

**Testimony of the Honorable Deborah A.P. Hersman  
Chairman  
National Transportation Safety Board  
Before the  
Subcommittee on Federal Workforce, Postal Service, and the District of Columbia  
Committee on Oversight and Government Reform  
United States House of Representatives  
Hearing on  
Moving Forward after the NTSB Report: Making Metro a Safety Leader  
Washington, DC  
September 23, 2010**

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Good afternoon Chairman Lynch, Ranking Member Chaffetz, and members of the Subcommittee.

On July 27, the National Transportation Safety Board (NTSB) held a Board Meeting to consider a report on the deadly June 22, 2009 collision of two Metrorail trains on the Red Line near the Fort Totten station. The Board adopted a report with 23 recommendations that, if implemented, will improve safety for Metro riders and transit riders throughout the country. I appreciate your holding this hearing today to examine these recommendations.

### **The Accident**

The accident resulted in nine fatalities, including the train operator, and emergency response agencies reported transporting 52 people injured in the accident to local hospitals. What NTSB investigators found, and the report concluded, was that the collision resulted from a failure of the track circuit modules, which caused the automatic train control (ATC) system to lose detection of one train, allowing a second train to strike it from the rear. The NTSB also concluded that the Washington Metropolitan Area Transit Authority (WMATA) failed to ensure that a verification test for track circuits, developed after a 2005 incident involving two near-collisions near the Rosslyn station, was used system wide. This test would have identified the faulty track circuit before the accident.

Beyond faulty track circuits, the NTSB's investigation also revealed layers of safety deficiencies and a systemic breakdown of safety management at all levels. The NTSB concluded that the following factors also contributed to the accident: the lack of a safety culture within WMATA; WMATA's failure to effectively maintain and monitor the performance of its automatic train control system; GRS/Alstom Signaling Inc.'s failure to provide a maintenance plan to detect spurious signals that could cause its track circuit modules to malfunction; ineffective safety oversight by the WMATA Board of Directors; the Tri-State Oversight Committee's (TOC) ineffective oversight and lack of safety oversight authority; and the Federal Transit Administration's (FTA) lack of statutory authority to provide federal safety oversight. The NTSB report also cited that WMATA's failure to replace or retrofit the 1000-series cars

contributed to the severity of passenger injuries and the number of fatalities, after these cars were shown in previous accidents to exhibit poor crashworthiness.

As a result of this investigation, the NTSB made 23 recommendations to the U.S. Department of Transportation, the FTA, TOC, WMATA, Alstom Signaling, and transit authorities in six states that use GRS Generation 2 modules. The NTSB approved recommendations are attached to my testimony.

### **After the Board Meeting**

Two weeks after adopting the report, an unprecedented meeting between the five NTSB Board members and the entire WMATA Board of Directors took place at Metro headquarters to discuss the NTSB report's findings and recommendations. In that meeting Interim General Manager Richard Sarles discussed the NTSB recommendations and the steps WMATA would take to address the recommendations. WMATA is taking this report seriously, and WMATA officials have committed to implementing all NTSB recommendations.

In response to a Congressional inquiry, WMATA Board Chairman Peter Benjamin estimates the cost of implementing the recommendations at \$935 million. The largest portion of this expense is the replacement of the 1000-series cars at \$835 million. (In fact, WMATA has already ordered 428 next generation of cars which will start arriving in 2013.) While rail cars with improved crashworthiness standards are very important, they are the last line of defense. Implementing the less costly recommendations can lead to a safer overall system with a focus on accident prevention.

I am hopeful that WMATA can create and promote a strong safety culture. Just last week, the WMATA Board of Directors proposed a new mission statement, which, if adopted, will include "safety," and they created the new Safety and Security Committee, comprised of the entire Board of Directors, focused primarily on safety. This action demonstrates that the WMATA Board is embracing the idea that safety must be promoted at the top levels of an organization to ensure that all employees recognize its importance. My colleagues and I view these actions as a significant step forward in improving safety.

The Board will continue to work with WMATA to create and promote a strong and effective safety culture and implement the additional safety recommendations. If WMATA continues along this path it can regain the trust of its ridership, and re-emerge as a leader in the public transportation industry.

Thank you for inviting me to appear before you today. This concludes my remarks, and I am available to answer your questions.

