



# National Transportation Safety Board

## Railroad Accident Brief

### Employee Switching Fatality

**Accident No.:** DCA15FR001  
**Location:** Colorado Springs, Colorado  
**Date:** October 8, 2014  
**Time:** 12:30 p.m. mountain daylight time  
**Train:** L-PWR0223-8 I (Engine BNSF 1923)  
**Railroad:** BNSF Railway  
**Property Damage:** None  
**Injuries:** 0  
**Fatalities:** 1  
**Type of Accident:** Employee Fatality

## The Accident

On October 8, 2014, at 12:30 p.m. mountain daylight time, a BNSF Railway (BNSF) conductor died while BNSF local train L-PWR0223-8 I was pulling nine railroad cars on an industry track on the Pikes Peak Subdivision near Colorado Springs, Colorado.<sup>1</sup> The weather was clear, with light winds and a temperature of 64°F.

On the day before the accident, the engineer and conductor had attempted to switch the railroad cars on the industry entry track owned by Thompson and Sitz Construction, Inc.<sup>2</sup> This site consisted of a main industry entry track and Drennen siding.<sup>3</sup> The crew attempted to switch the railroad cars, but were unable to do so because the industry entry track was occupied by track maintenance equipment that could not be moved. After consulting with their supervisor, the crew secured the train on the Drennen siding and were driven to Denver, where they went off duty. Before departing the Thompson and Sitz industry track, the conductor and engineer walked the tracks and noted the position of the railroad cars. They prepared a plan on how they were going to switch the cars the next day.

On October 8, 2014, at 8:00 a.m.—the morning of the accident., the engineer, conductor, and an extra board brakeman went on duty in Denver, Colorado.<sup>4</sup> The crewmembers were driven to Colorado Springs, where they had left their train the previous day.

<sup>1</sup> All times in this report are mountain daylight time.

<sup>2</sup> An *industry track* is defined as a switching track or series of tracks serving the needs of a commercial industry other than a railroad; Thompson and Sitz received loaded wood chip hoppers and flat railroad cars loaded with lumber for construction projects.

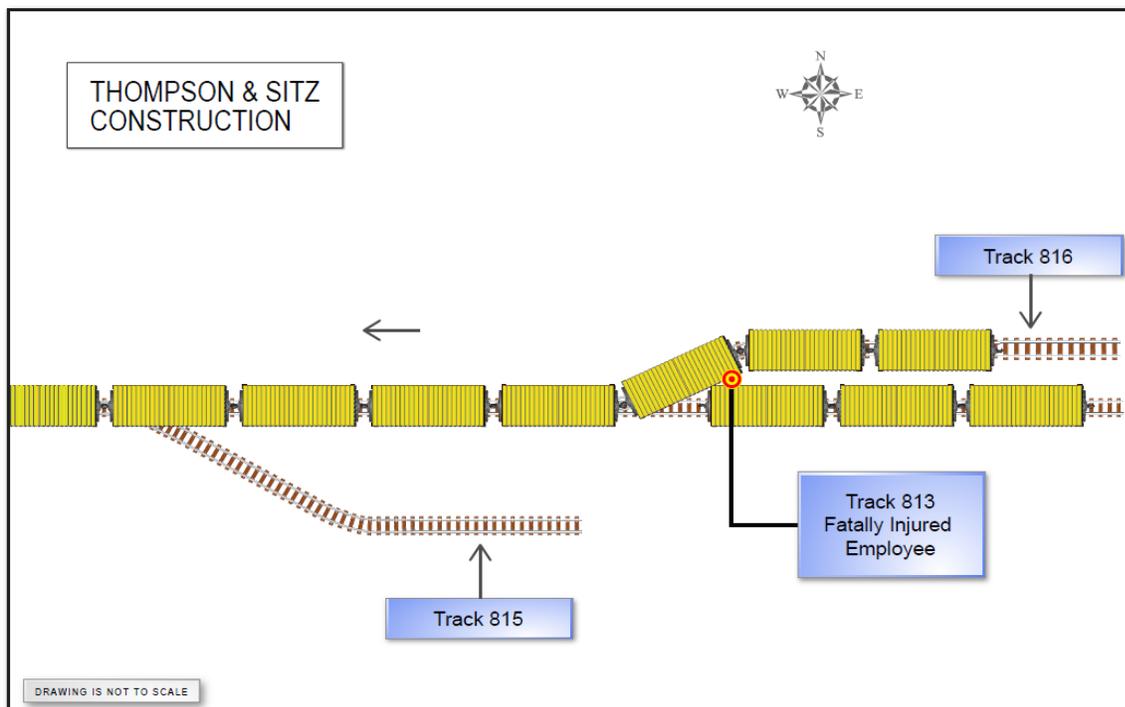
<sup>3</sup> The *Drennen siding* was an auxiliary track to the main track near the Thompson and Sitz switching tracks.

