation of the recent fatal accident that occurred on the Bay Area Rapid Transit District (BART) system on October 19, 2013. These interim safeguards we adopt today, in GO 175 attached to this decision as Attachment C, are pursuant to Commission's Rules of Practice and

¹ CPSD has been recently re-named the Safety and Enforcement Division. For convenience in this decision, we will continue to refer to CPSD except in the Order.

² Distinct from railroad agencies overseen by the federal government, the Commission has jurisdiction over rail transit agencies. Typical examples of the rail transit agencies include San Francisco Bay Area Rapid Transit District, San Francisco Municipal Transportation Authority (commonly referred to as Muni), Sacramento Regional Transit District, and San Diego Trolley, among others. Today's decision will therefore apply to the California's rail transit agencies.

Procedure, Rules 14.6(c)(1) and (c)(9), as interim provisions that are warranted due to public necessity and that provide temporary injunctive relief where failure to do so could cause significant harm to public health, safety and welfare.

This decision leaves the proceeding open for further proceeding to revisit GO 175 for additional modifications or enhancements, as necessary, upon review of the findings of the recent fatal BART accident.

2. BACKGROUND

On January 29, 2009, the Commission opened this Order Instituting Rulemaking (R.) 09-01-020 (OIR) to Consider Roadway Worker Protections (RWP) by Transit Agencies in California, R.09-01-020. It followed the roadway worker fatalities occurring on Bay Area Rapid Transit and Sacramento Regional Transit District in 2008. In fact, between 1997 and 2008, forty rail roadway workers from around the nation died after being struck by trains.³

Rail roadway workers are the men and women who perform all the routine maintenance and repair work on or near rail tracks. Their work is, by its very nature, hazardous because it involves the ever present possibility of being struck and killed by a moving train. An exceptionally high level of situational awareness therefore is required of train and roadway worker crews.

Federal regulations have been protecting the safety of rail roadway workers since 1997⁴ when those workers are employed by any of the nation's freight railroads, intercity passenger railroads, or commuter railroads. However,

³ CPSD Report, dated January 15, 2010 (the 2010 Recommendation) at 3.

⁴ Federal Railroad Administration's Roadway Worker Protection Regulations in 1997, 49 C.F.R. Part 214 C.

there are no equivalent federal or state regulations that provide for the protection and safety of California's rail transit agencies' roadway workers.⁵

To begin addressing this important rail transit roadway worker safety issue in California, the Commission issued R.09-01-020 to determine (1) whether current protections for rail transit agency (RTA) roadway workers are adequate, (2) whether the Commission should adopt a General Order (GO) implementing new rules for RTAs on protection of maintenance-of-way, track, signal, operating employees, and others engaged in roadway work, and (3) if new protections are needed, a description of the protections to be required by RTAs and included in the GO.

R.09-01-020 solicited comments from parties to the proceeding – the RTAs and their unions. Parties filed detailed comments on March 31, 2009, noting numerous concerns surrounding the OIR while also generally contending that no new rules should be required and that current protections of the RTAs' safety programs are adequate, so long as they are followed.

Thereafter, the Commission's Consumer Protection and Safety Division (CPSD) staff (Staff) began reviewing the merits and nuances of those initial comments and sought further information from parties in that process to better understand the RTAs' current roadway worker safety policies, practices, rules, training, and procedures. Parties responded to Staff's requests for information, and on September 29 and 30, 2009, Staff held a two-day public workshop to elicit additional input from parties on designing an effective GO that is responsive to R.09-01-020.

⁵ Each RTA in California currently has in place some form of its own roadway worker protection program. *Ibid.*

In addition to the information requests and workshops and to further gain expertise on the probable and contributing causes of the growing number of accidents involving rail roadway workers, CPSD conducted its own investigations or otherwise reviewed and analyzed third-party investigations of total of 12 roadway worker accidents listed below:⁶

- (1) Bay Area Rapid Transit District's roadway worker fatality on October 14, 2008.
- (2) Sacramento Regional Transit District's roadway worker fatality on July 24, 2008.
- (3) Bay Area Rapid Transit District's roadway worker fatality on January 12, 2001.
- (4) Chicago Transit Authority's roadway worker fatality on February 26, 2002.
- (5) Massachusetts Bay Transportation Authority's roadway worker fatality on January 9, 2007.
- (6) New York City Transit's roadway worker fatalities on April 24, 2007 and April 29, 2007.
- (7) Washington Metropolitan Area Transportation Authority's roadway worker fatalities on August 9, 2009, November 30, 2006 and May 14, 2006.

On January 15, 2010, CPSD submitted to the assigned Administrative Law Judge (ALJ) the 2010 Recommendation, which included a draft proposed GO for roadway worker protection on California's rail transit systems. The 2010 Recommendation had set forth Staff's detailed research and analysis of the issues in this proceeding including the investigation findings and examination of twelve recent rail transit roadway worker accidents as well as analysis of all of

⁶ The 2010 Recommendation at 6.

the comments to that point.⁷ The ALJ circulated the 2010 Recommendation to parties and solicited comments.⁸ Parties provided comments noting several areas where the 2010 Recommendation, including CPSD's then-proposed draft GO, maybe improved upon.

On July 30, 2010, the assigned Commissioner and ALJ issued a Scoping Memo Ruling, confirming the preliminary scope of the proceeding set forth in the OIR.⁹

In 2010, Staff and parties were focused on and wrapping up a successful collaborative effort leading to the development of GO 172 on another rail transit safety rulemaking proceeding,¹⁰ R.08-10-007, and agreed a similar collaborative approach¹¹ would likewise suit this rulemaking proceeding. Staff and parties

⁷ The 2010 Recommendation.

⁸ ALJ's January 27, 2012 Ruling.

⁹ The most recent Amended Scoping Memo Ruling was issued on August 24, 2012 to revise the proceeding schedule to allow adequate time for CPSD and parties to complete their collaborative talks on the issues noted by parties in the comments to the 2010 Recommendation, including the various provisions of CPSD's then-proposed draft GO.

¹⁰ R.08-10-007.

¹¹ That model consisted of several face-to-face meetings where parties worked together to resolve differences described in the spirit of pursuing effective safety provisions through constructive group discussions, innovation, and consensus decision-making best practices. The primary goal was to establish an effective safety regulation. An essential related goal was enforceability, since the Commission must ensure that staff can efficiently hold RTAs accountable for complying with the regulation. But parties also attended to the important goals of flexibility and fairness. Flexibility can be important in any regulation to avoid inadvertent consequences that unnecessarily interfere with the essential transportation service that RTAs provide. Fairness is important to ensure that one employee craft does not bear undue risk in its work, and

Footnote continued on next page

thereafter initiated the collaborative process used in R.08-10-007, to similarly work through several issues identified in the comments to the 2010 Recommendation, toward crafting a GO that effectively responded to this proceeding. The RTAs and their respective unions as well as various CPSD staff with extensive and varying backgrounds and expertise in transit safety issues, participated in this effort, and Staff facilitated this effort.

In addition to the original workshops held in 2009 and formal comments filed in this proceeding, nine days of multi-party meetings were conducted following circulation of the 2010 Recommendation, with 15 successive revised drafts of potential GO provisions distributed to parties, each addressing comments and requests from parties in each subsequent meeting.¹² To ensure the most up-to-date information is before the Commission's review, in addition to the original research set forth in the 2010 Recommendation, Staff reviewed recent National Transportation Safety Board (NTSB) recommendations for roadway worker protection.¹³ Staff also reviewed the Federal Railroad Administration's Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES) committee's recent analyses of 41 of the 44 fatalities occurring on railroads under Federal Railroad Administration (FRA) regulations that became effective in 1997.¹⁴

that progressive and fair processes are most effective in ensuring respect for, and compliance with, the resultant regulation. The 2012 Recommendation at 3.

¹² *Id.* at 4.

¹³ *Ibid.*

¹⁴ *Ibid.*

Staff, with the participation of parties, made numerous improvements in the proposed GO, originally proposed in the 2010 Recommendation, consistent with the recent NTSB and FAMES reports.

On October 19, 2012, Staff submitted an Addendum to the 2010 Recommendation, along with a revised proposed GO (the 2012 Recommendation) for roadway worker protection on California's rail transit systems (the 2012 Recommendation)¹⁵. The 2012 Recommendation and the proposed GO attached thereto (Proposed GO 175)¹⁶ are the culmination and resulting products of those collaborative efforts that worked through the issues raised in the comments filed by parties to the OIR and responsive to the 2010 Recommendation and a series of workshops and meetings. Staff's exemplary efforts as the facilitator in the workshops and meetings led the discussions in the past couple of years with a direction to craft and refine the provisions in the proposed GO provisions that, when implemented, are more effective, enforceable, efficient, flexible, and fair than those proposed in the 2010 Recommendation.

¹⁵ Attached hereto as Attachments B and C are the corrected 2012 CPSD Recommendation and revised proposed GO, respectively, which were submitted to the assigned Administrative Law Judge on March 15, 2013. The corrections are few and either minor or non-substantive in nature.

¹⁶ On September 3, 2013, the Proposed GO 175 was attached as Appendix C and mailed to the service list of this proceeding with the Proposed Decision.

3. JURISDICTION

The Commission has safety oversight jurisdiction over California's transit systems under California Public Utilities Code¹⁷ § 99152, and under other Code sections establishing each individual RTA within California.

Specifically, § 99152 provides:

Any public transit guideway planned, acquired, or constructed, on or after January 1, 1979,[]is subject to regulations of the Public Utilities Commission relating to safety appliances and procedures.

