



# National Transportation Safety Board

## Railroad Accident Brief

### Collision of BNSF Railway Company and Union Pacific Railroad Trains Near Keithville, Louisiana

<b>Accident No.:</b>	DCA14FR003
<b>Location:</b>	Keithville, Louisiana
<b>Date:</b>	December 30, 2013
<b>Time:</b>	6:37 a.m. central standard time
<b>Train:</b>	BNSF train CMNRNAJ 23 and UP train MPBSR 30
<b>Railroads:</b>	BNSF Railway Company and Union Pacific Railroad
<b>Property Damage:</b>	\$7.8 million
<b>Injuries:</b>	4
<b>Fatalities:</b>	0
<b>Type of Accident:</b>	Head-on Collision

On Monday, December 30, 2013, at 6:37 a.m. central standard time, southbound Union Pacific Railroad (UP) freight train MPBSR 30 collided head on with BNSF Railway Company (BNSF) train CMNRNAJ 23. The collision happened at milepost (MP) 218.5 near Keithville, Louisiana, which is about 20 miles south of Shreveport, Louisiana, on the UP Lufkin Subdivision.<sup>1</sup> The three leading locomotives and one car from the UP train derailed. Two locomotives and 11 cars from the BNSF train derailed. (See figure 1.) At the time of the accident, it was dark and overcast with visibility of about 10 miles. The temperature was 37°F.

There were three crewmembers aboard each train. All of the UP crewmembers and one BNSF crewmember were injured. There was no significant fire or release of hazardous materials. Damages were estimated at \$7.8 million.

## The Accident

BNSF train CMNRNAJ 23 was waiting in the siding (the passing track) with the switches aligned for main track movement until UP train MPBSR 30 passed on the main track. The conductor from the BNSF train misaligned a hand-operated switch at MP 218.5 (on the north end of the Keithville siding) for movement into the siding (he reversed the switch from the normal operating position for main track movement) causing the UP train to enter the siding and collide head on with the BNSF train.

The BNSF conductor stated during an interview with National Transportation Safety Board (NTSB) investigators that a BNSF contractor was following the train in a van on the highway to assist the conductor and expedite the train's movements.<sup>2</sup> He said he heard a detector just north of Keithville announce "no defects" on the radio to the approaching UP train. The BNSF conductor then went over to the switch and aligned it erroneously for movement into the

<sup>1</sup> The times referred to in this brief are central standard times.

<sup>2</sup> It is routine for someone to follow the train in a highway vehicle to assist the conductor and expedite the train's movements.

siding.<sup>3</sup> He walked a short distance away before realizing his mistake; however he concluded there was not time to reposition the switch before the UP train arrived.



**Figure 1.** Derailment scene.

The event recorder data from one of the UP locomotives indicated the train was traveling about 48 mph when an emergency application of the train brakes was initiated. The train's speed was about 34 mph at the time of impact.

## Site Description

The UP Lufkin Subdivision was a single, main track with sidings for passing that ran north and south. The maximum operating speed through this area was 70 mph. Train movements through the Lufkin Subdivision were authorized by track warrants and governed by operating rules, general orders, timetable instructions, and signal indications.

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<sup>3</sup> A hot box detector was located at MP 219.5 to identify wheel journals that were overheating.

The signal system was an automatic block system. The signal controls and indications were not communicated to the UP dispatch center in Omaha, Nebraska. Postaccident testing identified no anomalies that would have affected the functionality of the system.

The Keithville siding was 8,343 feet long. It was parallel to—and west of—the main track. The switch at the south end of the siding was a spring switch, and the switch at the north end was a rigid switch that required a crewmember to manually position it for siding or main track movement.<sup>4</sup>

## **BNSF Train CMNRNAJ 23**

The BNSF train crew, consisting of an engineer and a conductor, went on duty in Longview, Texas, at 10:00 p.m. on December 29, 2013. All crewmembers received the proper amount of off-duty time before being called for duty. The crew traveled by van to Martin Lake power plant in East Texas where they took charge of the empty coal train E MLMNAM0 16 (UP designation CMNRNAJ 23) on the BNSF.<sup>5</sup> The crew inspected the train and completed an air brake test before departing.

