



National Transportation Safety Board

Railroad Accident Brief

Metro-North Railroad Employee Fatality

Accident No.:	DCA14FR006
Location:	Manhattan, New York
Date:	March 10, 2014
Time:	12:55 am eastern daylight time
Railroad:	Metro-North Railroad
Property Damage:	N/A
Injuries:	0
Fatalities:	1
Type of Accident:	Employee Fatality

The Accident

On March 10, 2014, at 12:55 a.m. eastern daylight time, a Metro-North Railroad (Metro-North) electrician was fatally struck by northbound train No. 897 near milepost 3.2 at Control Point 3 (CP 3) interlocking in Manhattan, New York. Three employees were attempting to re-energize tracks that had been out of service for maintenance. Two of the workers cleared the approaching train, but the third worker was struck by the train.



Figure 1. Accident site.

Metro-North had planned weekend track work at the CP 3 interlocking. The track department was replacing a switch connecting tracks 1 and 3. Starting Friday evening,

Metro-North Railroad – Employee Fatality

March 7, 2014, an assistant track supervisor had received authority for track 1 and 3 from CP 2 to CP 3. This provided exclusive use of the tracks for maintenance and on-track protection from train movements.¹ The assistant track supervisor had also received authority for track 1 and track 3 from the south end of the CP 3 interlocking to a dividing line referred to as “the AB Split”.² The assistant track supervisor held a job briefing Friday evening explaining the on-track protection he had obtained for the work. The track supervisors and the power department supervisor attended this job briefing.³ The signal supervisor was briefed later when he arrived on scene. (See figure 2.)

