National Transportation Safety Board

Office of Railroad, Pipeline and Hazardous Materials

Washington, DC 20594

RRD25FR022

COMBINED GROUP

Group Chair's Factual Report

February 10, 2026

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A. ACCIDENT DATA

Accident No: RRD25FR022
Type: Raking collision with subsequent derailment and severe injury
Location: Denver, CO
Date: 8/5/2025
Time: 12:11 a.m. (local time zone)
Carrier: BNSF
Train: H-LINDEN1-02A
Fatalities: 0
Injuries: 1

B. PARTIES TO THE INVESTIGATION

NTSB
FRA
BLET
SMART-TD
BNSF

C. COMBINED GROUP

IIC	Scott Lavallee Investigator in Charge/ Operations Group Chair National Transportation Safety Board (NTSB)
Group Member	Zach Zagata Operations / Assistant IIC National Transportation Safety Board (NTSB)
Group Member	Dr. Michael Hoepf Human Performance Investigator National Transportation Safety Board (NTSB)
Party Coordinator	Roberto Grajeda Safety Task Force Investigator BLET
Party Coordinator	Kamron Saunders National Safety Team SMART-TD

Party Coordinator	Michael Cook AVP of System Safety BNSF
Party Coordinator	Jerry Archie FRA IIC/Operating Practices Federal Railroad Administration

D. ACCIDENT SUMMARY

On August 5, 2025, at approximately 12:11 a.m. Mountain Time, a conductor was seriously injured during a shoving move at the BNSF Globeville Yard in Denver, Colorado. The incident occurred during a "double over" maneuver. The terminating train had pulled into track 104 from the north. The balance of the train was to be shoved into track 103 (an empty track) from the south. After leaving the rear of the train in track 104 and pulling the remaining 49 cars over the 103 switch, the switch was then lined into track 103 and instructions to shove north 30 cars were given by the conductor. The conductor was riding the west side of an empty hopper car on the leading end of the shove. After traveling 189 feet, the move traversed the south switch of the 103-102 crossover. This switch was left lined for crossover movement into track 102. The conductor did not identify the improperly lined crossover switch in the intended route. Track 102 contained a standing cut of cars at the time of the accident.

Stationary yard camera footage and car department inspection records confirm that the south 103 to102 crossover switch was lined and locked out of correspondence and for crossover movement earlier in the evening of August 4th at 6:09 p.m. by a BNSF carman. The single crossover switch was lined for movement from track 103 into 102 to provide adjacent track protection in track 103 for the carman to perform an inbound equipment inspection in track 104. After completing the inspection of equipment in track 104 at 6:30 p.m., the associated locks and blue

flags were removed but the carman did not restore the south 103-102 crossover switch into correspondence with the north 103-102 crossover switch as he had originally encountered them.

As the shove movement of the accident train diverged at the south 103-102 crossover switch, it traveled an additional 89 feet through the partially lined crossover colliding with the standing cut of cars in track 102 resulting in the conductor being thrown from the equipment. The raking collision also resulted in the derailment of five cars from the train being shoved, and three cars from the standing cut of cars in track 102. The car the conductor was previously riding derailed and toppled onto him resulting in severe injuries to his lower right leg.

Emergency responders, including the Denver Fire Department, arrived on scene and extracted the conductor from under the derailed equipment. He was transported to a nearby hospital for emergency surgery, where he reportedly underwent a below-the-knee amputation of his right leg and was also treated for a back injury. No other injuries were reported and there were no hazardous material releases as a result of this derailment.

The train crew consisted of an engineer, a student engineer and a conductor. The injured conductor, 56 years of age, has been employed by BNSF since 2006. The train, identified as BNSF H-LINDEN1-02A, originated in Lincoln, Nebraska and had a final destination of Denver, CO. The crew involved in the accident was called on duty at 2:00 p.m. on August 4th in McCook, Nebraska. This crew was then transported by van to the siding at Corona on the BNSF Brush Subdivision where they took control of train which had been left secured by the previous crew.

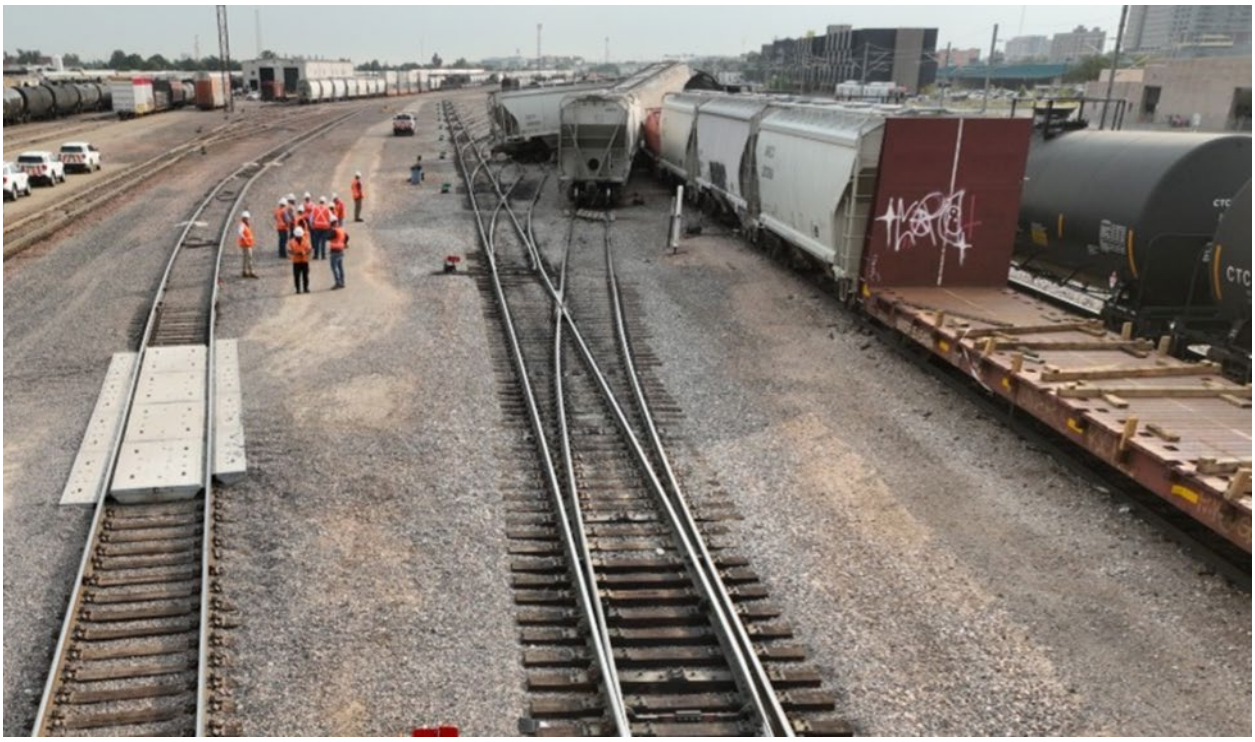

Figure 1: Aerial photo of accident location. SOURCE: BNSF

E. DETAILS OF THE INVESTIGATION

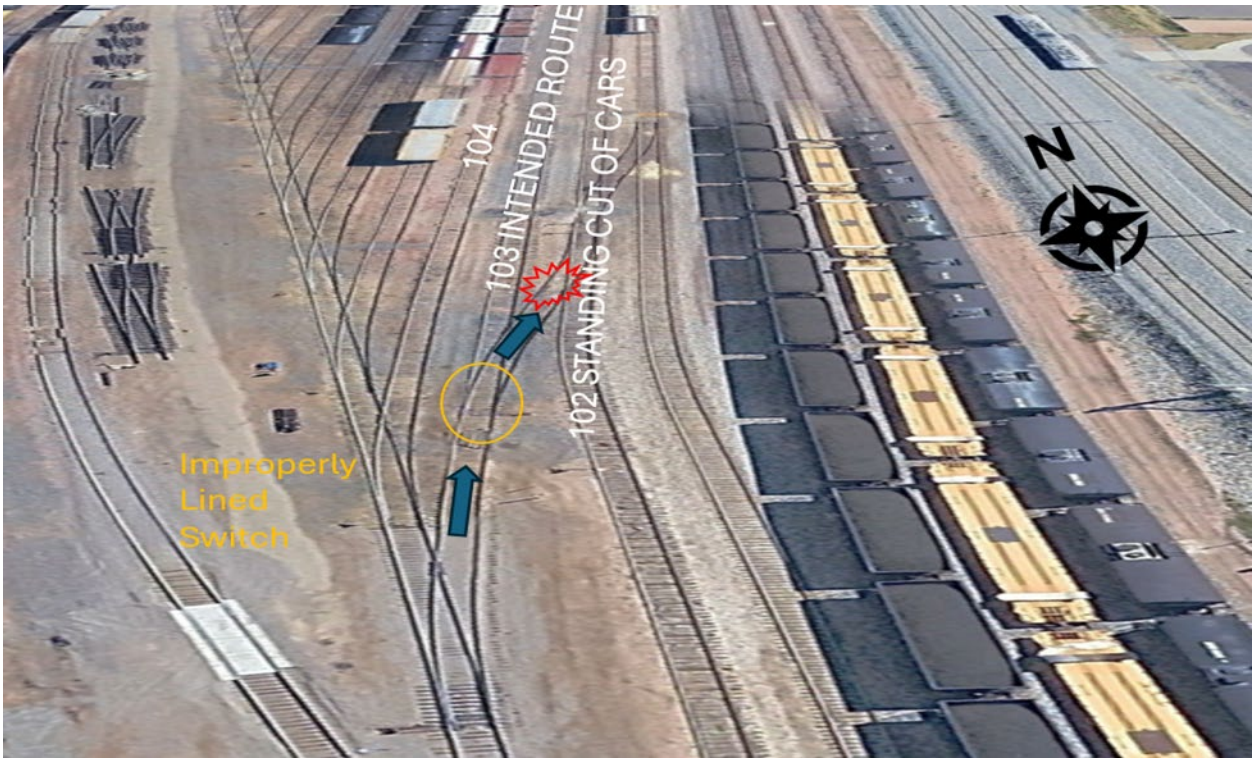

Figure 2: Aerial view of the BNSF Globeville Yard. SOURCE: Google Earth Pro with NTSB labeling

1.0 DESCRIPTION OF THE ACCIDENT LOCATION

The accident site was in the BNSF Globeville yard which is located at milepost 541 of the BNSF Brush Subdivision. The yard contains 46 tracks. The accident took place on the 102/103 crossover, which is used to make movements between tracks 103 and 102.