<sup>4</sup> An *extra board employee* does not have a regular job assignment. These employees are used to fill an assignment that has been left open when the regular assigned employee is not available.

## BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014

Upon arrival, the engineer prepared the two locomotives and the conductor and brakeman released the hand brakes on the four railroad cars left on the siding the day before. The first task was to enter the Thompson and Sitz industry entry track.

The conductor coupled the four loaded railroad cars and two locomotives of the local train to six empty flat railroad cars that were on track 813 and track 815, which were connected by a switch. (See figure 1.) The conductor then moved these railroad cars off track 815 and lined the switch for movement to track 813. The railroad cars were then moved to the end of track 813. The conductor separated three of the railroad cars and had the engineer pull forward, leaving the three railroad cars on track 813. According to the brakeman, the handbrakes were applied on these railroad cars before the switching move was made and the handbrakes were never released.<sup>5</sup>



**Figure 1.** Track Diagram and Accident Site.

The conductor told the engineer to stop the movement when the railroad cars passed the switch for track 816. The conductor then lined the switch reverse for railroad movement onto track 816 in preparation for coupling the train to two empty flat railroad cars on that track. The conductor instructed the engineer to shove the train back toward track 816. While positioned on the north side of the two empty flat railroad cars, the conductor tried several times to couple the train to the cars on track 816, but was unsuccessful. The engineer informed the conductor that highway traffic had backed up on a highway-rail grade crossing blocked by their train and that he wanted to clear the crossing. The conductor agreed and the engineer pulled the entire train out of the industry tracks and cleared the crossing.

<sup>5</sup> Postaccident inspection confirmed that handbrakes were applied on the three railroad cars on track 813.

## **BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014**

After the highway traffic cleared, the train re-entered the industry track. The conductor, now on the south side of the train, but still north of track 813, continued trying to couple with the two flat railroad cars on track 816. After several attempts, the conductor was successful coupling the railroad cars.

The brakeman stated during his interview with the NTSB investigator that the conductor celebrated making the coupling. The brakeman said, “She let out a big hurrah and exclaimed, ‘You know, we got it. We coupled the cars.’” The conductor then instructed the engineer to pull the railroad cars out of track 816. Soon after starting the movement, the engineer heard a strange noise on the radio and stopped the movement. At about the same time, the brakeman radioed to the engineer to stop the train.

According to the brakeman, he witnessed the conductor standing between the railroad cars on track 816 and track 813, and was standing about four railroad car-lengths away from her.<sup>6</sup> The conductor was between track 816 and track 813 when the railroad cars were finally coupled together. When the train pulled the railroad cars out of track 816, the conductor became caught between the railroad cars. The brakeman told the engineer to stop the movement and went to the conductor. The brakeman instructed the engineer to back up gently to try to free the conductor. The brakeman realized this was not working and stopped the movement. The engineer used the locomotive radio to make an emergency call to the train dispatcher. Meanwhile, a nearby Thompson and Sitz employee, who also witnessed the event, called 911.<sup>7</sup> The brakeman said that by the time the emergency responders arrived, the conductor had died.

## **The Investigation**

### **Site Description**

There were three tracks in the Thompson and Sitz property. Track 813 was straight and ended at the company’s back fence. It was used for unloading lumber from railroad flat cars. Short stub track 815 diverted from track 813 in the middle of the property on the south side of track 813. Track 815 was used for unloading wood chips from railroad cars. Track 816 diverted from track 813 on the north side and was parallel to track 813 up to the company’s back fence.