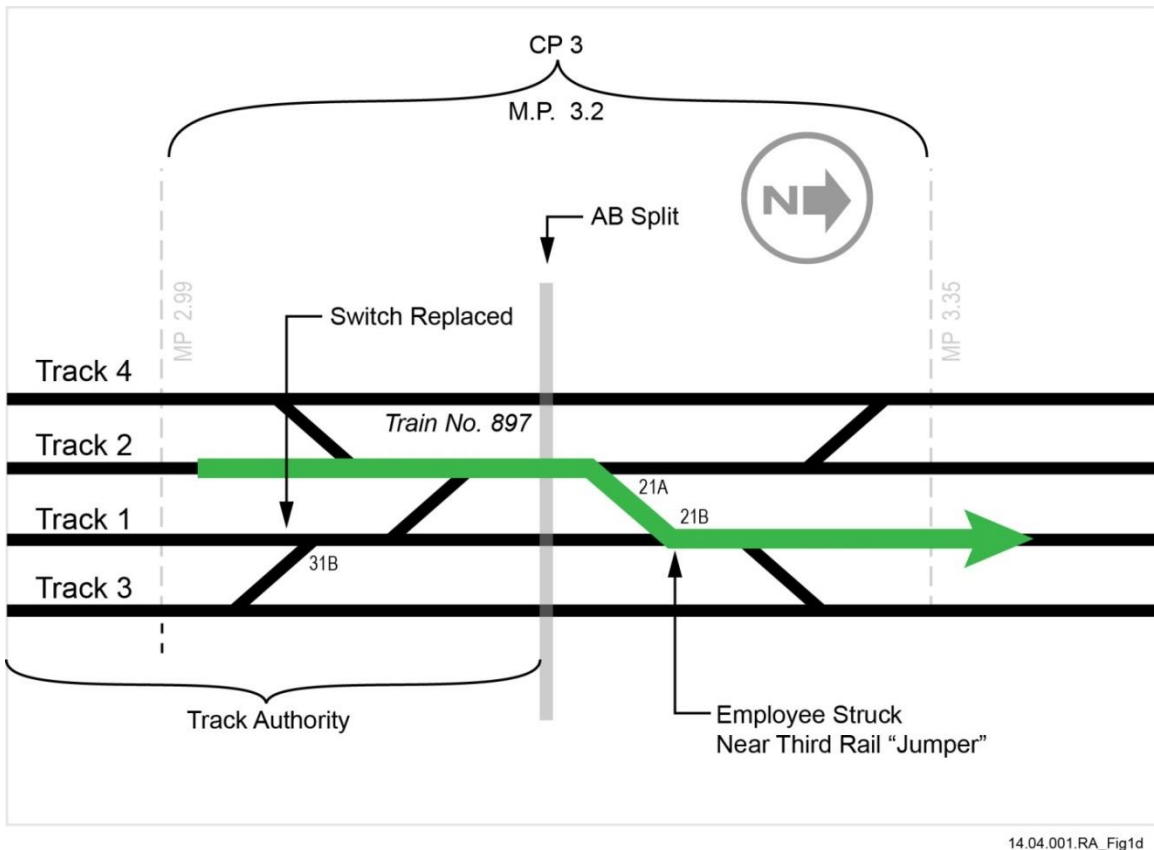


Figure 2. Diagram of CP 3 interlocking segments.

The AB Split was near the middle of the interlocking. (See figure 2.) The AB Split separated the signal system (but not the third rail) within the interlocking.⁴ Using the AB Split as a limit for the on-track protection allowed the rail traffic controller (RTC) to block/lock switches at one end of the interlocking but still use the switches at the other end on the same track for train

¹ Roadway worker regulations require a clear understanding of the form of on-track protection provided for a work area.

² In order for maintenance employees to work on the tracks, they must have protection from trains. This protection is received from the rail traffic controller using either a Form M track authority or verbal authority that designates specific limits that trains will not be allowed to enter.

³ Metro-North electricians working in the Power Department that maintain the third rail (as opposed to the overhead catenaries) are referred to as third rail [title] and third railman. In this report they will be designated as electricians.

⁴ The third rail runs parallel and just outside the tracks and provides the electricity to the trains.

Metro-North Railroad – Employee Fatality

movements. Before starting the track work, the third rail was de-energized for track 1 within the CP 3 interlocking. This removed the power from track 1 through the interlocking and up to the 21B switch at the north end of the interlocking. The AB Split had no effect on the third rail. (See figure 2.) Using the AB Split as a limit of authority was normal practice for the signal and track department. However, during interviews with the NTSB, the electricians said they were less familiar with the location and use of the AB Split.

Although the authority ended at the AB Split, the power department supervisor stated that he believed the authority extended to the 21B switch (north of the AB Split) because of his knowledge that the third rail power would be de-energized within the CP 3 on track 1 to the 21B switch.

Just after midnight the day of the accident, the assistant track supervisor and the power department supervisor discussed by phone the work to be performed at CP 3. The power department supervisor said he recalled the assistant track supervisor telling him the authority was “the same thing that we had Friday night” - nothing had changed.

After his initial interview, the power department supervisor submitted written clarifications to his interview. In his clarifications he said that he did not think it was significant that the jumper (electrical connection) location was outside the authority limits. He believed it had been a standard practice for years that power department employees typically knew they were working on an unprotected (outside authority limits) track when working on the jumpers. He implied the employees should not have assumed there would be no train movements. However, the power department foreman and the electricians all clearly indicated that they were told track 1 was out of service throughout CP 3.

According to the power department foreman, the power department supervisor told him the authority was on track 1 through CP 3 and he needed his crew to reapply the jumper. The power department foreman wrote this on his Roadway Worker Briefing Form. However, this information incorrectly described the on-track protection as extending beyond the AB Split and did not include authority on the adjacent track 3.

During their interviews, the electricians were asked where they thought they were protected at CP 3. Each was interviewed separately but answered with the same phrase indicating that they understood they were protected on track 1 “at” CP 3, meaning their authority was within the entire area covered by CP 3.

The power department foreman and two electricians went to close the jumper adjacent to the 21B switch, which was outside the authority limits that were established Friday night by the assistant track supervisor.

Metro-North Railroad – Employee Fatality



Figure 3. Jumper inserted in receptacle and considered “closed.”

The power department foreman and the two electricians had finished connecting the jumper and were removing an out-of-service tag when the train arrived. The two surviving employees said that they were not alarmed at first by the arrival of the train because they believed they had protection on track 1. As the train came closer (and the operator blew the horn) they realized the train was coming through the crossover and entering the track where they were standing. The workers yelled to each other and jumped toward track 3.