2.0 SIGHT VISON AND RADIO TESTING OBSERVATIONS

On August 6, NTSB investigators, BNSF employees, and labor union officials visited the Globeville Yard to conduct visibility observations. The team arrived at the yard around 9:45 p.m. and discussed plans and safety considerations. At approximately 10:30 p.m. the team walked to the accident location. The observations were conducted at night to closely simulate the conditions experienced by the crew on the night of the collision. Weather conditions on the night of the accident and the night of the observations were similar. The team generally observed that when viewing the switch target/ indicators in person, the level of contrast / visibility was slightly reduced compared to when examining the video evidence from the various yard cameras. However, the team found the area to be well illuminated by overhead yard lighting.

The team conducted visibility observations from the two general locations that roughly corresponded to the locations of the crew members on the night of the collision at various points in time during which they would have potentially had visibility of the position of the south switch of the 103 to 102 crossover (the switch associated with the collision). The first location was from the south side of the south switch of the 103 to 102 crossover. These observations roughly recreated the visibility of the conductor in the timeframe immediately prior to the collision.

The conductor was observed on video operating the 103 switch, which is the switch that is used to enter track 103 from the south side of the yard. From the general location of this switch, standing on the ground, investigators looked at the south switch of the 103 to 102 crossover. The consensus of the investigative team was that the position of the switch could be seen from this location.

The team also conducted observations from the side ladder of a exemplar railcar which was placed on the switching lead south of the 103 switch. This location was intended to recreate the view of the conductor as he was riding the rear car when starting the shoving movement. The team concluded that the position of the south switch of the 103 to 102 crossover could also be determined from this position.

Figure 3: View from riding position on a exemplar rail car while on switching lead south of the track 103 switch facing north with misaligned south 103-102 crossover switch in view during August 6th sight vision testing. SOURCE: NTSB

Team members agreed that directing light (from a flashlight or lantern for example) toward the target/indicator of a switch improves its visibility. However, some team members indicated that when observing the position of the rail itself, it is sometimes easier to use only the overhead yard lights (and not a flashlight or lantern). They indicated that sometimes the "glint" of the rail can be washed out with too much light. The team determined from the video evidence that the conductor did not direct a light toward the south switch of the 103 to 102 crossover. As discussed above, the team consensus was that with, or without a flashlight/lantern, the position of the south switch of the 103 to 102 crossover could be determined with the overhead lighting present at this location.

Observations were also taken from the north side of the south switch of the 103 to 102 crossover. These observations were intended to roughly replicate the visibility of the crew from the cab of the locomotive as it was traveling south. Several investigators entered the incident locomotive placed in the approximate location that the crew had stopped during the pulling movement. The consensus was that the position of the switch could also be determined from this position. When the crew was in this location on the night of the collision, the 103 to 102 crossover was not in the direct route of the forward move about to be made.

Figure 4: View from conductor's seat of BNSF 9014 in track 104 looking south with the 103-102 crossover in view during August 6th sight vision testing. SOURCE: NTSB

The group also tested the ability of the conductor's portable radio to communicate with the radio in the locomotive (BNSF 9014) involved in the accident. During the testing, the locomotive and portable radio were positioned at a similar distance apart as they were at the time of the accident. Radio communications during the test were understood from the locomotive with the handheld radio's whip antenna in the folded position, but were reported as clearer with the whip antenna extended. The radio was recovered post accident with the whip antenna extended. The radio channel being used on the night of the accident and the night of the test was channel 39. Radio recordings from the incident have been provided and reviewed by the investigative team. Radio recordings from the test performed on

August 6th, were obtained from the BNSF and support the ability of the handheld radio and the radio on the BNSF 9014 to communicate clearly.

Figure 5: BNSF Conductor's radio and lantern recovered at accident scene used during sight distance and radio testing. SOURCE: NTSB

3.0 AUDIO VOICE RECORDING REVIEW

On August 7, 2025, the investigative group conducted a review of the audio recordings from yard channel 039. It was determined that all pertinent information was obtained, therefore, no additional review was considered warranted.

4.0 LOCOMOTIVE EVENT RECORDER REVIEW

On August 7, 2025, the investigative group conducted a review of the event recorder data from the lead locomotive. The group determined that the train

handling methods utilized were consistent the accounts of the operations being performed and consistent with the verbal instructions given prior to the accident. It was determined that all pertinent information was obtained, therefore, no additional review was warranted.

4.1 Locomotive Event Recorder Graph

The locomotive was equipped with Progress Rail event recorder software. This graphic data provides multiple readouts including time, direction, speed , throttle and brake applications. The investigative group reviewed this data and found that it was consistent with the accounts of the incident and other video footage reviewed.

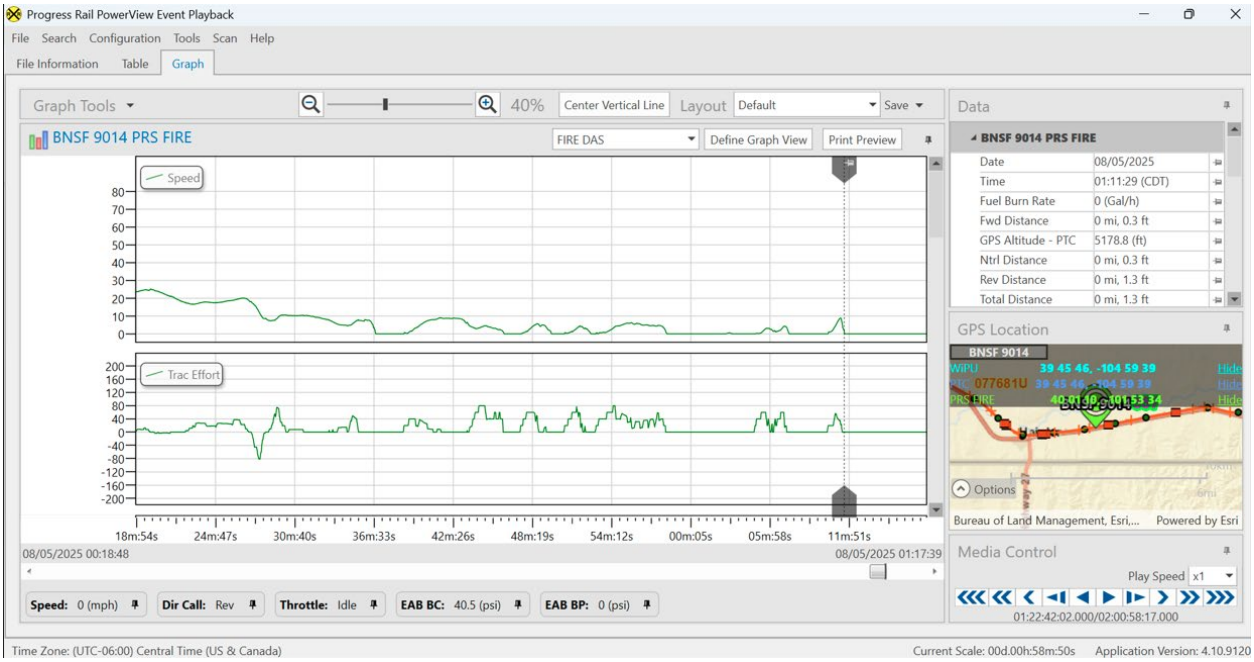

Figure 6: Screen shot of BNSF 9014 locomotive event recorder graphic display. SOURCE: BNSF

4.2 Locomotive Download Table

The Progress Rail locomotive event recorder also displays data in a tabular format. This format shows a second by second readout of the graphic data in numeric

form. The investigative group reviewed the tabular data and found that it too was consistent with all other data reviewed to establish the timeline of events.

Date	Time	Miles	Feet	Speed (mph)	Throttle	Dir Call	PCS Open	GPS Latitude (deg/min/sec)	GPS Longitude (deg/min/sec)	AB Handle Pos	EQ Press (psi)	Brake Pipe Press (psi)
8/5/2025	01:11:10 (CDT)	0	167	8.8	T2	Rev	Closed	40 01 10	-101 53 34		83.1	82.7
8/5/2025	01:11:11 (CDT)	0	154.2	8.9	T2	Rev	Closed	40 01 10	-101 53 34		83.1	83
8/5/2025	01:11:12 (CDT)	0	141.4	8.9	T2	Rev	Closed	40 01 10	-101 53 34		83.1	83
8/5/2025	01:11:13 (CDT)	0	128.3	8.9	T2	Rev	Closed	40 01 10	-101 53 34		83.1	83
8/5/2025	01:11:14 (CDT)	0	115.2	8.8	T2	Rev	Closed	40 01 10	-101 53 34		83.1	83
8/5/2025	01:11:15 (CDT)	0	102.4	8.5	T2	Rev	Closed	40 01 10	-101 53 34		83.1	83
8/5/2025	01:11:16 (CDT)	0	89.6	8	T2	Rev	Closed	40 01 10	-101 53 34		83.4	17.8
8/5/2025	01:11:17 (CDT)	0	77.1	7.6	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:18 (CDT)	0	65.6	6.6	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:19 (CDT)	0	54.8	5.9	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:20 (CDT)	0	44.9	4.6	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:21 (CDT)	0	36.4	3.9	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:22 (CDT)	0	29.5	3.3	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:23 (CDT)	0	23.6	3	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:24 (CDT)	0	18.7	2.5	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:25 (CDT)	0	14.4	2.3	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:26 (CDT)	0	10.5	2.3	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:27 (CDT)	0	7.2	2.3	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:28 (CDT)	0	3.9	0.3	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:29 (CDT)	0	1.3	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:30 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:31 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:32 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:33 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:34 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:35 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:36 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:37 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:38 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:39 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:40 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:41 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:42 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0
8/5/2025	01:11:43 (CDT)	0	0	0	Idle	Rev	Open	40 01 10	-101 53 34		83	0

Figure 7: Screenshot of locomotive event recorder data table with time of stop highlighted. SOURCE: BNSF

5.0 TIMELINE OF EVENTS

The following timeline of events was developed by the investigative group while on scene using audio and event recorder data.