The engineer stated the trip from Martin Lake to the UP Lufkin Subdivision at Tenaha, Texas, was uneventful. The UP train dispatcher was contacted, and the crew received a track warrant at 3:27 a.m. authorizing the train's movement from Tenaha at MP 176 to Longstreet, Louisiana, after the arrival of three trains. The train dispatcher informed them that two of the three trains had already passed their location, and they only had to wait for the third train, BNSF 8913 South. The engineer said they waited about 45 minutes for the BNSF 8913 traveling south before departing north toward Longstreet.

At 4:34 a.m. the train dispatcher issued train CMNRNAJ 23 track warrant authority from Longstreet to Keithville with the added instructions to “clear main track at last named point.”<sup>6</sup> The crew moved the train to the south switch at the Keithville siding. The engineer and conductor had a briefing about the tasks necessary for the train to enter the siding. As agreed during the briefing, the conductor remained at the switch and informed the engineer by radio when the train was clear of the main track at the south end of the Keithville siding. The conductor then lined the switch at the south end of the siding back for main track movement and traveled by van to the north end of the siding to wait for further movement authority from the train dispatcher. At this time, the switch at the north end of the siding was aligned in the normal position for main track movement.

The van driver parked about 30 feet from the hand-operated switch at the north end of the Keithville siding. The conductor remained in the van so he would be in position to align the switch once the southbound train had passed and additional track warrant authority was granted.

He then heard on the radio the dispatcher issue a track warrant authorizing the engineer to proceed after the arrival of a southbound train. Soon after, he heard the radio broadcast of the

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<sup>4</sup> A spring switch returns to its normal position automatically following a trailing movement.

<sup>5</sup> Upon entering the UP track, the train's designation changed to CMNRNAJ 23.

<sup>6</sup> Instruction to “clear the main track” or “take siding” requires the train to enter the siding.

detector located just north of Keithville announcing the inspection results of a passing southbound train. He incorrectly perceived this to be an indication that he needed to line the switch for the southbound train to enter the siding. He explained that on previous occasions when he had been northbound at Keithville, the northbound train would wait for the southbound train on the main track, rather than in the siding. This required him to reverse the switch or align it toward the siding so the southbound train would enter the siding to pass.

He aligned the switch for the siding before observing the approaching train and then realized he had lined it incorrectly. He told investigators the southbound train was approaching too fast to allow him to correct his error. He turned and ran past the van, yelling at the van's driver to run because of the impending collision.

## **UP Train MPBSR 30**

The crew on UP train MPBSR 30, consisting of an engineer, a conductor, and a student engineer, went on duty at 2:40 a.m. at Union Pacific Riverfront Yard in Shreveport, Louisiana. All crewmembers had received the proper amount of off-duty time prior to the call for duty.

The UP train left Riverfront Yard at 5:45 a.m. with track warrant authority on the main track from Riverfront to Timpson, Texas, and instructions to wait on the main track at Timpson. This authority included the main track at Keithville. The UP crew was not informed that the BNSF train was in the siding at Keithville because the UP crew did not need to take any action at that location.

During an interview with NTSB investigators, the UP engineer stated he noticed the headlight reflecting off the windshield of a train sitting in the siding as they approached Keithville. As he got closer, he saw the switch target. (The switch target is only visible to an approaching train when the switch is lined for the siding.) The engineer said he yelled at the other crewmembers that they were headed into the siding toward a standing train. He applied the brakes in emergency mode before the train reached the switch. The crewmembers prepared for impact. The engineer remained in his seat while the conductor and student engineer braced themselves on the floor near the rear door of the lead locomotive control compartment. The train continued into the siding and collided with the BNSF train.

The NTSB review of the event recorder data confirmed the engineer's actions.

## **Probable Cause**

The National Transportation Safety Board determines that the probable cause of the accident was the BNSF train conductor's improper positioning of a switch for movement into the siding occupied by the BNSF train.

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 DCA14FR003.

**Adopted: December 1, 2014**

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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).

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