The [C]ommission shall inspect all work done on those guideways and may make further additions or changes necessary for the purpose of safety to employees and the general public.

The [C]ommission shall develop an oversight program employing safety planning criteria, guidelines, safety standards, and safety procedures to be met by operators in the design, construction, and operation of those guideways. Existing industry standards shall be used where applicable.

The [C]ommission shall enforce the provisions of this section.

As for the RTAs in operation prior to January 1, 1979, Code sections specifically outline the Commission's jurisdiction. Examples of these jurisdiction-conferring statutes include § 29047 for Bay Area Rapid Transit, § 100168 for the Santa Clara Valley Transit Authority, and § 30646 for the Los Angeles County Metropolitan Transportation Authority.

§ 29047 provides, in pertinent part, that:

¹⁷ Unless specified otherwise, all references to Code in this decision refer to California Public Utilities Code.

The [Bay Area Rapid Transit] district shall be subject to regulations of the Public Utilities Commission relating to safety appliances and procedures, and the [C]ommission shall inspect all work done pursuant to this part and may make such further additions or changes necessary for the purpose of safety to employees and the general public. The [C]ommission shall enforce the provisions of this section

§ 100168 is identical to the quoted portion of § 29047 and provides for the Commission's rail transit safety jurisdiction over the Santa Clara Valley Transit District (San Jose). § 30646 does likewise for the Los Angeles County Metropolitan Transportation Authority, adding that it: "... shall [also] be subject to the jurisdiction of the Public Utilities Commission with respect to safety rules and other regulations governing the operation of street railways."

Generally, as to all RTAs, § 778 provides: "The commission shall adopt rules and regulations, which shall become effective on July 1, 1977, relating to safety appliances and procedures for rail transit services operated at grade and in vehicular traffic...."

Consistent with the foregoing authorities, the Commission has adopted various rules and regulations concerning rail transit safety. For example, GO 95 sets forth, among other things, safety requirements for overhead electric/catenary lines; GO 127 provides for the maintenance and operation of automatic train control systems for the RTAs; GO 143-B addresses the design, construction, and operation of light rail transit systems; GO 164-D provides safety oversight for rail fixed guideway systems; and GO 172 provides rules to govern the use of personal electronic devices by the employees of the RTAs and rail fixed guideway systems under the Commission's jurisdiction.

The Commission continues to oversee and update these safety GOs. Moreover, the Commission has been identified by the Federal Transit Administration as the State Safety Oversight Agency for the RTAs in California under Title 49 C.F.R. Parts 659, *et seq.* As the State Safety Oversight Agency,¹⁸ the Commission also has safety and security oversight responsibilities over rail fixed guideway systems, which requires the Commission to execute certain federally-mandated oversight responsibilities over the RTAs.

4. STANDARD OF REVIEW FOR SETTLEMENTS

The inclusive and collaborative process facilitated by Staff which ultimately led to CPSD's submission of the 2012 Recommendation and the recommendation for adoption of the Proposed GO 175, makes it sufficiently similar to a settlement agreement process such that we will review the 2012 Recommendation, including the recommendation for adoption of the Proposed GO 175, as a settlement. The Commission reviews all settlements under the criteria set forth in Article 12, Rules 12.1 – 12.7 of the Commission's Rules of Practice and Procedure (Rules). Specifically, Rule 12.1(d) provides that, prior to the Commission's approval, the Commission must find a settlement "reasonable in light of the whole record, consistent with law, and in the public interest." We will discuss the 2012 Recommendation, including Proposed GO 175, and determine whether it meets these criteria.

¹⁸ See Governor Pete Wilson's letter to Commission President Daniel Fessler, dated October 13, 1992.

5. RECOMMENDATIONS

5.1. The 2010 Recommendation and then-proposed GO

Based on the review of the comments filed in response to the OIR, including CPSD's independent investigation, research and review of twelve rail transit roadway worker accidents, CPSD found that the affected rail transit employees, both roadway workers and train operators, were not sufficiently aware of the immediate hazards when they were working on or near the track. CPSD therefore concluded that rules should be designed to enhance the situational awareness of roadway workers and train operators, which in turn will improve these workers' safety and ultimately help save their lives. CPSD recommended, in its 2010 Recommendation, a GO that provides the following requirements:

- A fundamental requirement that each roadway worker performing work on or near tracks be accompanied by a lookout – an employee whose sole function and commitment is to protect those on or near the track from approaching trains.
- A requirement that roadway work locations be demarked by warning flags that ensure that train operators slow trains and prepare to stop in advance of roadway work.
- A requirement that roadway worker crews designate a predetermined safe refuge area.
- A requirement that RTAs adopt a program for reporting and recording near-hits.¹⁹
- A requirement that RTAs invest in electronic devices that provide roadway workers with an early warning of

¹⁹ The term "near-hits" is synonymous with the term "near-misses" as used in the 2012 Recommendation.

approaching trains and, eventually, with devices that warn train operators of the presence of track workers.

- A requirement that RTAs adopt a separate roadway worker safety manual approved by Commission staff.
- Rules-compliance testing requirements.
- Training requirements linked to rules-compliance testing results.

CPSD also recognized, in its 2010 Recommendation, that in addition to the draft recommended GO, the implementation of collision-avoidance technologies, such as positive train control, will provide further added protection against train accidents of all kinds, including wayside worker accidents. Therefore, CPSD recommended that the Commission direct the RTAs to begin planning for the installation of this technology in the future.

5.2. Parties' Comments to the 2010 Recommendation (including the then-proposed GO)

The following list summarizes the highlights of parties' comments to the 2010 Recommendation and thus also highlights the areas that were subsequently revisited, discussed and/or modified, where appropriate to enhance those affected provisions, in the Proposed GO 175 as part of the 2012 Recommendation:²⁰

²⁰ See the complete set of electronically filed comments at: <http://docs.cpuc.ca.gov/advancedsearchform.aspx>, entering R0901020 as the search entry in the "Proceeding Number" field.

- The 2010 Recommendation does not address different work conditions that warrant different safety measures. Requirements should be matched better to level of risk.
- The definitions and provisions, set forth in the 2010 Recommendation, for “fouling the track,” “lone worker,” and “self-protection,” are unworkable.
- Uniform flagging rules, recommended in the 2010 Recommendation, would create RTA-specific confusion with long-standing RTA flagging and RWP operating rules. Overuse of flagging protection could put more workers, as flaggers, at risk out in track areas. Protection with flags alone is subject to human error. Too much dependence on flagging procedures would require more preparation before work can be conducted and thus either shorten available maintenance windows or shorten revenue service hours.
- Early-warning technology, recommended in the 2010 Recommendation, is not fail-safe, is not fully tested, and thus should not be ordered at this time. The requirement would be cost-prohibitive and duplicative.
- Training requirements, recommended in the 2010 Recommendation, are vague in some cases and over-specified in others.
- Positive train control technology, recommended in the 2010 Recommendation, is beyond the scope and capacity of the rulemaking, as its purpose is to prevent train collisions, and would be difficult to specify in the widely varying RTA operating and physical environments.
- Near-miss provisions, recommended in the 2010 Recommendation, should be narrowed to within the scope of RWP. A more broadly scoped near-miss program should be developed consistent with guidelines from other industry experience before being required.

- Various terms and definitions, used in the 2010 Recommendation, need clarification or redefining, and repetitive and conflicting provisions need to be removed.
- The herein rulemaking proceeding needs to proceed with collaborative process that builds on the RTAs' existing roadway worker safety policies, practices, rules, training, and procedures.

5.3. Summary of the 2012 Recommendation and the Proposed GO 175 and Changes to the 2010 Recommendation (including then-proposed GO)

In addition to the formal comments filed in this proceeding responding to the 2010 Recommendation, CPSD facilitated nine days of multi-party meetings with parties since circulation of the 2010 Recommendation, with 15 successive revised drafts of potential GO provisions distributed to those parties, each addressing parties' comments and requests from parties in each subsequent meeting.²¹

In addition to the original investigation, research and analysis set forth in the 2010 Recommendation, Staff also reviewed the most current NTSB recommendations for RWP.²² Staff further reviewed FRA's FAMES committee's recent analyses of 41 of the 44 fatalities occurring on railroads under FRA regulations since they became effective in 1997.²³ Upon foregoing efforts, Staff, with the participation of parties, made significant improvements in the proposed GO, originally proposed in the 2010 Recommendation, consistent with the

²¹ The 2012 Recommendation at 4.

²² *Ibid.*

²³ *Ibid.*

updated data and analysis and those recent NTSB and FAMES reports to present and recommend the adoption of the Proposed GO 175.

On October 19, 2012, Staff submitted its 2012 Recommendation, along with a revised GO, the Proposed GO 175, for RWP on California's rail transit systems.²⁴

There are several notable enhancements or refinements from the 2010 Recommendation, including the then-proposed GO provisions, to the 2012 Recommendation, including the revised proposed GO, the Proposed GO 175, and those are discussed below.

5.3.1. Graduated Protection Provisions Based On Levels of Hazard

As detailed in the 2012 Recommendation, the one significant difference between CPSD's 2010 Recommendation and the 2012 Recommendation is the new graduated approach to RWP such that the levels of protections correspond to and match the levels of hazards. For instance, at each higher level of hazard, where workers need to pay more attention to the work and thus are less able to pay attention to their own safety and the approaching on-track vehicles and trains, GO provision(s) should anticipate and therefore provide more extensive or higher levels of protections for those circumstances consistent with the elevated risk/hazard facing those workers.