Date	Yard Camera	Event Recorder	Locomotive Outward Camera	Radio Recording	Description of event
8/4/2025	6:09:09 PM				SCREEN SHOT South crossover switch (103-102) appears to be lined for crossover movement by car department employee. No similar manipulation of north crossover switch is seen.
8/4/2025	6:09:52 PM				Carman places blue flag up on track 104.
8/4/2025	6:10:01 PM				Carman places blue flag up on track 103.
8/4/2025	6:29:02 PM				Carman takes blue flag down on track 103.
8/4/2025	6:29:10 PM				Carman takes blue flag down on track 104.
8/4/2025	6:30:17 PM				Carman seen appearing to take lock off south crossover switch without restoring switch to previous alignment.
8/4/2025	8:36:00 PM				SCREEN SHOT Lighting conditions change enough that camera now shows that south crossover switch target is red (lined for crossover movement).
8/4/2025				11:39:06 PM	H-LINDEN-02A arrives BNSF Globeville Yard, is given yarding instructions by 38 St. Yardmaster.
8/4/2025			11:46:14 PM		H-LINDEN1-02A stops at south end of track 104. green switch targets visible on the switching lead, 103-102 south crossover target is visibly red. Conductor dismounts.
8/4/2025			11:47:06 PM		South 104 switch is lined for movement out of track 104 by the conductor.
8/4/2025			11:47:25 PM		Conductor is seen to give H-LINDEN1-02A engineer a signal to move forward.
8/4/2025			11:47:32 PM		H-LINDEN-02A begins moving forward out of track 104.
8/4/2025		.	11:48:05 PM		SCREEN SHOT south 103-102 crossover switch points can been seen as lined for crossover movement into track 102, switch target is visible as red.
8/4/2025				11:49:30 PM	31st Street Yardmaster gives H-LINDEN1-02A permission to line out of track 104 for headroom.
8/4/2025	11:58:22 PM				H-LINDEN-02A seen to have stopped pulling forward, rear of train in the clear on track 104

8/5/2025	12:05:05 AM				H-LINDEN-02A pulling forward to clear the 103 switch.
8/5/2025		12:07:24 AM			H-LINDEN-02A stops clear of the 103 switch.
8/5/2025				12:10:12 AM	Conductor gives shove instructions "Conductor riding, back up good for 30 cars"
8/5/2025		12:10:16 AM			BNSF 9014 (Controlling locomotive of H-LINDEN-02A) event recorder indicates shoving move initiated: direction reversed, throttle position 1, no automatic brake application applied
8/5/2025	12:10:25 AM				Rear of train seen to move back toward 103.
8/5/2025	12:10:56 AM				Student engineer initiates a minimum brake application, speed is 6.2 mph, throttle position 3.
8/5/2025	12:11:01 AM				H-LINDEN1-02A shoving movement begins to diverge at south 103-102 crossover switch.
8/5/2025	12:11:12 AM	12:11:12 AM			H-LINDEN1-02A shoving movement impacts with standing cut in track 102, event recorder indicates throttle position 2, speed 8.9 mph, minimum air brake application applied. 315 feet of reverse movement indicated by locomotive.
8/5/2025	12:11:13 AM				Conductor seen being thrown from rear car subsequent collision.
8/5/2025	12:11:14 AM				Conductor is visible laying on the ground.
8/5/2025		12:11:17 AM			Event recorder indicates PCS (Brake Pipe Emergency).
8/5/2025	12:11:26 AM				Movement at rear of train is seen to be stopped.
8/5/2025		12:11:29 AM			Event recorder indicates movement stopped on lead locomotive.

Figure 8: Timeline of events and data sources. SOURCE: NTSB / Investigative Group

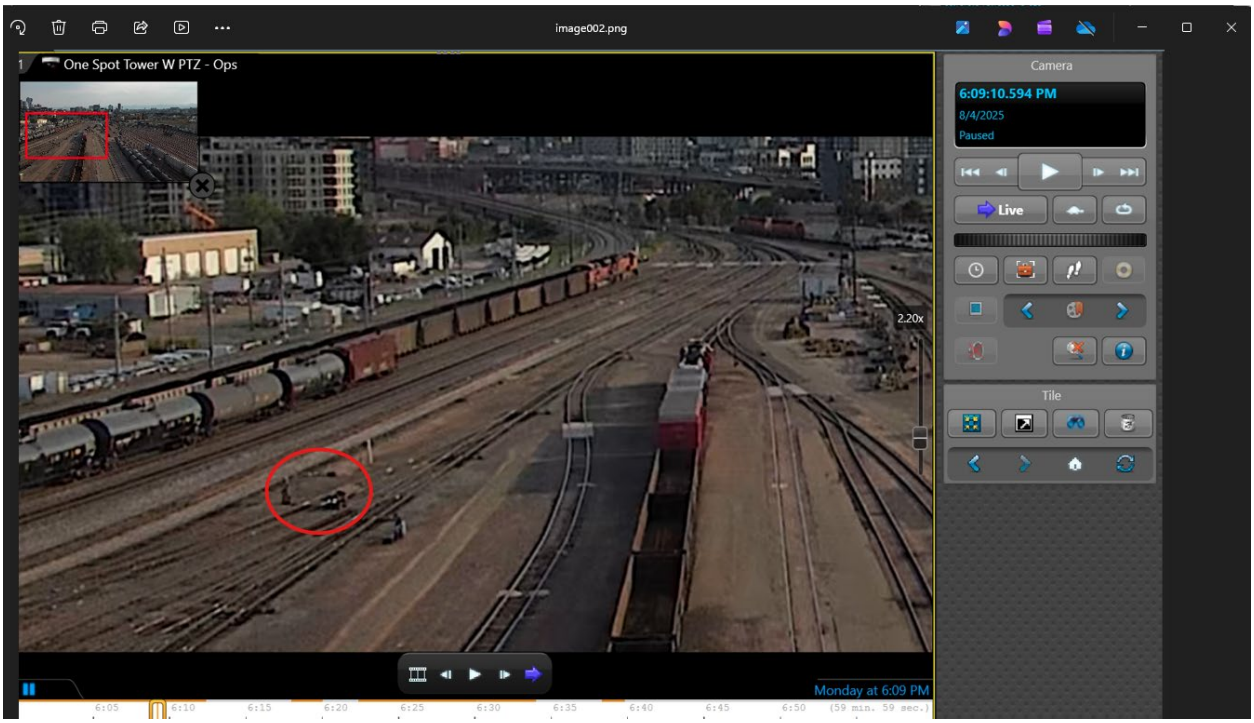

Figure 9: Screen capture of yard camera identifying car inspector lining south 103-102 crossover switch for crossover movement, applying lock and blue flag at 6:09 PM on 8/4/25. SOURCE: BNSF

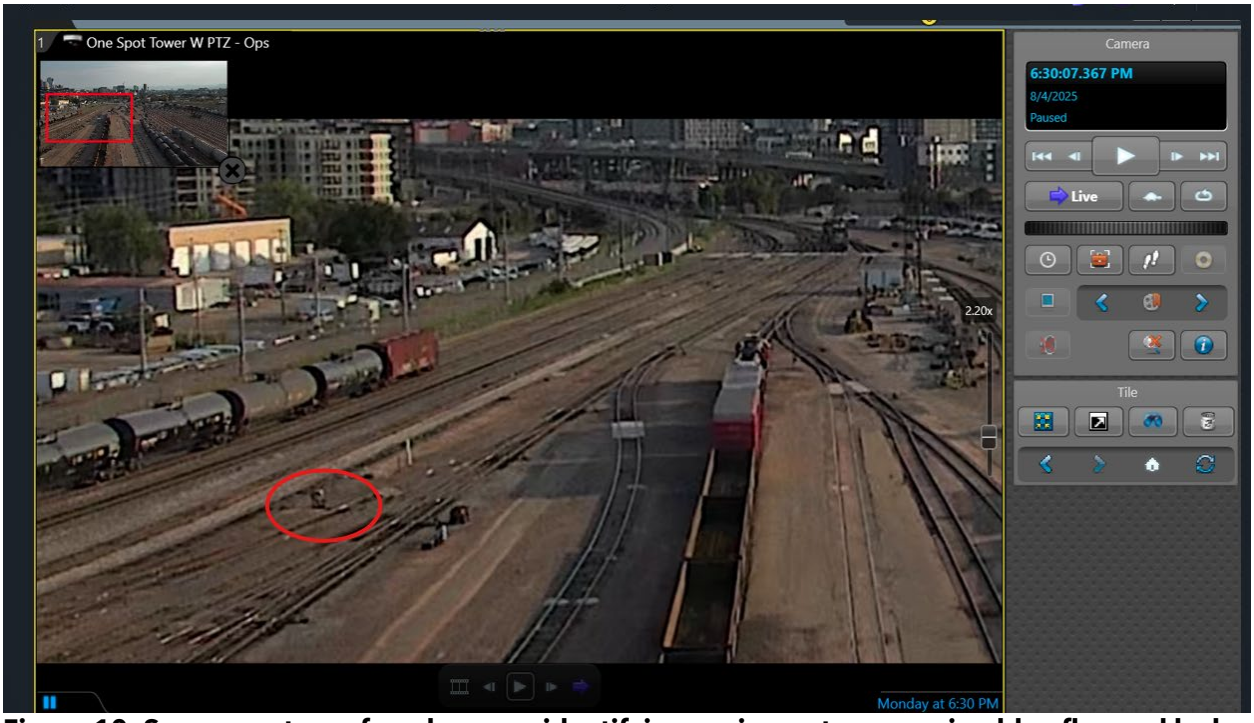

Figure 10: Screen capture of yard camera identifying car inspector removing blue flag and lock from south 103-102 crossover switch but not restoring the switch at 6:30 PM on 8/4/25. SOURCE: BNSF

6.0 OPERATING RULES IN EFFECT AT THE TIME OF THE ACCIDENT

BNSF Rule Books that were in effect at the time of the accident and potentially applicable rules contained within are, but not limited to the following:

BNSF Mechanical Safety Rules
Effective August 1, 2025

S-13.7.7 Hand-Operated Crossover Switches

When not in use, hand-operated crossover switches not connected to a main track or siding must be left in corresponding positions (both switches lined for crossover movement or both switches lined for other than crossover movement). Switches of a crossover connected to a main track or siding must be left for other than crossover movement.

A hand-operated crossover switch may be left non-corresponding when:

- Used to provide blue signal protection.
- Used to provide inaccessible track protection for MW employees.
- Performing maintenance, testing, or inspection of crossover switches in signaled territory.
- One crew is using both tracks connected by the crossover during continuous switching operations.

Both switches of a crossover must be properly lined before equipment begins a crossover movement. A crossover movement must be completed before either switch is restored to the proper position.

S-24.2.3 How to Provide Protection (On Other than Main Track Section1)

On a Main Track. A blue signal must be displayed at each end of the rolling equipment and, if the rolling equipment to be protected includes one or more locomotives, a blue signal must be displayed on the controlling locomotive(s).

On Other than a Main Track. One of these three methods of protection or a combination of these methods must be provided:

1. Each manually operated switch, including any facing point crossover switch that provides direct access must be lined against movement onto the track and secured

by an effective locking device. A blue signal must be placed at or near each such switch.

Use the following sequence when applying blue signal protection:

a. Where locomotive(s) are present on the track to be protected, check occupancy of locomotive(s). If occupied, verify no movement will take place.

b. Line and lock the switch.

c. Display blue signal at or near the switch.

