



National Transportation Safety Board

Washington, DC 20594

Office of the Chairman

Date: December 19, 2013

In reply refer to: R-13-39 and -40 (Urgent)

The Honorable Peter M. Rogoff
Administrator
Federal Transit Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

The National Transportation Safety Board (NTSB) urges the Federal Transit Administration (FTA) to take action on the safety recommendations issued in this letter. These urgent recommendations address the need for improved roadway worker¹ protection, including redundant protection such as positive train control (PTC), secondary warning devices or shunting, as well as the review and revision, as necessary, of roadway worker rules and procedures to eliminate any authorization that depends solely on the roadway worker to provide protection from trains and moving equipment. These recommendations are derived from the NTSB's ongoing investigation of an accident involving the San Francisco Bay Area Rapid Transit District (BART) that occurred on October 19, 2013, in Walnut Creek, California, where two roadway workers died as a result of being struck by a BART train.

On Saturday, October 19, 2013, at 1:44 p.m. Pacific daylight time, BART train 963 struck two engineering department employees in the right-of-way near Walnut Creek, California. The employees died as a result of their injuries. Train 963 was traveling northbound on the C1 track, between the Walnut Creek station and the Pleasant Hill station. At the time of the accident, there were six BART employees on the train: an operator/trainer/supervisor, two student train operators, and three equipment maintenance employees. A student train operator was operating the train at the time of the accident. There were no injuries to those on board the train.

Union-represented BART employees were on strike at the time of the accident. There were two trains operating on the system, both of which were operating for maintenance and training purposes and transporting management employees only and were not transporting revenue passengers. These trains were operated by management employees.

On Friday, October 18, 2013, a minor defect was noted on the C1 track, and two engineering department employees planned to take measurements at the defect location. One of the employees was a BART manager and the other was a BART consultant; they were working as roadway workers due to the labor strike. They requested and received "simple approval"

¹ *Roadway Worker* means any employee of a railroad or rail transit agency, or of a contractor to a railroad or rail transit agency, whose duties include inspection, construction, maintenance or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track, and flagmen and watchmen/lookouts. Roadway workers may also be referred to as wayside workers or maintenance-of-way work crews.

authority to enter the roadway² in accordance with BART rules and regulations.³ Following this accident, BART discontinued the “simple approval” authorization process for granting access to the roadway. The investigation into the accident continues, and it has re-energized concerns about the need for improved roadway worker protection in the rail transit industry.

The BART train control and supervisory system is made up of four major parts: the operations control center, the integrated computer system, an automatic train control (ATC) system, and on-board automatic train operations computers. An ATC system is designed to maintain train separation but does not provide redundant protection, such as PTC or shunting, for roadway workers. Train operators are also governed by BART’s *Operations Rules and Procedures* manual.

NTSB investigators learned that BART had a roadway safety program with general roadway safety practices. One such safety practice, known as “simple approval,” provided an authorization from the control center for employees to enter the roadway with no protection provided. Simple approval required the roadway worker to be aware of the situation and provide his/her own protection. Simple approval authorization was a means of keeping the control center aware of the presence of personnel in a specified location in the roadway. Personnel requesting simple approval authorization were reminded that they were required to “provide their own protection and not interfere with mainline/yard operations.”

Previous NTSB Recommendations

As a result of its investigation of two separate accidents^{4,5} in 2006 in which roadway workers died after being struck by Washington Metropolitan Transit Authority (WMATA) trains, the NTSB made the following safety recommendations to WMATA in January of 2008.⁶

R-08-01

Review your *Metrorail Safety Rules and Procedures Handbook* and revise it as necessary to create additional layers of protection for wayside workers, including:

- Adding requirements for wayside pre-work job briefings to ensure that all workers are informed of their duties, of their respective roles in work crew safety, and of the areas that are to be used to stay clear of trains.

² *Roadway* means the strip of land on which railroad tracks are on. Roadway may also be referred to as right-of-way and wayside.

³ BART, *Operations Rules and Procedures*, “Section VI – Operations Jurisdictions and Clearances, 6200-Simple Approval,” rev. 6.2, January 2008.

⁴ *Washington Metropolitan Area Transit Authority Train Strikes Wayside Worker near Dupont Circle Station, Washington, D.C., May 14, 2006*, Railroad Accident Brief RAB-08/01 (Washington, DC: National Transportation Safety Board, 2008).

⁵ *Washington Metropolitan Area Transit Authority Train Strikes Wayside Workers Near Eisenhower Avenue Station, Alexandria, Virginia, November 30, 2006*, Railroad Accident Brief RAB-08/02 (Washington, DC: National Transportation Safety Board, 2008)

⁶ This recommendation letter, dated January 30, 2008, is available on the NTSB website at <http://www.nts.gov/>.

- Requiring that when train operators request permission to either enter a main track, or when a train is turned for a return trip, the train operators along the affected lines must acknowledge receipt of the updated radio announcement from the control center regarding wayside workers.
- Establishing procedures to be used for members of a work crew to acknowledge a lookout's warning that a train is approaching on a particular track from a particular direction before a lookout gives an *all clear* signal to a train.

R-08-02

Establish a systematic program for frequent unannounced checks of employee compliance with Metrorail operating and safety rules and procedures.

