The Accident

On Sunday, July 26, 2020, about 8:44 p.m. local time, a Port Authority Transit Corporation (PATCO) maintenance employee was struck and killed between two railcars at the Lindenwold Yard facility on track 12 east.¹ The deceased maintenance employee was found by another maintenance employee at about 9:03 p.m., approximately two car lengths away from the designated employee walkway between railcars on track 12 east and a train stored on track 12 west. The stored train was blocking the designated employee walkway. (See Figure 1.) The autopsy report by the Gloucester County, New Jersey, medical examiner indicated that the cause of death was multiple blunt trauma. When found, the deceased maintenance employee was not wearing a reflective vest and did not have a portable radio.²

Delaware River Port Authority Police Department (DRPAPD) officers interviewed eight PATCO employees.³ None of the interviewed individuals witnessed the accident, and video footage from the facility did not capture the accident. The National Transportation Safety Board (NTSB) reviewed the available video footage of the train operator’s actions.

¹ (a) PATCO is a rail fixed guideway system that operates scheduled service from Camden, New Jersey, into Philadelphia, Pennsylvania. The Federal Transit Administration (FTA) is responsible for federal oversight of PATCO. (b) Additional information can be found in the public docket for this NTSB accident investigation (accident number RRD20LR004) by accessing the NTSB Accident Dockets Link at www.ntsb.gov. (c) All times in this document are local time unless otherwise noted.

² (a) PATCO Safety Rule 194. "Employees are required to wear prescribed DOT Class III reflective apparel when walking or working on the track area, while working or walking within 10 feet of station parking lots, driveways (including all areas intended for storage and operation of motorized vehicles), while working or walking in and within 10 feet of public roadways." (b) Although not required by rule, PATCO officials stated that it was common practice for employees to use a hand-held radio while working in the yard.

³ Representatives from PATCO, DRPAPD, and the New Jersey Department of Transportation State Safety Oversight program conducted an on-scene investigation. An FTA investigator and an NTSB investigator participated remotely in the investigation. No parties were formed for this investigation.
Figure 1. Aerial photograph of employee walkway. (Photo courtesy of New Jersey Department of Transportation.)

Note: This photograph, taken August 9, 2020, shows an aerial image after the accident of the employee walkway that was blocked by stored railcars on the night of the accident. A yellow circle indicates the location of the blocked walkway on track 12. Tracks are numbered in decreasing order from north to south, and tracks 12 east and 12 west can be seen on either side of the blocked walkway.

Interviews and a review by PATCO officials of on-train maintenance data indicate that the operator of the striking train first tried to uncouple two railcars from the six-railcar consist on track 12 east at 8:37 p.m. This first attempt was unsuccessful, and there was no movement of the train consist recorded. At 8:43 p.m., the train operator moved to the 4th railcar in the consist, car 1077, and performed a second successful uncoupling maneuver separating two passenger railcars from the six-railcar consist. This movement occurred for 1.4 seconds, and train speed was recorded at 1 mph. PATCO officials also indicated that the train operator activated the train horn prior to performing the uncoupling move as required by operating rules. According to PATCO officials, the passenger railcar coupler is mechanically designed to push away from the adjacent railcar during an uncoupling move. At the time of the accident PATCO did not have a rule in place establishing minimum distances between stored railcars. The deceased maintenance employee was pinned between the railcars during the uncoupling maneuver and was found by another maintenance employee at about 9:03 p.m. two car lengths away from the employee walkway and between the four remaining railcars on track 12 east and a train stored on track 12 west. (See Figure 2.) The two separated railcars were moved by the train operator to another location in the yard.

---

4 The use of a horn prior to train movement is required by PATCO Operating Rules 531, 532, and 533.
Before the Accident

According to the DRPAPD investigation report, the maintenance employee arrived at the Lindenwold facility for the start of his shift at 7:47 p.m. He was then seen on video leaving the maintenance building and entering the yard at 8:24 p.m., likely walking to his work assignment on track 15. He was not seen again on video. A second train consisting of six passenger railcars was stored on track 12 west and blocking a designated employee walkway.

Postaccident Action

At the time of the accident, PATCO did not have a rule or requirement that employees use dedicated walkways and pathways within the Lindenwold facility. As a result of this accident, PATCO management changed its safety rules to include designating walkways as the only permissible route for employees to use in the yard, prohibiting the blocking of designated walkways by stored equipment, and requiring train operators to come to a full stop and activate the horn at all designated walkways. PATCO also established storage limits on specific yard tracks to create greater spacing between stored sets of railcars. Further, PATCO management emphasized the use of reflective apparel in its internal safety rule compliance program and conducted a rule review with employees, emphasizing the use of required personal protective equipment, including safety vests, in yards.

Probable Cause

The NTSB determines that the probable cause of the accident was the maintenance employee walking in an area not designated for foot traffic between two railcars with insufficient clearance and being struck during an uncoupling maneuver. Contributing to the accident was the Port Authority Transit Corporation’s storage of railcars on the designated employee walkway and not requiring employees to use these walkways in the yard.

For more details about this accident, visit the NTSB Accident Dockets link and search for NTSB accident ID RRD20LR004.

Report Date: June 28, 2021
The NTSB has authority to investigate and establish the facts, circumstances, and cause or probable cause of a pipeline accident in which there is a fatality or substantial property damage, or significant injury to the environment. (49 U.S. Code, Section 1131 - General authority)

The NTSB does not assign fault or blame for an accident or incident: rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties...and are not conducted for the purpose of determining the rights or liabilities of any person.” Title 49 Code of Federal Regulations, Section 831.4. Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. 49 U.S. Code, Section 1154(b).