Reflecting that graduated approach, Section 6 of the Proposed GO 175, recommended here for adoption by CPSD, is structured reflecting levels of

²⁴ Attached hereto as Attachments A and B are the corrected 2012 Recommendation and revised proposed GO, respectively, which were submitted to the assigned Administrative Law Judge on March 15, 2013. The corrections are few and either minor or non-substantive in nature.

protections as matched to the levels of hazards. This structure was not previously proposed in the 2010 Recommendation. Instead, it was proposed by the RTAs following the circulation of the 2010 Recommendation to make the GO more easily implemented and better targeted to the hazards being addressed. This structured and graduated approach proposed by the RTAs and set forth in the Proposed GO 175 reflects the enhancements resulting from the collaborative dialogues and inputs from parties in this proceeding, and provides increasing protections for four basic categories of hazards, from simple movements up through the use of maintenance machinery, which presents the greatest hazard.

For example, minimal protections are required if a worker were to simply move from one side of the track to the other. In this case, before fouling the track²⁵, the worker must:

- Establish authorization from rail operations control (ROC) for the identified area and
- Be clear of approaching trains 15 seconds before a train moving at the maximum operating speed on that track can pass his/her the location.

If a worker is performing minor tasks, such as retrieving or removing an item from the right-of-way, lining switches, placing or removing flags, taking photographs with an RTA-issued camera, or visually inspecting at one specific fixed location for an immediate need, he or she must also follow the above protections, but must have additional protections to account for the increased activity. The ROC must notify train operators and must convey abnormal train

²⁵ See *infra* Section 5.3.2. (“Fouling the track literally means placing oneself on the track and thus obstructing movement by vehicles on the track. Most importantly, the term has been used to mean “placing oneself in an area where [one] could be struck by the widest equipment that could occupy the track.”)

movements to the roadway worker. Trains must sound an audible warning and stop short of the worker's location or hold outside the location, unless the roadway worker signals the train to proceed or reports he or she is not fouling the track.

At a higher level of risk, for instance, if a worker is using machines to perform maintenance and repair work, he or she must have much greater protection. For example, on-rail vehicle movement into the work zone must be controlled by applying one or more of the following controls as appropriate: flags with speed restrictions and watchpersons, or restricted speed with watchpersons, or for single track, lining and locking switches, or otherwise physically preventing entry and movement of trains or on-track equipment, or for double adjacent track, lining and locking switches or otherwise physically preventing entry and movement of trains or on-track equipment.

In summary, the 2012 Recommendation supports the above enhancements reflected in the provisions of the Proposed GO 175 as affording greater roadway worker safety protection than those recommended in the 2010 Recommendation by better matching the protections to the risk and permitting more operational flexibility in the lowest levels of hazard, while requiring heightened protections in the higher and highest levels of hazards.

5.3.2. Modified Self-protection Provisions

Another difference between CPSD's 2010 Recommendation and its 2012 Recommendation involves roadway worker's self-protection provisions. The 2010 Recommendation, and then-proposed GO, did not allow roadway workers to foul the track with the dual responsibility to perform work and simultaneously provide the sole protection for their own safety. The Proposed

GO 175, recommended here for adoption by CPSD in the 2012 Recommendation, modifies that provision and creates minor exceptions.

As an exception, a worker is allowed to depend solely on him or herself for protection when a worker is simply “moving from one location to another with full attention on surroundings” and has established authorization for the identified area, and is able to comply with the 15-second rule.

In addition, the Proposed GO 175 also allows some minor tasks to be performed by a worker without a watchman, so long as other protections are provided, and these tasks can only be performed under certain conditions, as discussed above.²⁶

By prescribing these few circumstances under which a worker is allowed to perform tasks without a watchman, the Proposed GO 175 is more protective than the FRA Roadway Workers Protection rules.²⁷

In summary, the 2012 Recommendation supports the above minor exceptions and enhancements which are reflected in the provisions of the Proposed GO 175 as addressing the concerns of parties while ensuring roadway worker safety – even a greater level of safety than the current FRA rules – without unduly hampering or interfering with certain simple tasks.

5.3.3. Modified Flagging Provisions

Another difference between the 2010 Recommendation and its 2012 Recommendation involves flagging provisions. The 2010 Recommendation, and then-proposed GO, required additional flags, rules, and procedures for flagging

²⁶ See *supra* Section 5.3.1. (Graduated Protection Provisions Based On Levels of Hazard)

²⁷ FRA rules permit work with some tools when a “lone worker” is using “individual train detection.” The 2012 Recommendation at 6, 7.

such as requiring the use of flags as markers to stop trains and specified uniform and detailed procedures, colors, and placement of the flags.

The RTAs' current practices already involve varied use of different flags and procedures between the different RTAs. With that, there are some downsides to requiring additional flags, rules, and procedures for flagging. For instance, the additional flags and flagging rules would have to be learned and carried out which could cause some confusion and/or disruption to the ongoing daily maintenance activities and routines of the different RTAs.

CPSD, in the 2012 Recommendation and the Proposed GO 175, reviewed the comments concerning the flagging provisions since 2010 and ultimately concluded that safety is better served by allowing the RTAs to generally continue with their current flagging procedures, but without adding more flagging rules and procedures. Instead, CPSD concluded in its 2012 Recommendation that a better alternative would be to allow additional safety/protection options. Specifically, by providing flagging procedures as one of several required safety/protective methods/options from which an RTA could choose, the worker safety goal is met with flexibility needed in many of these situations and without introducing undue confusion associated with additional flagging rules and disrupting the ongoing daily maintenance routines and activities.

According to CPSD, additional flagging rules could lead not only to confusion and/or disruption but would also likely lead to imprudent over-dependence on flags as the only safety option/method, which may not always be the best safety/protective option/method in all RTA environments.

In summary, the 2012 CPSD Recommendation supports the above enhancements reflected in the provisions of the Proposed GO 175 as addressing the concerns of parties that safety in all RTA environments is best served, not by

adding even more flagging rules and procedures, but by allowing the RTAs the flexibility to continue with their current flagging procedures, with other additional and optional safety/protection, as necessary. Specifically, the Proposed GO 175 requires flagging procedures as one of several required safety/protective methods/options from which an RTA could choose.

5.3.4. Modified Definition of Fouling the Track

The 2012 Recommendation and the Proposed GO 175 also updated the definition of “fouling the track.” Fouling the track literally means placing oneself on the track and thus obstructing movement by vehicles on the track. Most importantly, the term has been used to mean “placing oneself in an area where [one] could be struck by the widest equipment that could occupy the track.”

The updated definition, in the 2012 Recommendation differs from that in the 2010 Recommendation and then-proposed GO. The 2012 Recommendation and the Proposed GO 175 propose a “track zone” wherein employees must be protected. The updated definition in the Proposed GO 175 provides that: 1) a “zone” with over a three-foot safety margin would be established where any occupancy would trigger required protections, and 2) depending on the nature of the space to be occupied and the nature of the work to be performed, provisions would be required that would protect workers consistent with the level of risk as described earlier section of this decision. Specifically, the Proposed GO 175 reads as follows:

- Track Zone means an area within six (6) feet of the outside rail on both sides of the track.
- 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 track 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.
- This track 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.

The above definition provides an absolute “zone” demarcation of six feet away from the track as measured from the outside of the near rail. This track zone provides safety area that is sufficiently wide enough to cover all potential for movement into any area adjacent to a track where a person could be struck by moving on-track equipment. Moreover, the above definition provides much greater safety distance than the FRA rule on the same critical issue. The FRA rule is only four feet from the outside rail, which provides a net margin of about 14 inches from the widest equipment to run on railroad tracks. The six-foot rule in the Proposed GO 175 here for rail transit systems provides between three and four feet depending on different RTA systems. Additionally, we have added a clause to the job-briefing section, Section 5.1 of the Proposed GO 175, to ensure that the briefing includes a discussion of any need to widen the track zone for wider-than-normal equipment.

Based on the foregoing and given that there is no accident history causally implicating the FRA’s four-foot criterion, the 2012 Recommendation supports the above enhancements reflected in the provisions of the Proposed GO 175 and recommends this additional three to four-fold net increase in this safety margin

as added safety cushion to provide even greater safety for the California's rail transit roadway workers.

5.3.5. Early Warning Technology Requirements

Instead of including the early warning technology requirements in the GO as recommended in the 2010 Recommendation, Staff recommends that the Commission order the requirements separately in its decision. Staff proposes that the RTAs be ordered to develop a testing and implementation process as well as to submit a timeline for installation of wayside early warning alarm technology.

Staff believes that it is important to allow reasonable time for testing and evaluation of early warning technological device use by the RTAs because the available technology is in early stages of development and some devices have failed to work as intended. Staff also acknowledges the concern that, especially before the technology is thoroughly tested, workers may become overly dependent on the devices rather than other existing known safe practices. American Public Transportation Association (APTA) takes a similar position in advising its members:

APTA recommends that RTAs consider one or more of the technologies available only as a backup or overlay to improve their roadway worker protection programs. However, APTA also makes this recommendation with three very strong caveats:

- Use the technology in addition to – not in place of – the established roadway worker protection rules and procedures until such technology is proved to be superior to existing practices.
- Do not employ the technology in a way that would put workers at risk in the event of a failure of the technology.