And

d. If the rolling equipment to be protected includes one or more locomotives, a blue signal must be displayed on the controlling locomotive(s).

• This is also required if providing protection on an adjacent track.

• A Blue Signal must also be displayed on the controlling locomotive(s) on the adjacent track.

After work is complete, use the following sequence when removing blue signal protection:

a. Remove blue signal from locomotive(s), if applied (remove any blue signal inside the cab before removing the blue signal visible from the outside on the engineer's side of the locomotive).

b. Remove the blue signal at or near the switch.

c. Remove the lock from the switch and replace the hook or hasp, if equipped.

When one end of a crossover switch is used to establish blue signal protection on other than a main track, when blue signal protection is no longer needed, both switches of the crossover (not connected to a main track or siding) must be left either for normal position or for movement through the crossover.

General Code of Operating Rules (GCOR) Eighth Edition
Effective April 1, 2020
BNSF Updated Edition July 1, 2025

6.5 Shoving Movements

See section 15 of this report for in-depth shove movement rule treatment.

6.28 Movement on Other than Main Track

Except when moving on a main track or on a track where a block system is in effect, trains or engines must move at a speed that allows them to stop within half the range of vision short of:

• Train.

• Engine.

• Railroad car.

• Men or equipment fouling the track.

• Stop signal. or

• Derail or switch lined improperly.

8.12 Hand-Operated Crossover Switches

Both switches must be in corresponding position before moving over or through a crossover switch and must remain in corresponding position until movement is complete.

Crossover switches may be out of corresponding position when:

• One crew is using both tracks connected by the crossover during continuous switching operations.

• Providing blue signal or inaccessible track protection in Rule 6.14 (Restricted Limits), Rule 6.28 (Movement on Other than Main Track) or non-signaled Rule 6.13 (Yard Limits) territory.

• Performing maintenance, testing or inspection in signaled territory. Crossover switches must be left lined in corresponding position.

Crossover switches connected to a main track or siding must be left lined in normal position.

S-13.1.5 Riding In or On Moving Equipment (Section A)

Ride cars or equipment only if necessary and if you have determined that you can do so safely.

A. Determining Whether to Ride

When determining whether cars or equipment should be ridden:
• Except within yards, do not ride the exterior of the leading end of cars or locomotives over crossings not equipped with gates.

Note: Industry and customer facility tracks are not considered yards in the application of this rule.
Does not apply to the following equipment:

- Flat cars may be ridden at the geographical center of the car by maintaining a kneeling or sitting position.
- Shove cars/platforms may be ridden at the designated riding location of the car, not including steps.

• Intermodal Facilities / Hubs, do not ride the exterior of cars or locomotives on strip / ramp tracks.

Does not apply to the following equipment:

- Flat cars may be ridden at the geographical center of the car by maintaining a kneeling or sitting position.
- Shove cars/platforms may be ridden at the designated riding location of the car, not including steps.

• If walkway conditions permit, do not ride movements on freight cars if the move will be 5 cars or less.

• If track condition cannot clearly be observed because of debris (e.g. snow, ice, water, grain, mud, etc.) do not ride or knowingly allow others to ride on either side of equipment or engine exterior.

• When snow and ice are observed building up on portion of tracks to be used, particularly at road crossings, locomotive(s) must precede movement on that portion of track before cars can be ridden into those tracks.

• Consider other alternatives such as repositioning locomotive to pull instead of shove freight cars, vehicle transportation, repositioning of crew members, or utilizing other employees to complete the task without having to ride moving equipment.

• Consider selecting or repositioning other freight cars to ride.

• Ride only if hand holds and stirrup configuration allow for a firm grip and erect and normal body position.

• Consider your physical capabilities and limitations, ensuring that when riding you can maintain at least three-point contact with the equipment at all times.

• Consider the amount of slack in the train or switch cut (example car types with additional slack, autoracks, coil steel, wallboard/bulkhead flats, etc.).

• No Clearance and Close Track Center Restrictions: Employees must not ride or knowingly allow others to ride the no clearance side of equipment at locations where no clearance exists, including any of the following conditions:

- Between a structure and a moving car or engine.
- Through gates or doorways. (Gates or doors must be secured in the open position).
- Into, out of or within enclosed buildings. (Employees must precede the movement, if safe to do so, before entering enclosed buildings. Movements must only be made on that employee's signal within a building).
- When it cannot be visually determined that equipment on an adjacent track is in the clear or behind the clearance point.
- On industry tracks at locations where signs may be placed, advising of no clearance.
- At locations that have been identified by timetable or special instructions as having a no clearance condition.
- At locations that have been identified by timetable or special instructions as having close track centers unless that portion of adjacent track is known to be clear.

S-1.1 Job Safety Briefing

Employees will participate in a job safety briefing at the beginning of the shift, before changing jobs and as conditions change. This briefing must include a discussion of the tasks to be performed, present exposures and the associated risks, along with methods to control or minimize any such risks. Employees will identify opportunities throughout the duration of each task to pause the work and rebrief, such as when conditions surrounding the task change. To help in preparing an effective job safety briefing, the following should be considered:

Who

All individuals involved in the tasks, or who are in the work area, must be included in the job safety briefing; including, but not limited to, immediate crew members, supporting or adjacent crew members, supervisors, outside parties or contractors, and other work groups.

What
An engaging, two-way dialogue to ensure that all individuals involved understand the tasks to be performed. This includes a discussion of the tasks, identifying present exposures and the associated risks that are or will be present in the tasks, and reviewing ways to control or minimize such risks. If you see a better way to perform a task, or are not confident in your understanding, talk about it.

Why
To ensure that tasks are done safely and efficiently, without injury or incident, meeting or exceeding BNSF standards.

When
At the beginning of the shift, before changing jobs and as conditions change.

Where
At the work site, in the depot, break room, or locker room, or wherever all individuals involved can gather.

How
The following elements are essential to any job safety briefing:

- Review of the tasks.
- Identification of exposures and the associated risks.
- Assignment of duties and responsibilities.
- Required tools, equipment, materials, processes, and procedures.
- Methods for controlling or minimizing risk.
- Opportunities to pause the work and re-brief.
- Debriefing at the end of the tasks.

At the conclusion of your job safety briefing, all individuals involved must be able to answer the following questions:

- What tasks will we be performing? What will we be doing?

• What are the processes we must follow to complete the tasks?

• What exposures are present in the tasks, and what are the associated risks?

• What can we do to control or minimize the risks?

• What should we do if conditions surrounding the tasks change?

• When should we pause the work and re-brief?

BNSF Powder River Division Timetable No. 5
Effective October 2, 2024

Page 33 Excerpt:

Close Track Centers

Location	Track Name	Track Nos.
Sterling	Yard	105 - 106
Brush	Yard	101 - 104
Denver	Yard	101 - 110, 124 - 130, 145 - 146

7.0 TRAIN CREW OPERATIONAL INFORMATION.

7.1 Train Crew Certification Information Table

NAME	HIRE DATE	LAST RECERTIFICATION	ENGINE SVC DATE	LAST RULES EXAM	LAST TRIENNIAL EVALUATION
Mentor Engineer	10/03/2011	01/24/2023	09/07/2013	01/18/2023	04/08/2025
Student Engineer	6/19/2023	09/29/2023	05/19/2025*	04/04/2023	N/A
Conductor	5/1/2006	Conductor	N/A	05/07/2024	N/A

*Date student engineer began engineer training.

7.2 Train Crew Hours of Service (HOS) Information Table

NAME	DATE / START TIME	TL HRS ON DUTY AT TIME OF INCIDENT	PREVIOUS TIE-UP DATE / TIME	OFF-DUTY TIME PRIOR TO SHIFT
Mentor Engineer	08/04 2:00 p.m.	10 Hrs 11 Min	07/30 1:50 p.m.	120 Hrs 10 Min
Student Engineer	08/04 2:00 p.m.	10 Hrs 11 Min	07/24 1:53 p.m.	264 Hrs 7 Min
Conductor	08/04 2:00 p.m.	10 Hrs 11 Min	08/01 8:23 a.m.	78 Hrs 37 Min

7.3 Train Crew Previous Safety Related Incidents

The conductor had been previously disciplined three times for safety related incidents. On 05/05/2011, the conductor received a 30-day suspension related to their train traveling through a temporary speed restriction faster than the authorized speed. On 7/30/2018, the conductor received a 30-day suspension for failing to protect a shove movement resulting in a run-through switch and derailment. On 05/29/2024, the conductor received a 30-day suspension for conduct and failure to switch safely and efficiently and verify position of switches and derails resulting in a derailment.

The mentor and student engineer both had no previous discipline on record.

8.0 CARMAN OPERATIONAL INFORMATION

8.1 Carman Work History

The carman was hired by the BNSF on 06/03/2013 as a maintenance equipment apprentice in Havelock, Nebraska. On 01/17/2014 he began working as a freight carman in Lincoln, Nebraska and transferred to Denver, Colorado on 10/01/2014 where he has worked since.

8.2 Carman Qualification Information Table

NAME	HIRE DATE	LAST QUALIFIED MECHANICAL INSPECTOR (QMI) EXAM	LAST MECHANICAL SAFETY RULES QUALIFICATION (MSRQ)
Carman	06/03/2013	01/07/2025	01/05/2024

8.3 Carman Work Schedule

The carman's time sheet records back to 07/01/25 (36 days) were submitted for review and are included in the docket. The carman's records indicate that his regular shift is 3:00 p.m. to 11:00 p.m., Friday through Tuesday. During this period of time, the carman worked 176 hours of regularly scheduled time and 28 hours of overtime.

8.4 Carman Previous Safety Related Incidents

On 02/23/2015, the carman received a 30 day suspension following a vehicle accident for failure to operate a vehicle in a safe manner.

9.0 TRACK

9.1 FRA Track Inspection Notes

On Scene Measurements:

An FRA track inspector conducted post-accident track inspections of the trackage traversed. During the inspections, the following are excerpts from their FRA 6180.96 forms which are included in the docket.

"Performed a post accident inspection of the track to investigate and confirm cause of derailment. The condition of the track did not seem to be a contributing factor. Rail section: 115lbs RMSM and 115 lb NKK Gage: Within Standards Ties: Within Standards Fasteners: Within Standards Ballast: Within Standards Geometry: Within Standards."

"Took more measurements at the accident sight that was needed for analysis. Switch stand for crossover to next switch stand (SW#3-SW#4): 69 feet Switch stand for crossover (SW#3) to SW#5: 163 feet"

10.0 MECHANICAL

10.1 FRA Mechanical Inspection Notes

An FRA mechanical inspector conducted post-accident equipment inspections. During the inspections, the following excerpts were documented on their FRA 6180.96 forms which are included in the docket.