While operating about 40 mph, the engineer said that he saw three workers near the far end of the crossover he was entering. He blew the whistle as a warning and when he was halfway through the crossover he applied the emergency brakes. He witnessed two of the workers jump away from the tracks, but not the third. The third worker was struck and killed by the train.

In summary, the assistant track supervisor had authority on tracks 1 and 3 south of CP 3 and had authority on track 1 and track 3 within CP 3 interlocking, but only south of the AB Split. He relayed this information to the power department supervisor. The power department supervisor relayed an abbreviated and incorrect version of the authority limits and told the power department foreman that the authority was on track 1 at CP 3. The power department foreman relayed this information to the electricians on his workforce. All of the interviewed electricians stated they thought they had protection from train movements on track 1 at CP 3, when in fact they did not and they were working outside the authority limits.

The Investigation

Visibility and the weather were not factors in connection with the accident. The routing of the trains by the RTC around the authority limits was not a factor in this accident, because the

Metro-North Railroad – Employee Fatality

struck worker was outside the limits. The actions of the train operator were not a factor in the accident; he blew the whistle and applied the brakes to try to stop the train.

The electricians involved with the accident had at least 9 years of experience each, and the power department supervisor had 30 years of experience. All of the employees had attended multiple training and educational classes. There were only minor issues found in a few of the discipline records. They were all familiar with the work and the work area.

Metro-North had rules and procedures in place to protect workers when performing maintenance on the tracks. The employees interviewed were all familiar with the different methods for protection from trains while working on or near the tracks.

Metro-North had a separate document for the roadway workers titled, *Roadway Worker Safety Manual* effective February 13, 2011. The proper method of performing a job briefing was provided by the following section:

RW 3 JOB BRIEFINGS

- 3-A A job briefing must be held prior to fouling a track, and any time that there is a change in on track safety. All Roadway Workers must participate in this job briefing.
- 3-B A job briefing must include:
 1. The identification of the Roadway Worker in Charge.
 2. The general plan and procedures for the work to be performed.
 3. **The on-track protection methods that will be used including the means of on-track protection being provided and the limits of the protection.** [Emphasis added]
 4. Definite work assignments.
 5. The predetermined place of safety where roadway workers are to clear for trains or equipment.
 6. The status of adjacent tracks, including the MAS and whether on-track protection is required for the work to be performed.

In this accident, the job briefing did not provide accurate information allowing the workers to be protected on the track from approaching trains. Metro-North had not ensured that the job briefings were being performed to the standard identified by the *Roadway Worker Safety Manual*.

Postaccident Actions

Metro-North Railroad

Metro-North instituted an employee Stand-Down on March 11, 2014, for over 340 employees. Part of the agenda covered the importance of daily job briefings and the use of the Safety Hotline to report safety issues.

Metro-North Railroad – Employee Fatality

Metro-North also issued the following prohibition on the use of the AB Split as a working limit when obtaining on-track protection:

The use of an “A/B Split” or “B/C Split” as a “Working Limit” is not to be granted in the application of roadway worker protection within an interlocking for all Crafts other than qualified Signal Department Employees.⁵

Metro-North advised that they are developing a nonpunitive peer auditing process that includes union participation.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the miscommunication of the limits of on-track protection resulting from incomplete and inaccurate roadway worker job briefings. Contributing to the accident was use of a reference point for on-track protection (the AB Split) that was poorly understood by some of the workers on the track.

For more details about this accident, visit www.nts.gov/investigations/dms.html and search for NTSB accident ID DCA14FR006.

Adopted: October 24, 2014

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

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Acting Chairman

ROBERT L. SUMWALT
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⁵ March 20, 2014 Metro-North memorandum.

Metro-North Railroad – Employee Fatality

The NTSB has authority to investigate and establish the facts, circumstances, and cause or probable cause of a railroad accident in which there is a fatality or substantial property damage, or that involves a passenger train. (49 U.S. Code § 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.” 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 *United States Code*, Section 1154(b).