- Conduct a hazard analysis and thoroughly test and evaluate the performance of the technology in the specific physical and operating environments of the RTS.” (Italics added for emphasis here.)²⁸

Given that no system has yet been tested comprehensively enough to confidently implement as safe in California’s rail transit systems, we are persuaded by the 2012 Recommendation that California’s RTAs should not prematurely implement the early warning technology. Instead, the RTAs should first be directed to test the systems. Thereafter, if the testing results show that the early warning system provides added safety value and is consistent with the APTA recommendations for use, the RTAs should develop an installation and implementation process and plan, including timeline, and submit the plan to the Commission’s CPSD Director and the Deputy Director of CPSD’s Office of Rail Safety for approval. Alternatively, if the testing results show that the early warning system does not provide any added safety value and/or is inconsistent with the APTA recommendations for use,²⁹ the RTAs should develop and submit an alternative plan to test other new systems, including anticipated timeline for potential installation and implementation, to the Commission’s CPSD Director and the Deputy Director of CPSD’s Office of Rail Safety for approval.

²⁸ The 2012 Recommendation at 9, citing APTA Rail Transit Standards Operating Practices Committee (2011). Roadway Worker Protection Program Requirements, American Public Transportation Association, Washington, D.C.

²⁹ Comments of San Francisco Bay Area Rapid Transit District (BART) Re: Proposed Decision of Commissioner Peterman Adopting General Order 175 for Roadway Worker Protections on California’s Rail Transit Systems Dated September 3, 2013, submitted September 23, 2013, p. 2, (BART 2013 Comments): Comments of Sacramento Regional Transit District on Proposed Decision of Commissioner Peterman, September 23, 2013, p. 3, (SRTD 2013 Comments).

We delegate authority to the CPSD Director and the Deputy Director of CPSD's Office of Rail Safety to extend the implementation deadline, including need for any additional time to test any new systems. RTA's requests for extensions must be accompanied by a good-faith justification.

5.3.6. Modified Near-miss Reporting Provisions

In the 2012 Recommendation and the Proposed GO 175, the reporting requirements relating to roadway worker near-misses have been modified, consistent with the comments by parties responding to the 2010 Recommendation. Taking into consideration, the concerns raised by parties, the modified near-miss reporting requirements, in the 2012 Recommendation, is far less prescriptive, allows for more flexibility to tailor a program to the particular RTA's circumstances, and looks also to other industry experiences of effective reporting systems as guide for the RTAs to follow in devising a reporting program that fits each RTA. While the modified near-miss reporting requirements in the Proposed GO 175 are both less prescriptive and less detailed than those recommended in the 2010 Recommended, they are consistent with the NTSB's approach of allowing the RTAs to develop and implement such a reporting program.

In short, Staff reconsidered its prior position concerning the feasibility of a prescriptive, comprehensive and detailed full-blown "best practices" near-miss reporting program, it previously recommended in the 2010 Recommendation. Staff now opines such a program is neither feasible nor desirable at this time for several reasons, as discussed below. Instead, Staff recommends that the RTAs should be directed to develop and implement the near-miss reporting programs as directed in the Proposed GO 175, Section 9, *et seq.*

In recommending that the modified near-miss reporting requirements of the Proposed GO 175 be adopted today, Staff reminds us of the experience gained from the aviation and railroad industries and notes that one of the critical ingredients of a best practices near-miss reporting system, is confidentiality. An effective near-miss reporting system must be confidential, and secondarily, the confidentiality, in turn, will support a system that is both non-punitive and voluntary – voluntary on the part of the participating organizations through a memorandum of understanding³⁰ (MOU), and voluntary on the part of individuals who will report events and conditions that otherwise would not be known to supervisors and managers. Similar to the aviation industry experience, we can also look to similar experiences in the railroad industry and find that railroad pilot projects, called Confidential Close Call Reporting Systems, or “C3RS,” use the Bureau of Transportation Statistics (BTS) for the report-receiving function since BTS has unique legal confidentiality protections.

Taking lessons from these experiences and industry practices, confidentiality is a key to a successful near-miss reporting program, and an MOU has proven to be one of the more effective tools in ensuring stakeholders that the system will be confidential and non-punitive. However, because the MOUs typically take several months, if not more, to finalize, it is something that some parties in this proceeding argued may be either inappropriate or otherwise infeasible at this time.

³⁰ In particular, the Federal Aviation Administration’s near-miss reporting system, the Aviation Safety Reporting System (ASRS), uses National Aeronautics and Space Administration (NASA) personnel for receiving individual reports. NASA was chosen because of its independence and because there were legal mechanisms for protecting confidentiality. Also, NASA had the resources to conduct these activities.

Meanwhile, Staff has also been part of the development on the FTA's Transit Rail Advisory Committee for Safety's (TRACS) Close-Call Reporting Working Group. We find the TRACS report, with its recommendations, to also be helpful on this issue as an additional guide for best practices in this area.³¹ Likewise, we are reminded that there are successful close-call or near-miss reporting systems, such as Sacramento Regional Transit District and New York City Transit,³² that do not utilize all of the prescriptive and comprehensive elements of the above best practices of the aviation and railroad models, with the MOUs.

Recognizing that a prescriptive, comprehensive and detailed full-blown "best practices" near-miss reporting program, with an MOU, is neither feasible nor desirable in some circumstances, following the 2009 Fort Totten collision, the NTSB did not direct immediate implementation of a prescriptive, comprehensive and detailed full-blown "best practices" near-miss reporting program. Instead, it recommended that the Washington Metropolitan Area Transportation Authority and the FTA should "develop and implement" a near-miss reporting system.

Based on the above noted experiences and the comments filed by parties, Section 9, *et seq.*, of the Proposed GO 175 strikes a careful balance between the need for an effective near-miss reporting program with the needs of the individual RTAs to tailor a program that can work most effectively in each RTA's

³¹ Transit Rail Advisory Committee for Safety (TRACS) Letter Report, July 16, 2012, Establishing a Confidential, Non-Punitive, Close Call Safety Reporting System for the Rail Transit Industry, http://www.fta.dot.gov/12419_12502.html.

³² Both of these systems were initiated following tragic accidents, and thus may not be easy to implement where the safety benefits and the immediate need for trust might be less evident.

setting. The Proposed GO 175 provisions recognize that some RTAs may already have in place successful near-miss reporting programs and allow parties the necessary flexibility of enhancing any existing successful near-miss reporting programs, while minimizing disruptions to any existing programs, or developing and implementing a new effective program tailored to each RTA. To order all RTAs implement prescriptive one-size-fits-all full-blown “best practices” model now without evaluating the existing programs and the different existing practices by RTAs could be highly disruptive to the RTAs’ activities, and may even have negative impact on public safety. Moreover, while a full-blown detailed comprehensive model with an MOU might work best for larger RTAs to create a legal framework for trust between labor and management, this should not inhibit smaller RTAs with well-established trust between labor and management to continue an already-working near-miss reporting programs, enhance those programs where possible or to develop new programs where possible.

Toward enhancing an existing near-miss reporting program or developing a new one, Section 9, *et seq.* of the Proposed GO 175 is instructive and the TRACS report, close-call guidance document, will similarly be informative here since it is focused on rail transit systems.³³ Some of the issues each RTA would need to address, depending on the nature of the organization and its context, including but not limited to:

- Confidentiality, non-punitiveness. Employees have no incentive to report close calls if they expect discipline by

³³ Transit Rail Advisory Committee for Safety (TRACS) Letter Report, July 16, 2012, Establishing a Confidential, Non-Punitive, Close Call Safety Reporting System for the Rail Transit Industry, http://www.fta.dot.gov/12419_12502.html.

doing so. Confidentiality and protection from discipline remove this disincentive, and allow the rewards of labor/management cooperation and engagement in safety activities and innovation to prevail.

- **Voluntariness.** It cannot be forced, and employees will only “own” their efforts for safety if experienced as choice.
- **Memorandum of Understanding (MOU).** An MOU becomes the “contract” between all parties including labor, management, third parties, and regulators. It is essential to have written procedures and protections to which all agree.
- **Exclusions.** Intentional acts and drug and alcohol use are excluded from close call reporting systems. Acts or events that are already known to management are excluded to prevent the system from only being an after-the-fact disciplinary avoidance tactic, and to immediately encourage reporting.
- **Timeliness.** Limits to reporting time should be established to encourage immediate reporting.
- **Data protection.** Records containing identifying information must be kept by an independent third party free from public disclosure. Few mechanisms exist for this function since freedom-of-information statutes allow access to normal data repositories. The aviation system uses the data protection authority of the independent NASA, while the C3RS system uses the independence of BTS and the Confidential Information Protection and Statistical Efficiency Act (CIPSEA).
- **Resources for causal and trend analysis.** Reports need to be analyzed by skilled personnel who can identify multi-dimensional causation and maximize the utility of the reports. Trends are important to identify systemic problems, but even single reports can identify previously unknown risks. Collection of data across several RTA systems can more easily identify emerging trends, and

dissemination of safety information to all RTAs makes the best use of emerging safety information.

In summary, a close-call reporting system has been shown to be effective in soliciting safety information not otherwise reported when employees can report unsafe events and conditions even though they may have violated a rule. The purpose is to engage all possible “eyes and ears” regarding safety non-punitively, and in doing so communicate the primacy of safety and to establish the mutual trust that must exist to put safety first ahead of notions of punishment being the remedy for rule non-compliance and unsafe behavior. CPSD therefore believes and urges that it is time for the rail transit industry to benefit from what may be the benchmark safety innovation in commercial aviation. The Proposed GO 175 therefore requires the RTAs to develop and implement a near-miss reporting system.