"…conducted a Motive Power and Equipment (MP&E) inspection of freight car no. CKIX 7080. Entirety of freight car was thoroughly inspected, with particular attention given to the B-end. Applicable inspection and observation covered freight car safety standards to include wheels, trucks, bolsters, and car body, safety appliances, and freight car air brake systems. No non-compliant conditions were identified during the inspection."

"…conducted a Motive Power and Equipment (MP&E) inspection of locomotive nos. BNSF 9014 and BNSF 6757. Both locomotives were thoroughly examined and tested. This included locomotive safety standards such as wheels, trucks, traction motors, body, side bearings, sand system, horn/bell and light function, safety

appliance standards compliance, and air brake function testing and compliance. No non-compliant conditions were identified during the inspection."

11.0 INTERNAL OVERSIGHT

On November 25, 1974, the Federal Railroad Administration (FRA) provided notice of intent to move forward with the proposed rulemaking for Part 217-Railroad Operating Rules. Within Part 217, FRA codified internal oversight for railroad operations by establishing minimum requirements for railroads to conduct periodic tests and inspections to determine the extent of compliance with operating rules and timetable special instructions. Title 49 Code of Federal Regulations (CFR) Section 217.9 requires that every railroad have a written program of operational tests and inspections in effect. Employees are tested on various aspects of their job to evaluate their ability to perform their jobs correctly and their knowledge of company rules and federal regulations. This testing not only evaluates the worker's skills and overall ability to perform a task safely and correctly, it also reinforces compliance with rules. A railroad's operational testing program on file with FRA must, at a minimum:

1. Provide for operational testing and inspection under the various operating conditions on the railroad, at various times, and at a variety of locations.

2. Address with particular emphasis those operating rules that cause or are likely to cause the most accidents or incidents, such as those accidents or incidents identified in the quarterly reviews, 6-month reviews, and annual summaries.

3. Require a minimum number of tests and inspections per year covering the requirements of 49 CFR Part 218, Subpart F.

4. Describe each type of operational test and inspection required, including the means and procedures used to carry them out.

5. State the purpose of each type of operational test and inspection.

6. State, according to operating divisions where applicable, the frequency with which each type of operational test and inspection is to be conducted.

7. Identify by name, job title, and division or system, the railroad manager who is responsible for ensuring that the program of operational tests and inspections is properly implemented.

8. Require a record of the date, time, place, and result of each operational test and inspection that was performed in accordance with the railroad's program.

9. Require a record that specifies the railroad manager that performed the operational test or observation and each employee tested.

10. Mandate a review of operational testing results and require adjustments to the program of operational tests accordingly.

11. Mandate a quarterly review when regulations require.

12. Mandate a 6-month review when regulations require.

As a result of the requirements, BNSF conducts tests and observations of its employees in accordance with federal regulations to determine their level of compliance with railroad operating rules. NTSB investigators reviewed BNSF's efficiency testing program and requested specific data regarding efficiency tests for the train crew.

The BNSF program contains specific information for testing officers to be used when setting up and conducting tests. Federal regulations require that each test be described in the program including the means and methods used to conduct the tests. BNSF has established a program of operational testing which contains the required information by regulation which is needed to maintain consistency among its testing officers. A review of the efficiency testing results for the revealed the following:

11.1 Involved BNSF Employee Specific Rule Evaluations (365 days previous)

NAME	FROM DATE	END DATE	TOTAL RULES TESTED	NON-COMPLIANT	NC %
Mentor Engineer	08/06/24	08/06/25	18	3	16.7
Student Engineer	08/06/24	08/06/25	12	0	0
Conductor	08/06/24	08/06/25	50	0	0
Carman	08/06/24	08/06/25	9	0	0

Figure 31: Table of operational testing data for involved BNSF employees. SOURCE: BNSF

The mentor engineer had been evaluated for compliance with 18 operational rules in the past year including aspects of shoving movements, operation of switches and derails as well as a banner (stop) test when operating on other than main track. Of the 18 rules evaluated, there were 3 instances of non-compliance moving the locomotive reverser in the opposite of the direction of travel, failing to use required fuel management tools (Trip Optimizer) and failing to center the locomotive reverser when stopped.

The student engineer had been evaluated for compliance with 12 operational rules in the past year including aspects of shove movements as well as operation of switches and derails. There were 0 instances of non-compliance documented.

The conductor had been evaluated for compliance with 50 operational rules in the past year including aspects of shove movements, operation of switches and derails and a stop test on other than main track. Of the 50 rules evaluated, there were 0 instances of non-compliance documented.

The carman had been observed for compliance with 9 operational rules during the same period while working in Globeville Yard including rules relating to providing blue signal protection on the main track or other than main track. There were 0 instances of non-compliance documented.

11.2 Globeville Yard Rule Evaluations (365 days previous)

BNSF provided operational testing records within the confines of the Denver Globeville Yard for the 365 days preceding the accident. During this period, there were 691 documented evaluations of rules compliance related to protection, controlling and communication during shove movements with 4 instances of non-compliance. There were 141 documented evaluations of rules related to employees riding equipment with 4 instances of non-compliance. There were 100 documented evaluations of rules related to employees providing blue signal protection on main track or other than main track with 0 instances of non-compliance. Finally, there were 338 documented evaluations of rules related to employees operating switches, crossovers and derails with 6 instances of non-compliance.

Operational Testing Rule Categories Evaluated in Globeville Yard	Total Evaluations	Instances of Non-Compliance
Protection, Control and Communication During Shove Movements	691	4
Riding Equipment	141	4
Blue Signal Protection, Main Track or Other than Main Track	100	0
Operation of Switches	338	6

Figure 42: Table of relevant operational testing data performed in Globeville Yard. SOURCE: BNSF

11.3 BNSF Mechanical Safety Rules Qualification

As a part of their 49 CFR part 243 submission, the BNSF developed a training program for employees who engage in safety-related work. BNSF provided their 2025 CFR 243 submission to the NTSB for review. During that review, it was determined that the submission includes, training methods, frequency of training and evaluation, standards and proficiency checklists for mechanical employees.

11.4 BNSF Mechanical Safety Contacts

The BNSF provided evidence of monthly safety contacts performed separately from operational testing by supervisors within the Denver Mechanical Department. The contacts include carmen / car inspectors assigned to Globeville Yard.

12.0 EXTERNAL OVERSIGHT

In June of 2020, as part of an agency restructuring, FRA transitioned eight regional leadership teams into nine Safety Management Teams to serve as the Office of Railroad Safety's main liaison with the senior leadership of the Nation's railroads. Each of the nine safety management teams is assigned to Class I railroads or a group of railroads and provides safety oversight of the respective railroad system(s). The nine-safety management teams are:

- SMT-1: Amtrak, commuter, and excursion railroads in the eastern section of the Nation.
- SMT-2: Short Line East
- SMT-3: Norfolk Southern
- SMT-4: CP/CN/CCD
- SMT-5: BNSF
- SMT-6: UP/KCS
- SMT:7: Commuter and excursion railroads in the western section of the Nation
- SMT-8: Short line railroads operating in the western section of the Nation
- SMT-9: CSX

The Safety Management Teams represent FRA with the railroads, and they communicate and coordinate with FRA's Staff Directors, Accident Analysis Branch, Audit Management Division, and other Safety Management Teams. To carry out its mission, FRA staff includes about 400 Federal safety inspectors and specialists, as well as approximately 200 state inspectors who are spread throughout the US. Safety inspectors focus primarily on five safety disciplines when conducting inspections for compliance and enforcement; those disciplines are:

- Hazardous Materials
- Motive Power and Equipment
- Operating Practices
- Signal and Train Control
- Track

As a part of the 2008 Rail Safety Improvement Act (RSIA), section 401 of this legislation required the development of training standards and plans for categories of railroad employees. As a result, the Federal Railroad Administration published a Notice of Proposed Rulemaking (NPRM) in 2012 and a subsequent final rule in 2014 establishing 49 CFR Part 243 titled Training, Qualification, and Oversight for Safety-Related Railroad Employees. Requiring railroads to establish a training program for employees who engage in safety-related work.

13.0 TOXICOLOGY TESTING

FRA post-accident drug and alcohol tests were administered for the train crew in covered service. The full panel results have been requested from the FRA and will be covered in the Medical Factual Report in the docket.

14.0 INTERVIEWS CONDUCTED ON SCENE

The investigative team conducted 4 interviews relating to this accident on August 6th and 7th 2025 while on scene. Please see docket for full transcripts of interviews. The following are summaries.

14.1 Mentor Engineer Interview Summary

The mentor engineer described their career with the Burlington Northern Santa Fe (BNSF) Railroad starting as a signal maintainer, transitioning to train service and spending the last 12 years as a locomotive engineer. The engineer stated that they originally hired for and currently work out of McCook, Nebraska.

The mentor engineer stated that they were call for train H-LINDEN1-02A with an on-duty time of 2 p.m. on August 4th. Fifteen to twenty minutes after reporting for work at McCook, the mentor engineer stated that the crew consisting of the mentor engineer, a student engineer and a conductor, got into a van. The van took the crew to the train which was at a location named Corona. According to the mentor engineer, they took control of the train and took the train west towards Denver. The mentor engineer stated that the student engineer operated the controls of the locomotive under their supervision for the entire shift. On the way towards Denver, the train went through several sidings but had no work to perform along the way.

Once the train arrived at Denver, the mentor engineer stated that the conductor contacted the 38th Street Yardmaster who gave them instructions to pull into track 104 and put whatever did not fit into track 103. The mentor engineer stated that they had never yarded a train into these tracks and that they were not aware that track 103 had a crossover switch within it. When asked what is the normal yarding procedure in their experience, they said that they yard in track 45 (145) or 44 (144) According to the mentor engineer, the train pulled into track 104 to the south end of the track and stopped because the switches ahead were not yet lined for their continued movement and also to obtain permission to come out of track 104 from the 31st Street Yardmaster. The mentor engineer stated that after stopping, they

received permission to come out of track 104 and line towards the south lead for head room while the 38th Street yardmaster would let them know when the rear of the train was in the clear in track 104.

After pulling the rear of the train into track 104, the conductor obtained in-between protection and secured the rear portion of the train and a release test[1] was performed according to the engineer. After securing the rear portion of the train, the conductor cleared the in-between protection and told the train to pull forward to clear the track 104 switch counting the train down to a stop once clear. The mentor engineer stated that after the train stopped, there was a period where they could not hear the conductor over the radio and stated that there was radio communication between other jobs working on radio channel 39. According to the mentor engineer, the train was not moving at this time and radio contact with the conductor was eventually re-established.