### **Accident Re-enactment**

The postaccident examination showed that the standing railroad cars on track 813 had insufficient clearance from the railroad cars moving on track 816 to avoid a collision. During a re-enactment, the cars on track 816 were moved in the same direction as during the accident. When the 80-foot railroad car negotiated the curvature in the track to pass through the switch to enter track 813, the distance between the railroad car on track 813 and the moving railroad cars narrowed dramatically. NTSB investigators confirmed that if the railroad cars were in the same position as the day of the accident, the railroad cars would have made contact. (See figure 2.)

---

<sup>6</sup> The cars were 80 feet long; therefore, he was about 320 feet away.

<sup>7</sup> The employee provided a statement to law enforcement that corroborated the brakeman’s account.

## BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014



**Figure 2.** Railroad Cars Making Contact.

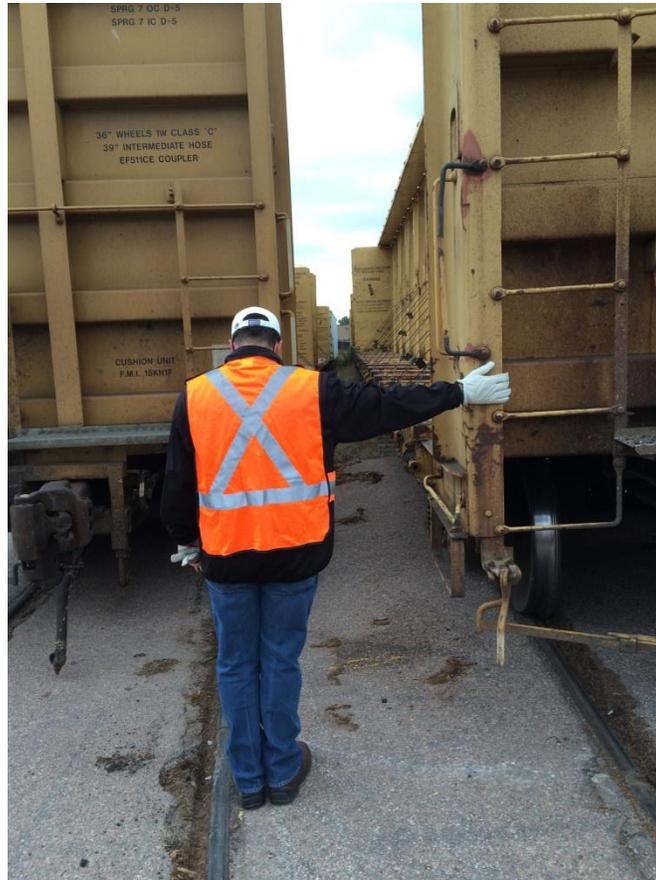
The railroad cars were then placed in the same position as when the conductor attempted to couple the railroad cars on track 816. The railroad cars were about 24 inches apart where the conductor was standing (between tracks 813 and 816) before the conductor instructed the engineer to pull the railroad cars out of the track.

Railroad car clearance from an adjacent track can be checked manually. If a person can stand with one foot against the rail and the hand of their outstretched arm cannot touch the side of the standing railroad car, the car would be in the clear, in other words, not fouling the adjacent track.<sup>8</sup> When this was done during the postaccident examination, with the standing railroad cars in their original position on track 813, the railroad car could be touched with an individual's hand and, therefore, not clear of moving railroad cars on track 816. (See figure 3.)

---

<sup>8</sup> *Fouling a track* means equipment located such that the end of the equipment is between the clearance point and the switch points leading to the track where the equipment is standing.

## BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014



**Figure 3.** Checking Railroad Car Clearance.

### Other Investigative Factors

The portable electronic device records for all crewmembers were obtained by the NTSB. The records did not indicate any calls or text messages by the crewmembers at the time of the accident.

The engineer and brakeman were tested for illegal drugs and alcohol. Postmortem toxicological testing was also performed on the conductor. The test results for all three crewmembers were negative.

The railroad cars involved with the accident were inspected and the coupler mechanisms tested. No mechanical defects were found.