5.3.7. Modified Rules for Yard Tracks

In the 2012 Recommendation and the Proposed GO 175, the rules for yard tracks were more clearly distinguished from the rules for main line tracks, and each RTA is required to submit its program for protection on yard tracks more tailored to the situations of each RTA to Staff for its review. The Proposed GO 175 requires each RTA to comply with its respective protection requirements for these two types of tracks.

In the 2012 CPSD Recommendation and the Proposed GO 175, the rules for yard tracks are not as prescriptive as the rules for main line tracks for three primary reasons. First, the need for such prescription was not established by the accident history documented in the 2010 CPSD Recommendation nor in subsequent research. Second, the nature of the tracks, how they are used, and the nature of roadway work on such tracks vary widely between RTAs, and it would

be especially difficult to adopt a GO covering all potential situations. Third, parties agreed that the best way to approach rule application in yard tracks was for a CPSD staff to visit each yard and review the safety practices.

Thus, instead of adopting a “one size fits all” regulation for yards as was recommended in the 2010 Recommendation, parties reasoned and reached a consensus that the most prudent approach would be for each RTA to be required to submit its own particularized set of rules, which would address the unique circumstances of each RTA’s yards which differ greatly.

The Proposed GO 175 thereafter would require each RTA to comply with its submitted set of rules. Those rules would then become subject to individual review by CPSD staff in a position to informally or formally pursue changes to those rules, if the rules were deemed insufficient to provide reasonable protection in the particular RTA’s yard. The Proposed GO 175 then provides that the resultant rules would then be enforceable by CPSD staff inspectors.

5.3.8. Need for Reconciliation/Update to GO 172

Staff proposes a meeting of stakeholders, including the parties to the personal electronic device prohibition rulemaking, R.08-10-007 (proceeding resulting in GO 172), and the present rulemaking, to discuss reconciliation of the GO 172 provisions that now might conflict with, and now are better addressed in the attached GO 175.

Upon implementation of GO 172 prohibiting personal electronic devices on rail transit systems, parties to this proceeding became aware of possible conflicts between the two GOs. Most importantly, there is some overlap between the two GOs, and GO 172 may also have covered some topics best addressed in the RWP GO, such as the use of electronic devices essential for roadway maintenance and construction activities. Staff recommends modifying GO 172

after further discussion with stakeholders to exempt roadway worker tools that might otherwise be defined as personal electronic devices in GO 172.

The Proposed GO 175 generally addresses use of tools and has safety provisions that will include use of electronic tools needed for roadway work, and thus is the appropriate place to address such use. We are advised that CPSD therefore intends to recommend necessary updates to GO 172 at a later time.

5.3.9. Back-up Safety Devices on Non-Revenue On-Track Vehicles

In its report on the 2010 wayside worker fatalities on the Washington Metropolitan Area Transit Authority in Rockville, Maryland, the NTSB concluded that an audible backup alarm might have helped prevent the accident. The NTSB recommended that the APTA “establish guidelines and standards to require that all existing and new hi-rail vehicle be equipped with an automatic change-of-direction or backup alarm...”

Addressing NTSB recommendation R-12-36 and 49 CFR 214.523, Staff proposed adding a backup alarm requirement to the proposed GO. However, following meeting discussions and recognizing that rail transit vehicle standards are found in GO 143 series, Staff proposes that it would be more appropriate to add the requirement to GO 143 when it is revised. Meanwhile, CPSD requested that the requirements be included in the decision for the Commission to order implementation of the requirement without waiting for the next GO 143 revision.

1. Within one year of the effective date of this decision, all existing and new non-revenue on-track vehicles shall be equipped with a backup alarm that when backing up provides an audible signal distinguishable from the surrounding noise.
2. The RTA shall have rules requiring each operator of a hi-rail vehicle to check the vehicle for compliance with this

- subpart, prior to using the vehicle at the start of the operator's work shift.
3. A non-functioning back-up alarm that cannot be repaired immediately shall be tagged and dated in a manner prescribed by the employer and reported to the designated official.
 4. Non-functioning backup alarms shall be repaired or replaced as soon as practicable, but at least within seven (7) calendar days.
 5. In the case where a vehicle with a non-functioning alarm must be in service, and is permitted to be in service by this General Order, an alternate audible device must be used to sound back-up warnings.
 6. The requirements ordered in Ordering Paragraphs 1 through 5 above shall be added to General Order 143 upon its next revision.

Staff recommends that the Commission order the above requirements in the decision separately from the Proposed GO 175. After its original 2010 proposal, Staff became aware of the above NTSB recommendation. Because this proceeding was initiated to address roadway worker safety issue, it is within the scope of this proceeding. Therefore, Staff has discussed this recommendation with parties, during the collaborative process leading to the 2012 Recommendation and the Proposed GO 175 and recommends that it be adopted as part of this proceeding. Moreover, while the above proposed requirements will satisfy NTSB Recommendation R-12-36, Staff recommends that during the next revision of GO 143, the following backup and change-of-direction warning devices be considered: an automatic change-of-direction alarm, a 360-degree intermittent warning light or beacon mounted on the outside of the vehicle, a rear-facing video camera system with a display in the vehicle cab that provides a

view to the rear of the vehicle, and a rear-facing strobe with a distinctive strobe pattern that is used only when backing up.

At least one RTA commented that due to noise restrictions in some residential areas, particularly during night times, use of loud alarms could be infeasible and that other warning devices could provide comparable or even superior safety protection, such as a 360-degree strobe combined with a rear-view video. We agree. In those and other circumstances, alternatives such as strobe/rear-view video option may provide comparable or even superior safety option. For instance, when the ambient noise is at a high level, particularly from any maintenance work, audible alarm may not be as effective. We therefore will order that vehicles be equipped with audible alarms, but also allow the option of installing additional alternative back-up warning devices that can be used simultaneously or instead of the audible alarm, depending on the circumstances. Any RTA wishing to use such optional alternative equipment instead of the audible alarm must obtain prior written approval from the CPSD Director or the Deputy Director of CPSD's Office of Rail Safety.

5.3.10. Positive Train Control

Staff's original report (the 2010 Recommendation) recommended some assessment and reporting regarding positive train control (PTC) systems. Staff continues its recommendation for an informal assessment of the current state of PTC on existing systems before recommending new PTC regulatory requirements. Staff believes that addressing PTC on rail transit systems is a considerable project on its own, and to have accomplished it within this OIR would have delayed important roadway worker provisions well into the future. Staff has been aware of problems with rail transit automated train control

systems, most infamously in the WMATA 2009 fatal collision, but elsewhere as well.

Staff believes attending to the safety of current systems while gathering more information generally and as could be specifically applied would be the best way to ensure critical safety needs. While continuing its support for eventual PTC implementation, Staff has focused more on the assessment of PTC implementation in its recommended requirements, and proposes the following ordering paragraphs in the Commission decision:

- Identify and assess technologically available collision-avoidance technologies for train collision avoidance as they might be applied for roadway worker safety as well as train collision avoidance.
- Assess different systems and their different operations, for example, underground and street-running, for collision-avoidance technology applications, and determine different levels of feasibility, implementation timelines, benefit, and cost, including roadway worker protections.
- Report by December 31, 2014, the results of the above elements of study.

The above proposed ordering paragraphs primarily extend the time for reporting to coincide with the completion and some experience of the Los Angeles Basin PTC railroad installation, the first in the nation. The paragraphs also drop the requirement for perpetual reporting, and instead will leave further action to be dependent on the results of those reports and further developments that may have occurred.

5.3.11. Regulatory Adaptability

As with any new regulation, there are likely to be some unanticipated features that will need improving or even correcting. Potential updates needed for the personal electronic device regulation, GO 172, illustrate this. GO 172 was

the first of its kind in several ways, and needs a few modifications as described above and others as will be analyzed and brought back to the Commission for review and consideration in a subsequent proceeding. However, those anticipated modifications are very limited in scope and can readily be implemented.

Here, the Proposed GO 175 is no exception. It too is first of its kind. It sets an excellent foundation and framework for rail transit safety regulations in California. It is a great starting point and it will evolve with time and ongoing lessons learned as time passes and experience continually gained. In this regard, the Commission constantly attempts to learn, innovate and improve from new research, technology, and experience to continually promote a safety culture. To that end, CPSD proposes to continually oversee and monitor the implementation of the Proposed GO 175 upon its adoption, and also proposes to set up information structures to capture such experiences, especially those that might suggest needed improvements. As necessary, CPSD further proposes to re-engage parties to address any new issues toward continually enhancing the rail transit safety rules, culture and practices, as necessary and appropriate, and bringing those issues to the Commission's attention in timely fashion.

5.3.12. Conclusion

Based on the foregoing, CPSD presents the 2010 Recommendation, as updated by the 2012 Recommendation and the Proposed GO 175, for consideration. CPSD recommends the Commission's adoption of the Proposed GO 175 to promote safety for rail transit roadway workers and adoption of several ordering paragraphs designed to complement the Proposed GO 175 in furthering the goals of RWP GO. These recommendations follow CPSD's conclusions based on considerable work with parties to this proceeding, review

of new accident research and industry reports, additional investigation, and new and more comprehensive experience with RWP. CPSD and parties to this proceeding, including RTAs and union representatives, put in considerable work to maximize the effectiveness of the Proposed GO 175 while and the same time working to avoid and minimize confusions, disruptions and/or other unintended negative consequences of a new regulation.

