



Norfolk Southern Railway Multitrain Collision and Derailment

What Happened

On March 2, 2024, about 7:11 a.m., eastbound Norfolk Southern Railway (NS) intermodal train NS268H429 collided with the rear of stationary NS intermodal train NS24XH101 on main track 2 on the Allentown Road Subdivision on the Lehigh Line near Easton, Pennsylvania. [1] As a result of the first collision, train NS268H429 derailed three railcars that then fouled the adjacent main track 1. [2] Just over 1 minute later, a second collision occurred when train NS19GH501 struck the derailed equipment while traveling westbound on main track 1. As a result of the second collision, train NS19GH501 derailed six railcars and two locomotives. Three of the six derailed railcars were placarded as hazardous materials tank cars: one containing ethanol residue and two containing butane residue. [3] The tank cars did not breach or release hazardous materials. The two derailed locomotives partially submerged in the Lehigh River and discharged locomotive diesel fuel into the water. Four crewmembers from the accident trains were transported to a local hospital, treated for minor injuries, and released. At the time of the collisions, visibility conditions were daylight and overcast; the weather was 35°F with light rain.

[1] (a) Visit [ntsb.gov](https://www.ntsb.gov) to find additional information in the [public docket](#) for this NTSB accident investigation (case number RRD24FR009), including detailed factual reports about the circumstances of the accident. (b) All times in this report are local times. (c) An *intermodal train* carries shipping containers used in intermodal freight transportation. (d) A *mixed freight train* includes several types of railcars and commodities.

[2] *Fouling a track* means the placement of an individual or equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment.

The three hazardous materials tank cars were offered for shipment as having last contained UN1170, Ethanol Solutions, a Class 3 flammable liquid in packing group II, and UN1075, Liquefied Petroleum Gas, a Division 2.1 flammable gas, as specified in [Title 49 Code of Federal Regulations \(CFR\) Part 172](#).

What We Found

We determined the probable cause of the multitrain collision was the failure of the engineer of train NS268H429 to operate his train in accordance with restricted speed requirements and stop before colliding with train NS24XH101.

Contributing to the accident were insufficient safeguards to compensate for human error, including current positive train control systems that do not prevent train-to-train collisions during restricted speed operations.

Investigation Details

Status: Completed

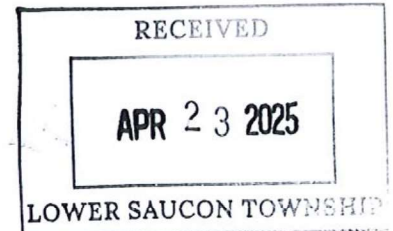
Investigation ID
RRD24FR009

Event Date
3/2/2024

Location
Easton, PA

Docket

RRD24FR009



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Lessons Learned



This accident investigation demonstrated vulnerability for single-point human failures that exist when trains are operating at restricted speed with or without positive train control (PTC). On March 3, 2024, the day after the accident, NS issued a serious incident notice to its employees elevating awareness to the rules associated with restricted speed. In addition, the Federal Railroad Administration (FRA) issued a safety advisory emphasizing the importance of complying with railroad operating rules when a train is operating at restricted speed.[1]

Given the inaccuracies, and hence risks, associated with estimating restricted speed, this accident underscores the importance of the FRA completing research into PTC technologies to prevent train-to-train collisions during restricted speed operations as recommended in the NTSB Beyond Full Implementation: Next Steps in Positive Train Control report. In addition, the FRA needs to continue work on analyzing data that will help revise training and increase oversight to ensure that operating crews use restricted speeds correctly, as recommended in the Kingman, Arizona, report. Until the technology is fully developed and implemented, however, the railroad industry will continue to rely on an inherently risky process of estimating restricted speed.

[1] Federal Railroad Administration, [Safety Advisory 2012-02: Restricted Speed](#) (Washington, DC: US Department of Transportation, Federal Railroad Administration, 2012).