When communication with the conductor was re-established, the conductor communicated that they were "on point protecting, back thirty" according to the mentor engineer. The mentor described the train handling method used by the student engineer to initiate the shove movement and stated that after moving about 4 cars, the train experienced an uncommanded emergency brake application[2]. No further radio transmissions after the initial instructions for the shove movement were received from the conductor.

After the train went into uncommanded emergency, the mentor engineer stated that he called "emergency, emergency, emergency" out over the radio. They said that an unknown person told them via radio that they have a man down and that

[1] In-between protection (also known as 3-step protection) is a process of ensuring the train will not move while a crew member is in between equipment requiring specific communication between the crew member at the controls of the locomotive and the crew member requesting to go in between the equipment. A securement test is a process of releasing the train's airbrakes to ensure that the hand brakes that were secured are sufficient to prevent undesired movement of the equipment to be left behind.

[2] An uncommanded emergency (also known as an undesired emergency) brake application is when the train air brake system rapidly loses pressure causing the brake system to apply in full force without being commanded to do so by the person operating the controls of the locomotive.

there are cars everywhere. In response, they again transmitted emergency, warned all traffic in Denver to stop and attempted to contact the 31st Street Yardmaster.

The mentor engineer stated that they were aware of BNSF operating restrictions regarding tracks that are designated as "close clearance". According to the mentor engineer, the restriction prohibited an employee from riding a car down a track designated as close clearance unless an adjacent track was also clear. They identified tracks 101 to 120 as being designated as close clearance tracks in the Globeville Yard and stated that they knew track 104 was occupied with the cars that had just pulled in, but stated that they did not know if track 102 was occupied with cars at the time. Regarding determining the position of switches, the mentor engineer stated that they always look at the alignment of the track instead of relying on switch targets[3].

Investigators spoke with the mentor engineer about job briefings at several points during the interview.[4] Investigators asked if a job briefing was conducted when the crew arrived at Denver and he did not recall.

The mentor engineer recalled providing "*step-by-step*" instructions to the student engineer on how to make the shoving movement that occurred prior to the collision. He indicated that he wanted to help the student trainee gain "*experience shoving a train on air because we got someone riding*." The mentor engineer said that he had no additional radio communication with the conductor after the initial shove instructions. He said that the student trainee was "*doing a very good job*" controlling the train when it went into emergency. He indicated that the train going into emergency was the first indication that there was an issue, and prior to that point he had no concerns about the movement.

[3] Switch targets are visual indicators attached to switch machines that often display different colors that may correspond to a switch being lined for it's normal or reverse position. They can be reflective to increase visibility in low light conditions.

[4] Document: Interview – Mentor Engineer

The mentor engineer said that in general when operating at restricted speed he made certain to be on the lookout for switches, derails, men and equipment. He also said that the crew minimized conversation in the cab, except to discuss "*the task at hand*."

14.2 Student Engineer Interview Summary

The student engineer stated that they had worked for BNSF for two and a half years and had been in their current position as a student engineer for approximately three months. Working out of McCook, Nebraska, the student engineer stated that BNSF runs east towards Lincoln, Nebraska and west towards Denver, Colorado. The student engineer estimated that working trains towards Denver was more frequent than working towards Lincoln and estimated that while working for the BNSF they have worked into Globeville Yard between two to four times per week.

Regarding the other crew members called for the H-LINDEN1-02A, the student engineer stated that they had worked with the mentor engineer and the conductor before and had no issues with the performance of either. When asked about the conductor prior to the accident, the student engineer did not identify anything out of the ordinary.

The student engineer said that the train was called on duty at 2:00 p.m. in McCook and stated that they had to call in to BNSF in order to get put on duty. According to the student engineer, there was some unknown issue that prevented them being called for the train initially.

The student engineer described taking a van from McCook to the train at Corona where the previous crew secured it. After making ready at Corona, the student engineer stated that they proceeded towards Denver taking some sidings along the way to meet passing trains. According to the student engineer, they ran the train the entire trip under the supervision of the mentor engineer and encountered nothing unusual and made no pick-ups or setouts along the way.

Arriving at Denver, the student engineer described the crew speaking with the 38th Street Yardmaster and getting permission to pull into track 104. The student engineer was familiar with the topics covered during a job briefing but stated that he could not remember having one when arriving at Globeville Yard. They stated that the crew spoke with the 31st Street Yardmaster at the south end of the yard and received permission to come out of track as well as routing for head room, a signal and permission to make a reverse move to shove the rest of their train into track 103. The student engineer stated that the conductor got off the locomotive at the south end of track 104 to line the switch for movement out of the track. The 38th Street Yardmaster advised the train when the rear was in the clear in track 104 and the train was brough to a stop. The conductor secured the rear portion of the train and then the train was cut away by pulling forward a short distance to clear the track 103 switch.

The student engineer stated that there was a period before the shove movement where they could not hear the conductor's radio and stated that there were people talking over each other[5], but only while the train was stopped. The student engineer considered this communication problem to be minor and said that it did not affect the shove as it had not yet begun.

When radio communication was reestablished, the conductor gave instructions that they were on the point protecting the shove (riding the equipment), back up 30 according to the student engineer. The student engineer described initiating movement, then applying a minimum airbrake application after the conductor reported that they were moving. During the shove, the student engineer stated that the locomotives were maintaining a speed of 5 to 7 mph in their estimation. After moving about 5 cars, the train experienced an uncommanded emergency brake application and came to a stop. The student engineer stated that they never heard

[5] Where multiple radios are transmitting on the same channel at or near the same time as in a rail yard, stronger signals or those that are physically closer to the receiver can often be heard over others. This may cause weaker radio signals to not be clearly received until other radio traffic has subsided.

anything additional from the conductor. The mentor engineer called out the emergency broadcast over the radio to stop other traffic in the yard, and they heard "man down, cars everywhere" from an unidentified source over the radio according to the student engineer. After this radio transmission, they received no further information and were later picked up from the locomotive and relieved by another crew.

The student engineer stated that they did not recall ever having been in track 104 or 103 at Denver Globeville yard specifically, but if he had it would have been only on the north end of the tracks. The student engineer was aware that close center tracks at Globeville were identified by specific instructions on the Brush Subdivision , but could not say what tracks were so designated. Regarding shove movements, the student engineer did not recall if there was a requirement for crews to communicate the position of switches in the route of a shove move. The student engineer stated that they had been to Globeville yard several times as a conductor and student conductor, but that they had never received any specific training or familiarization for the yard but was given a yard map. The student engineer stated that they were focusing on the tracks and switches ahead of their train while operating in the yard and did not focus on if track 102 had equipment in it and did not know there were crossover switches between tracks 103 and 102.

Regarding the position of switches, the student engineer was aware that switches in the Globeville Yard have red and green targets that can give an indication of which way a switch may be lined but stated that observing the switch points is the primary means to determine switch alignment. The student engineer stated that they had been in the Globeville Yard at night as a conductor and could not recall any specific issues with visibility that the use of a railroad supplied lantern would not be sufficient to remedy.

Investigators spoke with the student engineer about job briefings at several points during the interview.[6] The student engineer recalled that his crew had a radio

[6] Document: Interview – Student Engineer

conversation with the yardmaster upon arriving at the yard. However, he did not recall if they had a job briefing at that time (upon arriving at the Globeville yard).

The student engineer recalled having a discussion with the mentor engineer about taking control of the train because he needed to gain experience operating in the yard.

Investigators also asked the student engineer to discuss job briefings in general. The student engineer said that "*we're going to brief any time something changes.*" When asked if that would include arriving at a yard, he said, "*Once we have instructions on where we're going, yeah, we're going to brief on… where we're going, what we need to be watching out for."* When asked for an example of topics that might be discussed during a job briefing, he said:

> *"I mean, it's more of a conversation about, you know, where we're going, what we're doing, where we need to put cars and what we need to be looking for, you know, what lead we need to go down, stuff like that is what we're discussing."*

14.3 Yardmaster Interview Summary

The yardmaster outlined their 29-year railroad career with the Burlington Northern Santa Fe (BNSF) Railroad. The yardmaster has held various positions throughout their career and has been in their current role since 2010. In addition to their duties, the yardmaster also is a part-time general chairman for the SMART-TD union representing yardmasters for a total of 6 railroads.

The yardmaster described their current work schedule and days-off. According to the yardmaster, there are 3 yardmasters positions at BNSF Globeville Yard with two of them concerned with the Globeville yard while the third controls operations at the

Rennix intermodal yard as well as Pueblo, CO. The two yardmasters controlling Globeville Yard are known as the 31st and 38th Street Yardmasters each controlling opposite sides of the BNSF Globeville Yard. The yardmaster stated that his current position and on the night of the accident is working as the 31st Street Yardmaster on 2nd shift (2:00 p.m. to 10:00 p.m.). On the night of the accident, the yardmaster was forced to work over until 2:00 a.m., which he said was rare.

According to the yardmaster, their position is considered to be one of the top 5 busiest desks to work on his territory. They stated that BNSF uses an operating condition (OPCON) rating system to track the overall state of the railyard. They described OPCON 1 as "life is good", OPCON 2 as "I'm in danger" and OPCON 3 as "I'm a mess". The yardmaster stated that the BNSF Globeville Yard had been in OPCON 3 for "a while". According to the yardmaster, the BNSF Globeville Yard had been experiencing a backlog for the previous 2 weeks and stated that processing trains in the yard with 2-person crews instead of the 3-person crews used prior to the most recent labor contract took longer to do. On the night of the accident, the yardmaster stated that there were about 7 trains trying to get into the Globeville Yard to terminate.

The yardmaster stated that the accident train was a Lincoln to Denver train and that these trains normally carry 2 blocks. They explained that the normal move is for these trains to pull into track 104 on the south side of the yard and leave behind the block of cars that get processed on that side of the yard, then take the head portion of the train to the north side of the yard where the cars on the head-end block are processed. On the night of the accident, there was no track available on the north side of the yard. They stated that track 104 (a normal track for this train) was clear as well as track 103. Track 103, according to the yardmaster, just happened to be clear at the time and would hold the remainder of the inbound train. They said that track 103 is normally reserved for building outbound trains but made a decision to take the train in with a plan to yard the inbound train into track 104, then put the head-end portion into track 103.

The yardmaster said that the Brush Subdivision dispatcher brought the accident train in towards Globeville Yard from Tonville. Once the train arrived at the yard, they obtained permission to enter the yard from the 38th Street yardmaster who was already aware of the yarding plan and the train started down track 104. Once the train pulled into track 104, they had to speak to the 31st yardmaster before coming out of track 104 as there was another job working at that end of the yard at the time.