In addition to the foregoing refinements, the Proposed GO 175 also reflects several other proposed modifications by the various parties to this proceeding, to the draft GO provisions originally proposed by CPSD in 2010. Mainly, the refinements and modifications consist of clarifications or updates to definitions and elimination of ambiguities or inconsistencies.

6. DISCUSSION

Overall, the Proposed GO 175 is a thoughtfully crafted response to the significant rail transit safety concern for which the OIR was issued. Through the collaborative process, the industry stakeholders worked with Staff to develop the Proposed GO 175 to effectively accommodate and address their respective concerns noted in the comments in this proceeding while also achieving the shared goal of the OIR, rail transit safety.

Here, we consider the Proposed GO 175 in light of the 2010 Recommendation, as updated by the 2012 Recommendation (the Recommendations) under the below specific criteria by which we review proposed settlements. As set forth in Rule 12.1(d), the criteria are whether a proposal is reasonable in light of the entire record, consistent with the law, and in the public interest.

6.1. The Recommendations and the Proposed GO 175 are Reasonable in Light of the Entire Record of this Proceeding

As noted earlier, the record in this proceeding is extensive and demonstrates a clear safety need and justifications for the Proposed GO 175, CPDSD prepared the 2010 Recommendation, including the then-proposed draft GO, as well as the 2012 Recommendation, including the currently recommended Proposed GO 175, based on the record of this proceeding. Parties to the proceeding, with active CPDSD facilitation, then collaborated on revisions to draft a GO that found workable solutions to the various issues presented in the OIR and presented in the comments while balancing and addressing the competing concerns.

In Section 5, above, we discussed the major recommendations of CPDSD, including the 2010 and 2012 Recommendations, including the provisions of the Proposed GO 175, which were revised or otherwise updated since the 2010 Recommendation through the collaborative process. In general, we find that the resulting approach taken in the Proposed GO 175 is reasonable for these provisions. In fact, for most of the major concern raised in the comments, the Proposed GO 175 presents a well-reasoned approach to the corresponding concern that is reasonable, both in itself and as accommodation and recognition of important and unique concerns raised by stakeholders in the proceeding.

Our commitment to rail transit safety does not end with the adoption of the Proposed GO 175, as modified by this decision. However, we see it as an excellent framework for us to begin building an effective and ongoing regulatory response to a clear safety issue facing the transit industry. We further find the Proposed GO 175 to be coherent, practical and comprehensive response to the rail transit safety in California. Review of the record in this proceeding provides

support for the Recommendations, including the Proposed GO 175. Thus, we find the Recommendations, including the Proposed GO 175, as modified by this decision, are generally reasonable in light of the entire record.

6.2. The Recommendations and the Proposed GO 175 are Consistent with the Law

The Recommendations, including the Proposed GO 175 are consistent with the law. The Commission has safety oversight jurisdiction over California's transit systems under § 99152, as well as under other various Code sections establishing each individual RTA within California, as detailed in Section 3 of this decision. Specifically, as to all RTAs, § 778 also provides: "The commission shall adopt rules and regulations, which shall become effective on July 1, 1977, relating to safety appliances and procedures for rail transit services operated at grade and in vehicular traffic...." Consistent with these authorities, the Commission has adopted various rules and regulations concerning rail transit safety. The Commission continues to oversee and update various safety GOs.

Moreover, the Commission has been identified by the Federal Transit Administration as the State Safety Oversight Agency for transit agencies in California under Title 49 C.F.R. Parts 659, *et seq.* As such, the Commission also has safety and security oversight responsibilities over rail fixed guideway systems, which further requires the Commission to execute certain federally-mandated oversight responsibilities over the rail transit agencies. Based on the foregoing, we find that we have both the jurisdiction and authority to adopt the Proposed GO 175 as a safety regulation to protect the California's transit workers.

As for the process leading to the submission of the Proposed GO 175 and the 2012 Recommendation (which updated the 2010 Recommendation), we find

that it was substantially similar to a settlement process and the submission largely reflected the consensus of those involved in the collaborative process making it reasonable to review it, as we would a settlement agreement.

In sum, we find that the Recommendations, including the Proposed GO 175, as modified by this decision, are consistent with the applicable laws and therefore we should approve and adopt them.

6.3. The Recommendations and the Proposed GO 175 are in the Public Interest

The Recommendations, including the Proposed GO 175, are in the public interest. The Proposed GO 175 provides an excellent framework for RWP in sometimes varied setting of the multiple RTAs operating in California. It strikes a reasonable and careful balance between providing prescription where necessary and flexibility where the uniqueness of each RTA's settings and circumstances must be recognized. We also find the public interest to be served by this successful collaboration among the stakeholders in the transit industry to come together to jointly devise a safety response. Adoption of the Recommendations and the Proposed GO 175 resulting from this exemplary collaborative effort by the key stakeholders in this industry will show and demonstrate our support of their commitment to safety and further ensures speedier and smoother implementation by all those stakeholders who engaged in the process with diligence and passion for transit workers safety. Finally, adoption of the Recommendations and the Proposed GO 175 resulting from this collaborative effort will likely avoid any potential delays and costs of protracted litigation and will readily be accepted and deployed by the industry.

We therefore find that the adoption of the Recommendations, including the Proposed GO 175, as modified by this decision, would be in the public interest.

6.4. Approval of the Recommendations and Adoption of the Proposed GO 175, as Modified

Based on our review and the discussion above, the Commission finds the Recommendations, including the Proposed GO 175, are reasonable in light of the whole record, consistent with the law, and in the public interest.

Throughout this proceeding, Staff and parties followed the collaborative process used in the recent proceeding³⁴ resulting in the adoption of GO 172, to similarly craft a GO that responded to the instant rulemaking proceeding.

The Proposed GO 175 represents the collective best efforts of all parties in this proceeding including the RTAs and their unions who collaborated on the provisions of the Proposed GO 175 with the ultimate aim to improve and ensure roadway worker safety on California's rail transit systems. The Proposed GO 175 provisions have been crafted through a series of workshops and countless meetings, with Staff as an active facilitator, each step of the way. Parties successfully engaged in these workshops and meetings to improve upon the 2010 Recommendation, including the then-proposed GO provisions, with focus on enhancing effectiveness, enforceability, efficiency, flexibility, and fairness. CPSD recommends, in its 2012 Recommendation, that the Commission adopt the Proposed GO 175.

³⁴ R.08-10-007.

The 2012 Recommendation, including the Proposed GO 175, is technically not presented as a settlement. However, we find that the process leading to the formation of the recommendations contained in the 2012 Recommendation, including the provisions of the Proposed GO 175 being recommended therein, makes it sufficiently similar to a settlement process and agreement such that we will review it here as a settlement. In doing so, we find the 2012 Recommendation and the terms of recommended GO, the Proposed GO 175, as modified by this decision, are reasonable in light of the whole record, consistent with law, and in the public interest. Therefore, we approve and adopt the Recommendations, including the Proposed GO 175, as modified by this decision.

The Proposed GO 175 also reflects modification responsive to parties' comments in this proceeding as well as additional modifications, interim provisions, relating to the some of the rules concerning "watchpersons." We believe these interim provisions are necessary to provide even greater safeguards than those previously proposed.

The Proposed GO 175, as modified and attached hereto as Attachment C, establishes a solid foundation and framework for rail transit safety regulations in California. Ultimately, the Proposed GO 175, as modified and attached hereto as Attachment C, significantly enhances and promotes safe rail transit systems toward providing effective protection for California's rail transit roadway workers.

In addition to the proposed GO, the 2012 Recommendation notes that added roadway workers safety protection can be provided with positive train control and by equipping the existing and new non-revenue on-track vehicles with a back-up alarm that when backing up provides an audible signal and by

beginning a testing and evaluation process to begin implementing wayside early warning alarm technology.

We agree. This decision therefore directs California's RTAs to take actions ordered in this decision to begin the process of examining and planning for positive train control technology implementation, equip the existing and new non-revenue on-track vehicles with a backup alarm that when backing up provides an audible signal and to begin a testing and evaluation process to begin implementing wayside early warning alarm technology. The actions ordered in this decision are consistent with the transit roadway workers' safety goal of this rulemaking proceeding.

7. OTHER PROCEDURAL MATTERS

Rule 12.1(a) requires parties to submit a settlement for approval by filing a written motion within 30 days after the last day of hearing. There was no evidentiary hearing in this proceeding. Therefore, the time limits in Rule 12.1(a) are inapplicable here. Because the CPSD's recommendations, including the Proposed GO 175, was not technically finalized and presented as a settlement agreement, there was no Rule 12.1(b) public notice of a settlement conference although ample public meetings were held.

8. COMMENTS ON PROPOSED DECISION

The proposed decision of Commissioner Peterman in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the commission's Rules of Practice and Procedure. Comments were filed on September 23, 2013 by BART and SRTD. No reply comments were filed. We made the necessary clarifications, corrections, and revisions to the proposed decision and to the General Order 175,

Attachment C to this decision responsive to the comments. Some of the notable comments leading to revisions are discussed below.

SRTD, in its comment to the proposed decision, requests that we not adopt the 2010 Recommendation as part of this decision. SRTD disagrees with and objects to some of the Staff's characterizations and assertions in the 2010 Recommendation, relating to a 2008 fatality that occurred on SRTD's system. Today, we do not resolve this disagreement in this decision, as it is not material to the outcome of this decision. The 2010 Recommendation however does provide an important background and a preliminary set of recommendations which proved useful during the course of the proceeding. Ultimately, substantial components of the 2010 Recommendation were revised as reflected in the 2012 Recommendation. As such, we find the 2010 Recommendation, taken as a whole, provides necessary context and justification for this decision. Thus, we note that we do not adopt the 2010 Recommendation, but instead adopt that report's *recommendations*, as significantly modified by the 2012 Recommendation and as further modified by this decision.