**Collision of Two Washington Metropolitan Area Transit Authority Metrorail Trains Near Fort Totten Station  
Washington, D.C.  
June 22, 2009**

**New Recommendations**

**To the U.S. Department of Transportation:**

1. Continue to seek the authority to provide safety oversight of rail fixed guideway transportation systems, including the ability to promulgate and enforce safety regulations and minimum requirements governing operations, track and equipment, and signal and train control systems. (R-10-3)

**To the Federal Transit Administration:**

2. Facilitate the development of non-punitive safety reporting programs at all transit agencies to collect reports from employees in all divisions within their agencies and to have their safety departments; representatives of their operations, maintenance, and engineering departments; and representatives of labor organizations regularly review these reports and share the results of those reviews across all divisions of their agencies. (R-10-4)
3. Seek authority similar to Federal Railroad Administration regulations (Title 49 *Code of Federal Regulations* 219.207) to require that transit agencies obtain toxicological specimens from covered transit employees and contractors who are fatally injured as a result of an on-duty accident. (R-10-5)

**To the Tri-State Oversight Committee:**

4. Work with the Washington Metropolitan Area Transit Authority to satisfactorily address the recommendations contained in the Federal Transit Administration's March 4, 2010, final report of its audit of the Tri-State Oversight Committee and the Washington Metropolitan Area Transit Authority. (R-10-6)

**To the Board of Directors, Washington Metropolitan Area Transit Authority:**

5. 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)

**To the Washington Metropolitan Area Transit Authority:**

6. Because of the susceptibility to pulse-type parasitic oscillation that can cause a loss of train detection by the Generation 2 General Railway Signal Company audio frequency

track circuit modules, establish a program to permanently remove from service all of these modules within the Metrorail system. (R-10-8)

7. Establish periodic inspection and maintenance procedures to examine all audio frequency track circuit modules within the Metrorail system to identify and remove from service any modules that exhibit pulse-type parasitic oscillation. (R-10-9)
8. Review the process by which Metrorail technical bulletins and other safety information are provided to employees and revise that process as necessary to ensure that (1) employees have received the information intended for them, (2) employees understand the actions to be taken in response to the information, and (3) employees take the appropriate actions. (R-10-10)
9. Completely remove the unnecessary Metrorail wayside maintenance communication system to eliminate its potential for interfering with the proper functioning of the train control system. (R-10-11)
10. Conduct a comprehensive safety analysis of the Metrorail automatic train control system to evaluate all foreseeable failures of this system that could result in a loss of train separation, and work with your train control equipment manufacturers to address in that analysis all potential failure modes that could cause a loss of train detection, including parasitic oscillation, cable faults and placement, and corrugated rail. (R-10-12)
11. Based on the findings of the safety analysis recommended in R-10-12 incorporate the design, operational, and maintenance controls necessary to address potential failures in the automatic train control system. (R-10-13)
12. Implement cable insulation resistance testing as part of Metrorail's periodic maintenance program. (R-10-14)
13. Work with the Tri-State Oversight Committee to satisfactorily address the recommendations contained in the Federal Transit Administration's March 4, 2010, final report of its audit of the Tri-State Oversight Committee and the Washington Metropolitan Area Transit Authority. (R-10-15)
14. Require that your safety department; representatives of the operations, maintenance, and engineering departments; and representatives of labor organizations regularly review recorded operational data from Metrorail train onboard recorders and the Advanced Information Management system to identify safety issues and trends and share the results across all divisions of your organization. (R-10-16)
15. Develop and implement a non-punitive safety reporting program to collect reports from employees in all divisions within your organization, and ensure that the safety department; representatives of the operations, maintenance, and engineering departments; and representatives of labor organizations regularly review these reports and share the results of those reviews across all divisions of your organization. (R-10-17)

16. Review the Hazard Identification and Resolution Matrix process in your system safety program plan to ensure that safety-critical systems such as the automatic train control system and its subsystem components are assigned appropriate levels of risk in light of the issues identified in this accident. (R-10-18)
17. Develop a formal process by which the general manager and managers responsible for Washington Metropolitan Area Transit Authority operations, maintenance, and engineering will periodically review, in collaboration with the chief safety officer, all safety audits and open corrective action plans, and modify policy, identify and commit resources, and initiate any other action necessary to ensure that the plans are adequately addressed and closed within the required time frame. (R-10-19)
18. Remove all 1000-series railcars as soon as possible and replace them with cars that have crashworthiness collision protection at least comparable to the 6000-series railcars. (R-10-20)
19. Ensure that the lead married-pair car set of each train is equipped with an operating onboard event recorder. (R-10-21)
20. Develop and implement a program to monitor the performance of onboard event recorders and ensure they are functioning properly. (R-10-22)

**To Alstom Signaling Inc.:**

21. Develop and implement periodic inspection and maintenance guidelines for use by the Washington Metropolitan Area Transit Authority and other rail transit operators and railroads equipped with General Railway Signal Company audio frequency track circuit modules and assist them in identifying and removing from service all modules that exhibit pulse-type parasitic oscillation in order to ensure the vitality and integrity of the automatic train control system. (R-10-23)
22. Conduct a comprehensive safety analysis of your audio frequency track circuit modules to evaluate all foreseeable failure modes that could cause a loss of train detection over the service life of the modules, including parasitic oscillation, and work with your customers to address these failure modes. (R-10-24)

**To 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:**

23. Work with Alstom Signaling Inc. to establish periodic inspection and maintenance procedures to examine all General Railway Signal Company audio frequency track circuit modules to identify and remove from service any modules that exhibit pulse-type parasitic oscillation. (R-10-25)