Once the other job reported that they were out of the way, the 31st street yardmaster gave the accident train permission to come out of track 104 and instructed them that they would need to line a switch for head room to pull out enough to complete their move. In addition, the train would also need to pass a signal to make this move which the yardmaster arranged with the Brush Subdivision dispatcher. The yardmaster stated that the 38th Street Yardmaster watched the rear of the train and told the accident train when the rear of the train had cleared into track 104. After clearing the rear of the train in track 104, the train stopped. The yardmaster stated that the conductor secured the rear portion of the train and the cut the head portion away. The yardmaster remembered asking the conductor what car he came out of the track with in order to update the track information. According to the yardmaster, the conductor at first gave the approximate number of cars instead but later gave the car number as requested when the yardmaster rephrased the question. The yardmaster stated that he remembered there being some issues with radio communication between the conductor and the lead locomotive.

The yardmaster recalled that the conductor made a radio transmission to the locomotive stating that he was riding and requesting the train to shove back for 30 cars. At around 12:10 a.m., the yardmaster said he heard a "man down" radio transmission and saw cars "accordioned all over the place" when they looked back at the camera display. He stated that he alerted the trainmaster of the accident and called 911 on his personal cell phone. In addition, the yardmaster stated that he sent employees to the yard entrances to guide emergency services in to the scene of the accident and sent others to aid the conductor. According to the yardmaster, it took about 2 minutes for someone to reach the conductor and inform them that the

conductor was pinned under a derailed railcar that was leaning over. They stated that emergency services arrived within 10 minutes of the 911 call and that the injured conductor was transported away at 12:52 a.m. During the emergency response, the yardmaster stated that there was an emergency response guide available to reference in the desk, and that the staff at Globeville Yard had performed table-top emergency drills in the past and were aware of what the procedures were.

The yardmaster stated that they did not know the crew members of the accident train, but based on their performance up until the accident, did not have any concerns with their abilities to perform the tasks they were instructed to do while yarding their train. When asked about the crossovers between tracks 102 and 103, the yardmaster stated that they are not often used and gave their opinion that yard operations would not be impacted if the crossovers were removed.

Investigators asked the Yardmaster to discuss job briefings in general, and he provided the following descriptions:[7]

> *"Job safety briefing is a big thing, it's required at the beginning of your shift or any time conditions must change."*
>
> *"The other is if you're with a derailment or a work train, it must be done every four hours, these are specified in the rulebook, okay."*
>
> *"A job safety briefing at the beginning, these are what we plan to do for the work, there's the track condition messages for these that say that there are things there, anything, maintenance of way has been working on 13 track, therefore watch for walking conditions that are there, okay, anything like that, it's been raining, so 9 track is under water, watch for that or sumping conditions, okay. We know that we're going to be shoving long cars into short, do not kick those, the drawbars are kick over.*

[7] Document: Interview – Yardmaster.

These are things that are part of an individual job safety briefing, this is where we all get together, we talk, it can happen on the lead, it can happen on a locomotive, it can happen in a crew room, it happens anywhere. Then the second thing you're talking about is functions of the job, okay, this right here is covered by the rules, the G-Quarterly (ph.) safety rules [GCOR],[8] that type of stuff. What happened right here, coming into the yard, 4 track, double to 3, there's your instructions, that's not a job safety briefing where we talked about specific risks to the task at hand, okay. As he goes to shove back in, he says I'm on the ground or I'm riding 30 cars, I'll ride to shove, that's not a job safety briefing, that right there is a function of the job of what we do."

The Yardmaster was asked if there was an expectation that crews would have a job briefing upon arriving at a yard. He said:

"Specifically, as a job safety briefing, as per what the rules would say, it's -- no, it doesn't fit that mold, okay. They must discuss the actions, what they plan to do, where they're going to do, but to sit down and have a detail of all the things there, one is talking about what we're going to do, the other's a job safety briefing.

Okay. And they're very similar but defined by rules differently."

14.4 Carman Interview Summary

The carman described their 12-year career with the BNSF railroad. Starting out in Lincoln, Nebraska and then transferring to Denver, Colorado about a year later after completing their apprenticeship. They stated that during their time as a carman,

[8] GCOR stands for General Code of Operating Rules, a set of operating rules for railroads in the United States. Some railroads modify the GCOR rules to suit their specific operations.

they have worked multiple assignments as a carman including road truck, working in the RIP tracks and out in the train yard.[9] The carman stated that in order to retain their qualified mechanical inspector (QMI) status, they must pass a yearly examination. At the time of the accident, the carmen held a train yard assignment on 2nd shift which was from 3:00 p.m. to 11:00 p.m. on August 4th. They stated that they were forced to stay over to work 3rd shift, 11:00 p.m. to 7:00 a.m. into August 5th but was released around 3 a.m. after the accident. They described this position as requiring lockout and blue signal protection while working both inbound and outbound trains as assigned by the lead carman for the shift.

They described working outbound trains as lacing (connecting) air hoses between rail cars and inspecting the cars for defects as well as performing federally required air brake tests. Working inbound trains was described as bleeding the air from cars air brake system and performing inspections for defects. At the time of the accident, the carman reported that they were working on track 24 (124) and did hear a loud bang. The lead carman radioed the carman working in the yard to check on their status which made them believe that something may have happened. Later, they observed the lead carman riding their four-wheeler towards through the yard and followed them according to the carman.

After the accident, the carman stated that they were on the scene early. They said that at the time there was concern if the emergency vehicles would be able to get to the accident location and that he was directed to get the car department's pick-up truck in case the injured conductor had to be transported to the emergency responders. When they returned to the scene with the truck, first responders had already made it to the accident scene.

When asked about their activities between 3:00 p.m. and 11:00 p.m. during 2nd shift on August 4th, the carman recalled working track 144 with track 143 as adjacent

[9] RIP tracks are designated track within a rail yard where rail cars are brought for carmen repair. Road truck assignments as a carman involve traveling to points outside of rail facilities in a repair truck to repair or inspect cars at various locations. Working train yard assignments as a carnman can include performing inbound or outbound railcars inspections and air tests as well as minor repairs.

protection then working an inbound train on track 113 and another inbound train on track 104 with track 103 as adjacent protection.[10]

According to the carmen, lock out / blue signal protection is the process of making it impossible for any moving equipment to be able to come into the track that is being worked. They said that this is protection is established by lining away the switch or switches that can be used to enter the track if they are not already lined away including both ends and any intermediate switches where access may be possible, applying a car department lock to the switch so that it cannot be operated to allow entry to the track and finally placing a blue flag between the rails of the track to provide additional warning that the track is protected.

When asked about the lock out / blue signal protection they used when working track 104 with track 103 as adjacent protection, the carman stated that there is a pair of crossover switches that allow movement between tracks 103 and 102 and agreed that lining the crossover switch in track 103 towards track 102 was necessary to provide lockout / blue signal protection for track 103. The carman was unsure if he had lined the crossover switch in track 103 into track 102 or if the crossover switch was already lined but did remember applying a lock to the crossover switch after verifying it was lined for crossover movement into track 102. The carman was asked if they would have lined the 103 to 102 crossover switch back after lockout / blue signal protection was no longer required. The carman said that they would not have been required to restore any switch lined for protection while working within the confines of a yard and stated that they believed that the crossover was left in the crossover position. The carman stated that the only exception to not restoring switches after lining them away for protection was when working with switches connected to the main line.

The carman stated that “since day 1, we’re taught not to throw switches when we’re done working a train”. The carman stated that when locking out track 103, there

[10] Adjacent protection refers to locking out a track immediately next to the track that contains the equipment to be inspected or worked allowing a safe space between the two tracks for the employee to work in.

was no other way to establish lock-out / blue signal protection than by lining the crossover unless track 102 was also protected. In the scenario encountered leading up to the accident, the carman did not have authorization to establish protection on track 102, only tracks 103 and 104. Regarding restoring crossover switches after use specifically, the carman stated that they believed that the general guidance of not lining switches back after use applied. The carman stated that typically, both switches of a crossover would be left in correspondence with each other with either both switches line for straight movement, or both switches lined for crossover movement.

The carman was asked how they determine if a switch is properly lined for their intended purpose, they stated that they look at the switch points themselves instead of relying on the red or green switch target. While working at night, the carman said that they use a light to assist in identifying the position of switches.

15.0 SHOVE MOVES

15.1 Federal Requirements for Shoving Movements

49 CFR Part 218 Subpart F 218.99 is titled Shoving or Pushing Movements. This regulation requires railroads to adopt and comply with the requirements of this section and is included in the docket.

Section 218.99 (b) (1) covers the job briefing that must occur between the locomotive engineer and the employee who will direct the move.

"(1) ***Job briefing.*** Rolling equipment shall not be shoved or pushed until the locomotive engineer participating in the move has been briefed by the employee who will direct the move. The job briefing shall include the means of communication to be used between the locomotive engineer and the employee directing the move and how point protection will be provided".

Section 218.99 (b) (3) covers the point protection requirements of this regulation.

"(3) ***Point protection.*** When rolling equipment or a lite locomotive train with two or more locomotives that is operated from a single control stand is shoved or pushed, point protection shall be provided by a crewmember or other qualified employee by:

(I) Visually determining that the track is clear. The determination that the track is clear may be made with the aid of monitored cameras or other technological means, provided that it and the procedures for use provide an equivalent level of protection to that of a direct visual determination by a crewmember or other qualified employee properly positioned to make the observation as prescribed in this section and appendix D to this part; and

(ii) Giving signals or instructions necessary to control the movement."

15.1.1 Federal Regulation Definitions

In Section 218.93, definitions for the subpart are set forth. The following is an excerpt from that section:

Track is clear means:

(1) The portion of the track to be used for the intended movement is unoccupied by rolling equipment, on-track maintenance-of-way equipment, and conflicting on-track movements;

(2) Intervening public highway-rail grade crossings, private highway-rail grade crossings outside the physical confines of a railroad yard, pedestrian crossings outside of the physical confines of a railroad yard, and yard access crossings are protected as follows:

(I) Crossing gates are in the fully lowered position, and are not known to be malfunctioning; or

(ii) A designated and qualified employee is stationed at the crossing and has the ability to communicate with trains; or

(iii) At crossings equipped only with flashing lights or passive warning devices, when it is clearly seen that no traffic is approaching or stopped at the crossing and the leading end of the movement over the crossing does not exceed 15 miles per hour;

(3) Intervening switches and fixed derails are properly lined for the intended movement; and

(4) The portion of the track to be used for the intended movement has sufficient room to contain the rolling equipment being shoved or pushed.

15.2 BNSF Operating Rules Related to Shoving Movements

BNSF subscribes to GCOR for the basis of their general rules and modifies them as necessary[11]. BNSF provided a copy of their General Code of Operating Rules Eighth Edition effective April 1, 2020 BNSF edition which includes BNSF amendments through July 1, 2025 for review as referenced in Section 8 of this report.