BART and SRTD, in their respective comment to the proposed decision, both commented that it would not make sense to order installation and implementation of early warning technology system until and unless the testing process was complete and showed that such system provided added safety value and was consistent with the APTA recommendations for use.

We agree. We therefore revised Section 5.3.5. of this decision to direct the RTAs to first test the systems. Thereafter, if the testing results show that the early warning system provides added safety value and is consistent with the APTA recommendations for use, the RTAs should develop an installation and implementation process and plan, including timeline, and submit the plan to the

Commission's CPSD Director and the Deputy Director of CPSD's Office of Rail Safety for approval. Alternatively, if the testing results show that the early warning system does not provide any added safety value and/or is inconsistent with the APTA recommendations for use, the RTAs should develop and submit an alternative plan to test other new systems, including timeline, to the Commission's CPSD Director and the Deputy Director of CPSD's Office of Rail Safety for approval. We also delegate authority to the CPSD Director and the Deputy Director of CPSD's Office of Rail Safety to extend the implementation deadline, including additional time to test any new systems and require the RTA to submit any requests for extensions with showing of a good-faith justification.

BART, in its comment to the proposed decision, requests that alternatives to the audible back-up alarm requirement be allowed. At least one RTA commented that due to noise restrictions in some residential areas, particularly during night times, loud alarms could be infeasible and that other warning devices could provide comparable or even superior protection, such as a 360-degree strobe combined with a rear-view video. We agree. In those and other circumstances, alternatives such as strobe/video option may provide comparable or even superior safety option, especially when the ambient noise is at a high level, perhaps from any maintenance or other work. We therefore will order that vehicles be equipped with audible back-up alarms, but also allow the option of installing additional alternative back-up warning devices that can be used simultaneously or instead of the audible alarm, depending on the circumstances. Any RTA wishing to use such optional alternative equipment instead of the audible alarm must obtain prior written approval from the CPSD Director or the Deputy Director of CPSD's Office of Rail Safety.

Minor clerical or stylistic revisions and corrections have also been made throughout the decision and the text of GO 175, attached to this decision as Attachment C.

9. ADDITIONAL MODIFICATIONS TO THE PROPOSED GO 175

On Saturday, October 19, 2013, a BART train struck two BART roadway workers working on the track between the Walnut Creek and Pleasant Hill stations resulting in fatal injuries to both workers. This accident is currently under investigation and the cause has not yet been determined. However, we know that BART's current rules are either same or similar to the proposed rules relating to "watchpersons" in the Proposed GO 175. This accident therefore raises some concerns with respect to the proposed rules relating to "watchpersons" in the Proposed GO 175. Specifically, the particular proposed rules that we are concerned with are Proposed GO 175, Sections 2.19, 5.1, 6.3 and 6.4.

While those rules appear reasonable, out of abundance of caution, we believe safeguards in addition to those previously proposed in the Proposed GO 175 are necessary here on at least an interim basis, subject to comment and pending the outcome of the fatal BART accident investigation. We therefore modify those rules to also require a watchperson and three-way communication between the central controller, the train operator, and the wayside worker employee-in-charge. The communication must establish that no work will be performed, and no train may enter the work area, until all three individuals confirm their locations, the safety protections being used, and the actual implementation of those safety protections. Vehicle speed restrictions must be imposed in addition to warning flags in advance of the work area.

Accordingly, this decision and GO 175, Attachment C to this decision, reflect these additional safeguards and revised provisions. These rules are modified and adopted immediately, pursuant to Rules 14.6(c)(1) and (c)(9), as interim provisions that are warranted due to public necessity and that provide temporary injunctive relief where failure to do so could cause significant harm to public health, safety and welfare. The effect of the revisions, reflected in attached GO 175, is that GO 175 being adopted now reflects revised sections 2.19 and 5.1. It also reflects deletion of the former section 6.3 of the Proposed GO 175. Finally, the former section 6.4 of the Proposed GO 175 has now been revised and renumbered as section 6.3 in the attached GO 175.

GO 175 and all its provisions will take effect immediately. The interim provisions, the rules being adopted as modified today, will also take effect immediately and will stay in effect until and unless amended, modified or otherwise superseded by a subsequent Commission decision.

There will be further proceeding in this rulemaking following today's decision to monitor and further examine the interim provisions and to afford parties meaningful opportunity to be heard on these interim provisions. Once the current investigation of the recent BART accident is completed and as part of further proceeding following this decision, we expect to revisit GO 175 in light of any outcome of that investigation to determine whether GO 175 we adopt today can be further enhanced to promote even greater roadway worker protection.

10. ASSIGNMENT OF PROCEEDING

Carla J. Peterman is the assigned Commissioner and Kimberly H. Kim is the assigned ALJ in this proceeding.

Findings of Fact

1. Work conducted by rail transit agency roadway workers is, by its very nature, hazardous and involves the ever present possibility of those workers being struck and killed by moving transit vehicles.

2. Current federal or state regulations fail to adequately provide for the protection and safety of California's rail transit roadway workers.

3. The Commission constantly attempts to learn, innovate and improve from new research, technology, and experience to continually promote a safety culture.

4. On January 29, 2009, the Commission opened the rulemaking proceeding, R.09-01-020, to consider ways of improving roadway worker protections and safety on California's transit systems.

5. The Commission has safety oversight jurisdiction over California's transit systems under Code § 99152, as well as under other various Code sections establishing each individual RTA within California.

6. CPSD's independent investigation of twelve rail transit roadway worker accidents found that rail transit employees, both roadway workers and train operators, were not sufficiently aware of the immediate hazards when they were working on or near the track.

7. Staff elicited input from parties, including the RTAs and the unions, on designing an effective GO that is responsive to R.09-01-020.

8. On January 15, 2010, CPSD submitted to the ALJ the 2010 Recommendation, which included a draft proposed GO for roadway worker protection on California's rail transit systems.

9. The ALJ circulated the 2010 Recommendation to parties and solicited comments and parties provided comments noting several areas where the 2010 Recommendation, including CPSD's then-proposed draft GO, maybe improved upon.

10. CPSD facilitated multi-party meetings and discussions with parties after circulation of the 2010 Recommendation, with 15 successive revised drafts of potential GO provisions distributed to those parties, each addressing parties' comments and requests from parties in each subsequent meeting.

11. Staff, with the participation of parties made numerous improvements in the proposed GO, originally proposed in the 2010 Recommendation, and recommended the adoption of the GO proposed in its 2012 Recommendation, dated October 19, 2012.

12. The 2012 Recommendation and the Proposed GO 175 offer the following enhancements:

- a. The Proposed GO 175 affords greater roadway worker safety protection than those recommended in the 2010 Recommendation by adopting a new graduated approach to roadway worker protections such that the levels of protections in the Proposed GO 175 correspond to and match the levels of hazard.
- b. The Proposed GO 175 is more protective than the Federal Railway Administration Roadway Workers Protection rules in that it prescribes fewer circumstances under which a worker is allowed to perform tasks without a watchman.
- c. The Proposed GO 175 addresses the concerns of parties that safety in all RTA environments is best served, not by adding more flagging rules and procedures, but by

allowing the RTAs the flexibility to continue with their current flagging procedures, with other additional safety/protection options.

- d. The 2012 Recommendation and the Proposed GO 175 update the definition of “fouling the track.”
- e. The 2012 Recommendation and the Proposed GO 175, remove from the GO, the previously recommended requirement to use an early warning technology.
- f. The 2012 Recommendation and the Proposed GO 175 modify the comprehensive reporting requirements relating to roadway worker near-misses, which remains consistent with the comments by parties responding to the 2010 Recommendation, yet still consistent with NTSB recommendations.
- g. The Proposed GO 175 requires the RTAs to implement for roadway workers the National Transportation Safety Board’s (NTSB’s) recommendation to develop and implement a near-miss reporting system.
- h. The 2012 Recommendation and the Proposed GO 175 clearly distinguish the rules for yard tracks from the rules for main line tracks.
- i. The Proposed GO 175 generally addresses use of tools and has safety provisions that will include use of electronic tools needed for roadway work.

13. The Proposed GO 175 provisions have been crafted through a series of workshops and countless meetings, with Staff as an active facilitator, each step of the way.

14. Parties successfully engaged in these workshops and meetings to improve upon the 2010 Recommendation, including the then-proposed GO provisions, with focus on enhancing effectiveness, enforceability, efficiency, flexibility, and fairness.

15. The Proposed GO 175 and Attachment C to this decision, GO 175, reflect the collective best efforts of all parties in this proceeding including the RTAs and their unions who collaborated on the provisions of the Proposed GO 175 with the ultimate aim to improve and ensure roadway worker safety on California's rail transit systems.

16. The 2010 and 2012 Recommendations, including the Proposed GO 175, are technically not presented as a settlement, but we find that the process leading to the formation of the recommendations contained in those Recommendations, including the provisions of the Proposed GO 175 being recommended therein, makes it sufficiently similar to a settlement process and agreement.

17. GO 175, Attachment C to this decision, reflects modifications to the Proposed GO 175 in response to the comments filed in this proceeding.

18. We know that BART's current rules are either same or similar to the proposed rules relating to "watchpersons" in the Proposed GO 175; thus, the recent fatal BART accident raises some concerns with respect to the proposed rules relating to "watchpersons" in the Proposed GO 175.

