National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 10, 2010

In reply refer to: R-10-7

Mr. Peter Benjamin
Chairman
Board of Directors
Washington Metropolitan Area Transit Authority
600 Fifth Street, NW
Washington, D.C. 20001

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses safety oversight of the Washington Metropolitan Area Transit Authority (WMATA). The recommendation is derived from the NTSB's investigation of the June 22, 2009, collision of two WMATA Metrorail trains near the Fort Totten station and is consistent with the evidence we found and the analysis we performed. As a result of this investigation, the NTSB has issued 23 safety recommendations, 1 of which is addressed to the WMATA Board of Directors. Information supporting this recommendation is discussed below. The NTSB would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

On Monday, June 22, 2009, about 4:58 p.m., eastern daylight time, inbound WMATA Metrorail train 112 struck the rear of stopped inbound Metrorail train 214. The accident occurred on aboveground track on the Metrorail Red Line near the Fort Totten station in Washington, D.C. The lead car of train 112 struck the rear car of train 214, causing the rear car of train 214 to telescope[1] into the lead car of train 112, resulting in a loss of occupant survival space in the lead car of about 63 feet (about 84 percent of its total length). Nine people aboard train 112, including

[1] *Telescoping* occurs when a railcar body breaches the end structure of another carbody and passes into the structure of that carbody.

the train operator, were killed. Emergency response agencies reported transporting 52 people to local hospitals. Damage to train equipment was estimated to be $12 million.[2]

The NTSB determined that the probable cause of the June 22, 2009, collision of WMATA Metrorail train 112 with the rear of standing train 214 near the Fort Totten station was (1) a failure of the track circuit modules, built by GRS/Alstom Signaling Inc., that caused the automatic train control system to lose detection of train 214 (the struck train) and thus transmit speed commands to train 112 (the striking train) up to the point of impact, and (2) WMATA's failure to ensure that the enhanced track circuit verification test (developed following the 2005 Rosslyn near-collisions) was institutionalized and used systemwide, which would have identified the faulty track circuit before the accident.

Contributing to the accident were (1) WMATA's lack of a safety culture, (2) WMATA's failure to effectively maintain and monitor the performance of its automatic train control system, (3) GRS/Alstom Signaling Inc.'s failure to provide a maintenance plan to detect spurious signals that could cause its track circuit modules to malfunction, (4) ineffective safety oversight by the WMATA Board of Directors, (5) the Tri-State Oversight Committee's ineffective oversight and lack of safety oversight authority, and (6) the Federal Transit Administration's lack of statutory authority to provide federal safety oversight.

Contributing to the severity of passenger injuries and the number of fatalities was WMATA's failure to replace or retrofit the 1000-series railcars after these cars were shown in a previous accident to exhibit poor crashworthiness.

During the public hearing for this accident, the chairman of WMATA's Board of Directors was asked about the role of the Board. He stated that the job of WMATA's Board was to

> establish the broad policy and the broad direction to set goals for the general manager and for the agency and to respond to any indications that those broad goals are not being accomplished.

When asked whether the general manager normally briefed the Board of Directors on the number of open corrective action items from previous investigations or audits or any other activity that would generate a recommendation or finding, the chairman of WMATA's Board of Directors responded as follows:

> Not on a routine basis. We count on the general manager and his staff to identify for us issues that require our attention and we don't second guess them on that.

An exhibit from the public hearing on this accident held at NTSB Headquarters on February 23–25, 2010, was a copy of a June 25, 2009, presentation to the WMATA Board of Directors from the WMATA Customer Services, Operations, and Safety Committee. The presentation included the statement: "Metro continues to influence a positive safety culture by

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[2] See *Collision of Two Washington Metropolitan Area Transit Authority Metrorail Trains Near Fort Totten Station, Washington, D.C., June 22, 2009*, Railroad Accident Report NTSB/RAR-10/02 (Washington, DC: National Transportation Safety Board, 2010) on the NTSB website at <http://ntsb.gov/publictn/2010/RAR1002.pdf>.

taking immediate actions to correct recognized hazards." Examples of safety indicators in the presentation included station and parking lot injuries and escalator injuries, which are not directly related to the safety of train operations. Also mentioned were derailments, smoke and fire events, and improper door operations that are more relevant to train operations. However, the presentation did not address progress on Tri-State Oversight Committee (TOC) safety audit findings, open corrective action plans, or Federal Transit Administration (FTA) and NTSB recommendations—despite a requirement in the WMATA system safety program plan that such information be regularly provided by the WMATA general manager to the Board of Directors. The NTSB is concerned that WMATA senior management may have placed too much emphasis on investigating events such as station and escalator injuries to the exclusion of passenger safety during transit.

The 2005 FTA audit of TOC focused on the ability of TOC to develop and implement plans and procedures required for the implementation of Title 49 *Code of Federal Regulations* (CFR) Part 659. As a result of this audit, the FTA issued nine deficiency findings and one recommendation regarding TOC's implementation of 49 CFR Part 659 requirements. Over the next 2 years, TOC and WMATA were unable to close several of these audit findings, prompting the FTA to conduct a series of meetings with TOC and WMATA executive leadership. The FTA was concerned about WMATA's ability to identify, elevate, and address safety deficiencies within its own agency as well as WMATA's lack of responsiveness to TOC.

The NTSB concludes that, before the accident, the WMATA Board of Directors did not seek adequate information about, nor did it demonstrate adequate oversight to address, the number of open corrective action plans from previous TOC and FTA safety audits of WMATA. The NTSB also concludes that the WMATA Board of Directors did not exercise oversight responsibility for the system safety of the WMATA system.

Therefore, the National Transportation Safety Board makes the following safety recommendation to the Board of Directors of the Washington Metropolitan Area Transit Authority:

> Elevate the safety oversight role of the Washington Metropolitan Area Transit Authority Board of Directors by (1) developing a policy statement to explicitly and publicly assume the responsibility for continual oversight of system safety, (2) implementing processes to exercise oversight of system safety, including appropriate proactive performance metrics, and (3) evaluating actions taken in response to National Transportation Safety Board and Federal Transit Administration recommendations, as well as the status of open corrective action plans and the results of audits conducted by the Tri-State Oversight Committee. (R-10-7)

The NTSB also issued safety recommendations to the U.S. Department of Transportation, the Federal Transit Administration, the Tri-State Oversight Committee, the Washington Metropolitan Area Transit Authority, Alstom Signaling Inc., the Massachusetts Bay Transportation Authority, the Southeastern Pennsylvania Transportation Authority, the Greater Cleveland Regional Transit Authority, the Metropolitan Atlanta Regional Transportation

Authority, the Los Angeles County Metropolitan Transportation Authority, and the Chicago Transit Authority.

In response to the recommendation in this letter, please refer to Safety Recommendation R-10-7. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our secure mailbox. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, WEENER, and ROSEKIND concurred in this recommendation.

[Original Signed]

By: Deborah A.P. Hersman
Chairman