



DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

[Safety Advisory 15-1]

Audits of Subway Tunnel Environments

AGENCY: Federal Transit Administration, DOT.

ACTION: Notice of Safety Advisory

SUMMARY: On June 17, 2015, the Federal Transit Administration (FTA) issued Safety Advisory 15-1 to advise rail fixed guideway public transportation systems (RFGPTS) with subway tunnel environments of forthcoming audits to be conducted by State Safety Oversight Agencies (SSOAs) with oversight jurisdiction in the assessment of tunnel ventilation systems, emergency procedures for fire and smoke events, training programs to ensure compliance with those emergency procedures, and application of industry best standards in maintenance and emergency procedures. Additionally, FTA instructed all State Safety Oversight Agencies to conduct inspections of the rail transit agencies' tunnel ventilation systems, and to audit the rail transit agencies within their jurisdiction for the purpose of determining the mileage and characteristics of subway tunnels, assessing the adequacy of the rail transit agencies' emergency procedures, ensuring compliance with those emergency procedures, and determining compliance with industry best standards in maintenance and emergency procedure. The FTA issued Safety Advisory 15-1 in response to an urgent safety recommendation by the National Transportation Safety

Board (NTSB). The FTA Safety Advisory 15-1, “Audit All Rail Fixed Guideway Public Transportation Systems (RFGPTS) with Subway Tunnel Environments,” is available on the FTA public website, <http://www.fta.dot.gov/tso.html>.

FOR FURTHER INFORMATION CONTACT: For program matters, Thomas Littleton, Associate Administrator for Transit Safety and Oversight, (202) 366-1738 or Thomas.Littleton@dot.gov. For legal matters, Scott Biehl, Senior Counsel, (202) 366-0826 or Scott.Biehl@dot.gov.

SUPPLEMENTARY INFORMATION: On January 12, 2015, at 3:15 p.m., Eastern Standard Time, a southbound Yellow Line rapid rail train number 302 operated by the Washington Metropolitan Area Transit Authority (WMATA) stopped after encountering heavy smoke in a subway tunnel between the L’Enfant Plaza station and the Potomac River Bridge. After stopping, the rear car of train 302 was about 386 feet from the south end of the L’Enfant Plaza station platform. The operator of train 302 informed WMATA’s Operation Control Center (OCC) that the train had stopped due to heavy smoke. A following Yellow Line train, number 510, stopped about 100 feet short of the south end of the same platform, but its cars were entirely within the L’Enfant Plaza station. At 3:16 p.m., WMATA’s OCC activated the under-platform fans at the L’Enfant Plaza Green and Yellow Line platforms, but because the fans were in exhaust mode—not supply mode—the activation of the fans pulled smoke toward rather than away from both trains. Moreover, the operator of train 302 had not shut off the train ventilation system that draws outside air into the train cars. WMATA procedure required the train operator to receive permission from the OCC to shut off the train ventilation system. Since both

the station and vent shaft fans were all activated in exhaust mode—not supply mode—there was not a supply of fresh air to help move the smoke through the tunnel.

A post-accident inspection found that two of the four fans had tripped an overload circuit breaker and were non-operational.

Police and emergency responders assisted in the evacuation of both trains and the L'Enfant Plaza station. A limited number of passengers aboard train 302 were able to self-evacuate. One passenger died and 86 others were transported to local medical facilities for treatment for smoke inhalation. The WMATA incurred an estimated \$120,000 in damage to assets. During its investigation, the NTSB determined the cause of the smoke to have been an electrical arcing incident, and the source of the smoke to have been about 1,100 feet ahead (south) of train 302. Further, as part of its investigation, the NTSB determined that WMATA did not have a written ventilation procedure for smoke and fire events in a tunnel, and that the ventilation strategy WMATA deployed during this accident was not consistent with best practice.

On February 11, 2015, the NTSB issued three urgent safety recommendations to WMATA, two urgent safety recommendations to the American Public Transportation Association, and urgent safety recommendation R-15-007 to FTA, calling for audits for all rail transit agencies that have subway tunnel environments to assess the state of good repair of their tunnel ventilation systems, their written emergency procedures for fire and smoke events, and their training programs to ensure compliance with those procedures, and to verify that the rail transit agencies are applying industry best standards, such as the National Fire Protection Association (NFPA) Code 130, Standards for Fixed Guideway Transit and Passenger Rail Systems, in their maintenance and emergency procedures.

The FTA responded to the NTSB safety recommendation by letter of March 13, 2015, stating, in part, that we have identified the rail transit agencies with operational subway tunnel environments and will engage the State Safety Oversight Agencies (SSOAs) that have safety oversight jurisdiction over these rail transit agencies, in accordance with 49 U.S.C. 5329 and 5330 and 49 C.F.R. Part 659, for the purpose of addressing R-15-007.

To that end, on June 17, 2015, the FTA Office of Transit Safety and Oversight issued Safety Advisory 15-1, addressed to the RFGPTS that have operational subway tunnel environments, and a letter addressed to the SSOAs that have safety oversight jurisdiction over these the rail transit agencies, with instructions to conduct audits to (1) determine the extent of subway tunnel mileage at each such rail transit agency, and the characteristics of its operational subway tunnel environments; (2) assess each rail transit agency's written emergency procedures for fire and smoke events; (3) assess each rail transit agency's training programs for ensuring compliance with those emergency procedures; and (4) determine each rail transit agency's compliance with industry best standards, such as NFPA Code 130, in their maintenance and emergency procedures. Additionally, the SSOAs were instructed to complete a Tunnel Ventilation System Inspection of each such rail transit agency, using the audit tools provided by FTA, and to submit the results of their audits with supporting documentation no later than August 31, 2015. For additional guidance, FTA referred the SSOAs to the joint FTA/Federal Highway Administration Highway and Rail Transit Tunnel Inspection Manual, 2005 Edition, which sets forth established industry inspection standards. The FTA will use the data and information from these audits by the SSOAs in conducting a broader analysis for responding to NTSB recommendation R-15-007, and potentially, for

future rulemaking and guidance to the rail transit industry. Both the FTA Safety Advisory 15-1 and the June 17, 2015 letter addressed to the SSOAs are available on the FTA public website, <http://www.fta.dot.gov/tso.html>.

The FTA's issuance of Safety Advisory 15-1 is in accordance with FTA's authority to "investigate public transportation accidents and incidents and provide guidance to recipients regarding prevention of accidents and incidents." 49 U.S.C. 5329(f) (5). The requests for information and data from the SSOAs and the rail transit agencies within their jurisdiction are based on FTA's authority to request program information pertinent to rail transit safety under the State Safety Oversight rule, 49 C.F.R. 659.39(d).

Readers who have an interest in the January 12, 2015, WMATA accident that led to the urgent recommendations by the NTSB and FTA's issuance of Safety Advisory 15-1 can obtain further information about that accident in two reports issued on June 17, 2015: a Safety Management Inspection that FTA conducted of WMATA from March 16 to April 3, 2015, and a Safety Management System gap analysis FTA performed for WMATA from March 3 to March 5, 2015. Both documents are available on the FTA public website, <http://www.fta.dot.gov/tso.html>.

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Acting Administrator

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