19. While those proposed rules relating to "watchpersons" in the Proposed GO 175 appear reasonable, out of abundance of caution, we believe safeguards in addition to those previously proposed in the Proposed GO 175 are necessary here on at least an interim basis, subject to comment and pending the outcome of the fatal BART accident investigation.

20. This decision and the attached GO 175, Attachment C to this decision, reflect these additional safeguards and corresponding revised provisions.

21. These rules are modified and adopted immediately, pursuant to Rules 14.6(c)(1) and (c)(9), as interim provisions that are warranted due to public

necessity and that provide temporary injunctive relief where failure to do so could cause significant harm to public health, safety and welfare.

22. GO 175, Attachment C to this decision, significantly enhances and promotes safe rail transit systems and provides effective protection for California's rail transit roadway workers.

23. GO 175, Attachment C to this decision, sets an excellent foundation and framework for rail transit safety regulations in California.

24. No early warning technology system has yet been tested comprehensively enough to confidently implement as safe in California's rail transit system operating environments.

25. Given that no system has yet been tested comprehensively enough to confidently implement as safe in California's rail transit systems, we are persuaded by the 2012 Recommendation that California's RTAs should not prematurely implement the early warning technology.

26. In some instances, alternatives to audible alarms such as strobe/rear-view video option may provide comparable or even superior safety option.

27. Added roadway workers safety protection can be provided with positive train control and by equipping the existing and new non-revenue on-track vehicles with a backup alarm that when backing up provides an audible signal and by beginning a testing and evaluation process to begin implementing wayside early warning alarm technology.

28. Although SRTD disagrees with and objects to some of the Staff's characterizations and assertions in the 2010 Recommendation, relating to a 2008 fatality that occurred on SRTD's system, we do not resolve this disagreement in this decision, as it is not material to the outcome of this decision.

Conclusions of Law

1. Review of CPSD's 2010 and 2012 Recommendations, including the proposed GO 175, Attachment C to this decision, pursuant to Article 12 of the Rules is reasonable and justified.
2. Parties have substantially complied with Rule 12.1(a) and 12.1(b).
3. The 2010 and 2012 Recommendations and the Proposed GO 175 are reasonable in light of the whole record, consistent with the law, and in the public interest.
4. The 2010 and 2012 Recommendations and the Proposed GO 175, as modified by this decision, are reasonable in light of the whole record, consistent with the law, and in the public interest.
5. The 2010 and 2012 Recommendations (Attachments A and B to this decision) and the Proposed GO 175, , should be approved, as modified by this decision.
6. GO 175, Attachment C to this decision, should be adopted and should be effective immediately.
7. The RTAs should not implement the early warning technology at this time.
8. The RTAs should be directed to develop a testing and implementation process and timeline, with a goal of ultimately installing and implementing a wayside early warning alarm technology, if the testing results show that the early warning system provides added safety value and is consistent with the APTA recommendations for use.
9. The RTAs should take actions ordered in this decision to begin a testing and evaluation process for wayside early warning alarm technology.

10. The RTAs should develop an installation and implementation process and plan, including timeline, and submit the plan to the Commission's CPSD Director and the Deputy Director of CPSD's Office of Rail Safety for approval.

11. The RTAs should take actions ordered in this decision to install and implement early warning technology, if the testing results show that the early warning system provides added safety value and is consistent with the APTA recommendations for use.

12. The RTAs should take actions ordered in this decision to equip the existing and new non-revenue on-track vehicles with a back-up alarm that when backing up provides an audible signal.

13. In addition to the audible back-up alarm, the RTAs should be permitted the option of installing additional alternative back-up warning devices that can be used simultaneously or instead of the audible alarm, depending on the circumstances.

14. The RTAs should take actions ordered in this decision to begin the process of examining and planning for positive train control technology implementation.

15. Additional safeguards than those proposed in the Proposed GO 175 are necessary to enhance the RWP safety and effectiveness of those proposed rules.

16. The Commission's use of its authorities pursuant to Rules 14.6 (c)(1) and (c)(9) to modify the provisions of the Proposed GO 175, to add additional safeguards and revised provisions to GO 175 (Attachment C to this decision), as interim provisions, so that those rules may be modified and adopted immediately is reasonable.

17. These rules should be modified and adopted immediately, pursuant to Rules 14.6(c)(1) and (c)(9), as interim provisions, should take effect immediately

and should stay in effect until and unless amended, modified or otherwise superseded by a subsequent Commission decision.

18. Following the issuance of this decision and as part of this rulemaking proceeding, the Commission should monitor and further examine GO 175, including the interim provisions, as necessary.

19. Following the issuance of this decision and as part of this rulemaking proceeding, the Commission intends to afford parties meaningful opportunity to be heard on these interim provisions.

20. Following the issuance of this decision, as part of this rulemaking proceeding, and once the current investigation of the recent BART accident is completed, the Commission intends to reexamine GO 175 in light of any outcome of that investigation, to determine whether GO 175 we adopt today can be further enhanced to promote even greater roadway worker protection.

21. Rulemaking 09-01-020 should remain open for further proceeding to monitor and further examine GO 175, including the interim provisions, as necessary, to afford parties meaningful opportunity to be heard on these interim provisions and to revisit GO 175 for additional modifications or enhancements, as necessary, upon review of the findings of the recent fatal BART accident.

O R D E R

IT IS ORDERED that:

1. The transit roadway worker safety recommendations of the Commission's Safety and Enforcement Division (SED)³⁵, as reflected in the SED Report, dated January 15, 2010 (the 2010 Recommendation), attached to this decision as

³⁵ CPSD has been recently re-named the Safety and Enforcement Division. For convenience in this decision, we will continue to refer to CPSD except in the Order.

Attachment A, and as modified in SED's Addendum to the 2010 Recommendation, dated October 19, 2012 (the 2012 Recommendation), attached to this decision as Attachment B, are approved as modified in this decision.

2. General Order 175 and all its provisions, including the interim provisions, attached to this decision as Attachment C, are adopted.

3. General Order 175 and all its provisions, including the interim provisions, shall take effect immediately and shall stay in effect until and unless amended, modified or otherwise superseded by a subsequent Commission decision.

4. Within one year of the effective date of this decision, each rail transit agency shall develop a testing and evaluation process to implement wayside early warning alarm technology, such as a track-mounted portable train detector communicating with the portable light/horn, that warns roadway crews of approaching trains and, such as a cab-mounted audible and visual alarm to warn train operators of work sites and employees ahead.

5. Within one year of the effective date of this decision, each rail transit agency shall submit a report to the Commission's Safety and Enforcement Division, on its testing and evaluation process, including all safety features of the technology, and shall submit its plans to implement the technology no later than two years after the effective date of this decision.

6. Within four years from the effective date of this decision, each rail transit agency shall implement an early warning technology.

7. If and as soon as it becomes known that an extension for time to comply with the deadlines ordered in this decision is necessary, each rail transit agency shall submit a written request for extension of time to comply with one or more deadline(s) showing good cause, to the Safety and Enforcement Division (SED) Director and the Deputy Director of SED's Office of Rail Safety.

8. We delegate authority to the Safety and Enforcement Division (SED) Director and the Deputy Director of SED's Office of Rail Safety to extend the implementation deadlines ordered in this decision, including need for any additional time to test any new systems.

9. Within one year of the effective date of this decision, all rail transit agencies shall equip the existing and new non-revenue on-track vehicles with a back-up alarm that when backing up provides an audible signal distinguishable from the surrounding noise and shall have developed and put in place rules:

- a. Requiring each operator of a hi-rail vehicle to check the vehicle to ensure it is equipped with a back-up alarm that when backing up provides an audible signal distinguishable from the surrounding noise;
- b. Requiring that the foregoing compliance check (required by Ordering Paragraph No. 6a, is completed, prior to use of the vehicle at the start of each operator's work shift;
- c. Requiring that when a non-functioning back-up alarm cannot be repaired immediately, it shall immediately be tagged and dated in a manner prescribed by the employer and reported to the designated official;
- d. Requiring that a non-functioning back-up alarms shall be repaired or replaced as soon as practicable, but at least within seven (7) calendar days; and
- e. Requiring that an alternate audible device must be used to sound back-up warnings, in the case where a vehicle with a non-functioning alarm must be in service, and is otherwise permitted to be in service by decision or Commission General Order(s).
- f. Upon approval by the Safety and Enforcement Division (SED) Director or the Deputy Director of SED's Office of Rail Safety, an RTA may use an alternative back-up warning device that provides at least an equivalent level of safety as an alternative to the use of the installed audible back-up alarm. Such alternative device must follow the

same provisions for audible back-up alarms as specified in subparts “a” through and including “e” in this Ordering Paragraph.

10. The requirements ordered in Ordering Paragraph 6, and its subparts (a) through and including (f), shall be considered supplemental directives in addition to those set forth in General Order 143, until General Order 143 is next revised by the Commission.

11. Within one year of the effective date of this decision, each rail transit agency shall submit an individual report or shall join in submitting a joint report that includes the following:

- a. Identifies and assesses technologically available collision-avoidance technologies for train collision avoidance as they might be applied for roadway worker safety as well as train collision avoidance; and
- b. Assesses different systems and their different operations, for example, underground and street-running, for collision-avoidance technology applications, and determine different levels of feasibility, implementation timelines, benefit, and cost, including roadway worker protections.

12. Rulemaking 09-01-020 shall remain open for further proceeding.

This order is effective today.

Dated _____, at San Francisco, California.