### Personnel Information

The 42-year-old conductor had 3 years of railroad experience and had worked this particular job for the 6 months immediately prior to the accident. The conductor attended all mandatory training classes, passed all required tests, and held a current conductor certification.

## **BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014**

### **Work/Rest Cycle**

For the 30 days immediately prior to the accident, the conductor's work schedule was Monday through Friday. Most days started at 8:00 a.m. when the crew went on duty in Denver. Depending on the workload, the daily shifts would range from 10 to 12 hours. If the crew stayed overnight in Colorado Springs, they would often start work at 6:00 a.m. or 7:00 a.m. This normally occurred 2 days a week. Primarily, the conductor worked a daylight shift with a nighttime rest period.

### ***General Code of Operating Rules***

The Sixth Edition of the *General Code of Operating Rules* (GCOR) was in effect at the time of the accident.<sup>9</sup> This edition of the GCOR had several passages that were applicable to the switching safety issue found in this accident. The applicable passages were as follows:

#### **7.1 Switching Safety and Efficiently [applicable portions]**

Do not leave equipment standing where it will foul equipment on adjacent tracks or cause injury to employees riding on the side of a car or engine.

If the clearance point is not indicated or visible, determine the clearance point by standing outside the rail of adjacent track and extend arm towards the equipment.

#### **8.2 Position of Switches [applicable portion]**

When equipment has entered a track, the switch to that track is not lined away until the equipment has passed the clearance point of the track.

## **BNSF Managerial Oversight**

### **Operational Testing**

Title 49 *Code of Federal Regulations* Part 217 contains specific requirements for the observation and testing of operating employees while performing duties. BNSF maintained an operational testing/observation program to monitor the performance of employees operating trains on the railroad, along with the employees' compliance with railroad rules and federal laws.

Over the previous 12 months, BNSF supervisors recorded over 2,300 observations on the 120-mile Pikes Peak Subdivision where the accident occurred. Fifty observations were of employees properly leaving railroad cars clear of adjacent tracks.

The conductor's operational testing records had 54 entries during the previous 12 months. Each entry represented an operating or safety rule performed correctly by the conductor while being observed by a supervisor. Several entries pertained to the same rule, but were entered on different dates. It was common for employees who perform repetitive tasks from day to day to

---

<sup>9</sup> General Code of Operating Rules Committee, *General Code of Operating Rules*, Sixth Edition, effective April 7, 2010.

## **BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014**

undergo regular testing on the same rules associated with the applicable tasks. During the 12-month period, the conductor had 32 observations (with no exceptions noted by supervisors) that entailed the use of switches, securing equipment, and safety around railroad equipment. There were five specific entries that indicated the conductor had been observed properly leaving railroad cars clear of an adjacent track.

### **BNSF Postaccident Actions**

Following the accident, on October 14, 2014, BNSF issued a safety briefing that gave a brief description of the accident.<sup>10</sup> The safety briefing also explained preventative measures and provided discussion questions related to fouling tracks. The safety briefing was distributed to all managers, train crews, engine crews and yard employees throughout BNSF. In addition to the safety briefing, BNSF included a review and discussion, using visual animation, surrounding the dynamics of long railroad cars versus short railroad cars negotiating turnouts in the annual 2015 safety training for train, yard, and engine employees.<sup>11</sup> The safety briefing can be found in the public docket for this investigation.

### **Probable Cause**

The National Transportation Safety Board determines that the probable cause of the accident was the conductor leaving cars on track 813 with insufficient clearance to the adjacent track and then instructing the engineer to move the railroad cars on track 816 before stepping clear of the moving cars. The conductor's focus on successfully coupling the railroad cars on track 816 likely contributed to the accident.

For more details about this accident, visit [www.nts.gov/investigations/dms.html](http://www.nts.gov/investigations/dms.html) and search for NTSB accident ID DCA15FR001.

---

<sup>10</sup> BNSF Safety Briefing, SB-2014-4G, October 14, 2014.

<sup>11</sup> This training also addresses multiple topics related to safety when working with railroad equipment including shoving, position of switches and derails, restricted speed, and equipment in the foul.

## **BNSF Employee Switching Fatality, Colorado Springs, Colorado, October 8, 2014**

**Adopted: July 14, 2015**

---

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).

---