R-08-03

Perform periodic hazard analyses on the deficiencies identified by unannounced checks of employee compliance in response to Safety Recommendation R-08-02, and use the results to revise Metrorail training curricula or enforcement activities, as necessary, to improve employee compliance with operating and safety rules and procedures.

R-08-04

Promptly implement appropriate technology that will automatically alert wayside workers of approaching trains and will automatically alert train operators when approaching areas with workers on or near the tracks.

On January 9, 2007, a southbound Massachusetts Bay Transportation Authority (MBTA) passenger train, operated by Massachusetts Bay Commuter Railroad (MBCR), struck a track maintenance vehicle that was on the track near Woburn, Massachusetts.⁷ As a result of the accident investigation, the NTSB issued the following recommendation to the Federal Railroad Administration (FRA).⁸ This recommendation was recently reiterated based on the ongoing NTSB investigation of the May 28, 2013, accident in West Haven, Connecticut, involving the Metro-North Railroad.⁹

R-08-06

Require redundant signal protection, such as shunting, for maintenance-of-way work crews who depend on the train dispatcher to provide signal protection.

⁷ *Collision of Massachusetts Bay Transportation Authority Train 322 and Track Maintenance Equipment near Woburn, Massachusetts, January 9, 2007*, Railroad Accident Report RAR-08/01 (Washington, DC: National Transportation Safety Board, 2008).

⁸ This recommendation letter, dated April 10, 2008, is available on the NTSB website at <http://www.nts.gov>.

⁹ The recommendation letter, dated June 17, 2013, is available on the NTSB website at <http://www.nts.gov>.

The FRA has initiated rulemaking in response to Safety Recommendation R-08-06.¹⁰ However, it is not complete as of this date; therefore, Safety Recommendation R-08-06 is currently classified “Open—Acceptable Response.”

On January 26, 2010, a hi-rail vehicle—a truck or automobile that can be operated on either highways or rails—operating southbound about 0.9 miles north of the WMATA Rockville metro station struck two ATC technicians who were working wayside replacing an impedance bond between the tracks.¹¹ The struck ATC technicians died from their injuries. As a result of the WMATA accident investigation, the NTSB issued the following recommendations to the FTA.¹²

R-12-32

Notify all rail transit agencies regarding the circumstances of the January 26, 2010, accident near Rockville Metro Station and urge them to evaluate their roadway worker protection programs and procedures to ensure that they adequately and effectively address appropriate training, communication, maintenance-vehicle movement authorities, flagging procedures, rules compliance, and the sharing of a work area by multiple work crews.

R-12-33

Advise all state safety oversight agencies of the circumstances of the January 26, 2010, accident near Rockville Metro Station and urge them to audit the roadway worker protection programs and the procedures of all rail transit operations in their states to ensure that they adequately and effectively address appropriate training, communication, maintenance-vehicle movement authorities, flagging procedures, rules compliance, and the sharing of a work area by multiple work crews.

R-12-34

Issue guidelines to advise transit agencies and state oversight agencies on how to effectively implement, oversee, and audit the requirements of 49 *Code of Federal Regulations* Section 659.19(r) using industry best practices, voluntary standards, and appropriate elements from 49 *Code of Federal Regulations* Part 214, Subpart C—Roadway Worker Protection.

R-12-35

Emphasize the effective implementation and oversight of 49 *Code of Federal Regulations* Section 659.19(r) as part of your safety oversight program audits.

In summary, there have been several recent NTSB investigations of accidents involving roadway worker fatalities. The NTSB believes that all rail transit systems are at risk for roadway

¹⁰ Rail transit is not regulated by the FRA and will not be governed by any pending FRA rulemaking.

¹¹ *Washington Metropolitan Area Transit Authority Hi-Rail Maintenance Vehicle Strikes Two Wayside Workers Near the Rockville Station January 26, 2010*, Railroad Accident Report RAR-12-04 (Washington, DC: National Transportation Safety Board, 2012).

¹² The recommendation letter, dated June 1, 2012, is available on the NTSB website at <http://www.nts.gov>.

worker fatalities and serious injuries and urges the FTA to issue a directive requiring a redundant protection mechanism, such as PTC or shunting, to provide protection for these workers. Further, the NTSB believes that the FTA should examine current rules and procedures in practice at all rail transit properties to verify there is adequate protection for roadway workers.

Therefore, based on the findings of previous investigations and preliminary findings from this investigation, the National Transportation Safety Board makes the following safety recommendations to the Federal Transit Administration:

Issue a directive to all transit properties requiring redundant protection for roadway workers, such as positive train control, secondary warning devices, or shunting. (R-13-39) (Urgent)

Issue a directive to require all transit properties to review their wayside worker rules and procedures and revise them as necessary to eliminate any authorization that depends solely on the roadway worker to provide protection from trains and moving equipment. (R-13-40) (Urgent)

At this time, the NTSB has not yet determined the probable cause of this accident. Nonetheless, the NTSB has identified the safety issues described above, which need to be addressed to prevent further accidents on the BART or other rail transit systems.

Chairman HERSMAN, Vice Chairman HART, and MEMBERS SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate receiving a response from you within 30 days detailing the actions you have taken or intend to take to implement them. When replying, please refer to the Safety Recommendation by number. We encourage you to submit your response electronically to correspondence@ntsb.gov. If your response exceeds 10 megabytes, including attachments, please e-mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

[Original Signed]

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