[11] GCOR stands for General Code of Operating Rules, a set of operating rules for railroads in the United States set by a consortium of participating railroads. Some railroads further modify the GCOR rules to suit their specific operations and requirements.

15.2.1 Serious Injury or Fatality Rule Designation

Within the BNSF amended GCOR, BNSF identifies SIF. BNSF defines SIF as "a Serious Injury or Fatality (SIF) event is an incident or near miss that has the potential to, or does, result in a fatal or life-altering injury or illness. Where this icon is displayed, it represents a rule that has been identified to mitigate risk of a SIF for all BNSF employees."

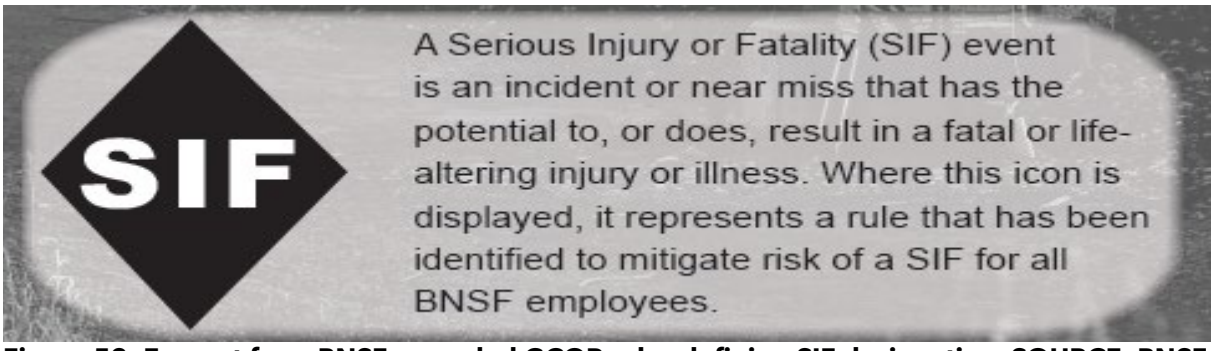

Figure 53: Excerpt from BNSF amended GCOR rules defining SIF designation. SOURCE: BNSF

15.2.2 BNSF Amended GCOR 6.5 Shoving Movements Rule

BNSF identifies rule 6.5 as a SIF rule as outlined in the report section above with an SIF black diamond icon following the rule title in their provided rulebook.

Figure 64: Excerpt from BNSF amended GCOR rules showing how certain rules are identified as SIF rules. SOURCE: BNSF

Contained in the BNSF amended 6.5 rule are point protection requirements:

Equipment must not be shoved until it is visually determined by a qualified employee that:

- To the extent of the observer's range of vision and the portion of the track that is to be used for the intended movement is clear.
- The track will remain clear to the location where movement will be stopped.
- Switches and derails are properly lined for the intended movement.

Equipment must not be shoved until the engineer and the employee protecting the movement have completed a job briefing.

Requirements for shove moves controlled via radio communication are also outlined in the following rule excerpt:

> Before beginning a shove movement using radio communication, the employee providing protection must include the necessary information (Who, How, Direction, Distance). In addition, the employee controlling the engine must verbally acknowledge by repeating the following:
>
> • WHO will protect the shove.
>
> • HOW the shove will be protected.
>
> • DIRECTION- described in relation to the front of the controlling locomotive (F stencil). Use the following terms:
>
> - "Ahead" to move forward.
>
> - "Backup" to move backward.
>
> - "Stop" to stop the movement.
>
> • DISTANCE to be shoved and must:
>
> - Not exceed the observer's range of vision.
>
> - Use 50 feet as a standard for one car length.
>
> - When moving, employee controlling the engine must verbally acknowledge radio instructions by repeating the distance communicated when more than four cars.
>
> Movement must stop within the half the distance specified unless additional instructions are received.

16.0 HUMAN PERFORMANCE / JOB BRIEFING

16.1 Train Crew Work History Overview

A review of the conductor's 30-day work history shows that the conductor worked out of McCook, NE and had been called to work 14 times prior to the day of accident. The conductor had worked eastbound trains from McCook, NE to both Hastings and Lincoln, NE as well as westbound trains to Denver, CO making at least one trip to each location during the 30-day work history review. In addition, the conductor also worked at least one yard assignment in McCook. Most recently, the conductor had worked from McCook to Denver and back between July 15th and 16th, about two weeks prior to the accident. The conductor had last worked on August 1st.

The mentor engineer also worked out of McCook, NE and had been called to work 16 times in the 30 days prior to the day of the accident. The mentor engineer also worked east towards Lincoln, NE making two round trips between McCook and Lincoln. The mentor engineer also west toward Denver, CO making six round trips between McCook and Denver during this timeframe and had made his most recent round trip to Denver between July 29th and 30th on his last tour of duty prior to the accident.

The student engineer also worked out of McCook, NE and had been called to work 7 times prior to the day of the accident. During this timeframe, the student engineer worked east between McCook and Lincoln, NE and west between McCook and Denver, Colorado including Akron, CO. The student engineer had most recently made a round trip between McCook and Denver between July 14th and 15th.

16.2 Conductor Training

According to BNSF Railway records, the conductor's original hire date was 5/1/2006, at which time his job title was indicated as brakeman.[12] The first date his job title is indicated as conductor is 9/26/2006. He also worked as a switchman. He completed an assortment of training courses between 12/31/2007 and 2/4/2025.[13] A partial list of training subjects includes:

- Hazard communication
- Cybersecurity
- Power brakes
- Sleep and fatigue
- Hours of service
- Occupational safety and health
- Transportation rules
- GCOR Rules
- Certification rules
- Territory rules
- Government regulations
- Electronic devices
- Transportation of hazardous materials
- Dual control switch operation
- Hearing education
- Risk
- Unusual conditions
- Positive train control

16.3 Conductor Work Schedule

The conductor reported for work at 2:00 p.m. on the day before the collision, which occurred at about 12:11 a.m. on August 5, 2025. He had been on duty for about 10 hours and 11 minutes when the accident occurred. This was the longest

[12] Document: Conductor Employee Transcript
[13] Document: Conductor Training

shift that he had worked in the prior 14 days. Prior to the start of that shift, he had been off duty for about 77 hours and 37 minutes. In the 14 days leading up the accident (including the hours he worked on the day of the accident before it occurred), the conductor had worked about 35 hours and 22 minutes.[14]

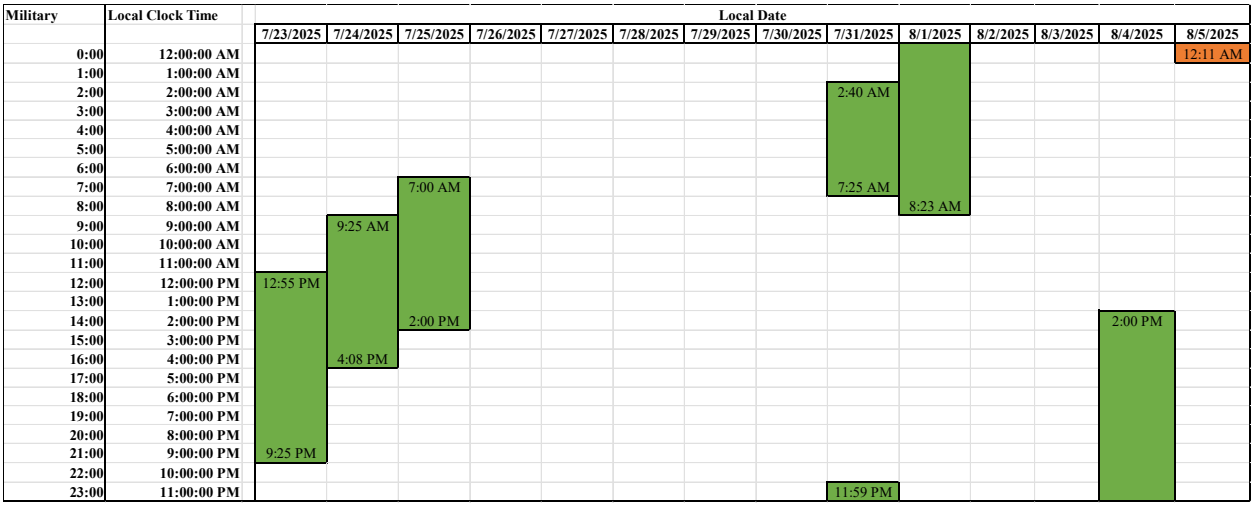

Table 1. Work Schedule of the Conductor Preceding the Accident. Hours worked are generally shown in green/outlined blocks that correspond to the 24 hours of the day (y-axis). The specific shift start and end times are written at the top and bottom of the green/outlined blocks. The estimated accident time (12:11 a.m.) is shown in orange. At the bottom of the table, 'Time' indicates the total shift time, and 'Time Away' indicates the total time between shifts.

16.4 BNSF Job Briefings vs. Job Safety Briefings Defined

16.4.1 Job Briefing

In the BNSF-amended GCOR rules, the term "job briefing" is not defined in the included glossary. As the term applies to shoving movements, it is referenced in rule 6.5.1 Remote Control Movements, in the following excerpt:

[14] Document: Conductor Work Schedule

Exception:

After conducting a job briefing (Who, How, Direction, Distance) with the employee who will be protecting the movement, the controlling operator is not required to transfer control when:

- Stretching a track to ensure couplings are made.
- Separating equipment to make coupler adjustments.

or

- Movement is protected by a qualified employee not equipped with an OCU.

In the provided BNSF TY&E Safety Rules dated June,1 2025, the term "job briefing" is also not defined and only appears once in rule S-13.1.11 Installing or Removing a Marker where ensuring protection before fouling equipment to install an end of train marker is discussed.

16.4.2 Job Safety Briefing

In the provided BNSF TY&E Safety Rules dated June,1 2025, rule S-1.1 titled Job Safety Briefing outlines communication employees must engage in to identify tasks to be performed, risk exposures and reviewing ways to control or minimize such risks. As it is written, employees will participate in this briefing at the beginning of the shift, before changing jobs and as conditions change.

16.5 Previous Industry Guidance on Job Briefings

Several organizations have examined the role of job briefings in safety.

16.5.1 Federal Railroad Administration

The Federal Railroad Administration (FRA) has emphasized the importance of job briefings. In 2016, the FRA issued Safety Advisory 2016-02 titled: "*Identification*

and Mitigation of Hazards Through Job Safety Briefings and Hazard Recognition Strategies."[15] The following excerpt is the summary from the advisory:

> *"FRA is issuing Safety Advisory 2016–02 out of concern for the number of railroad and railroad contractor fatalities that occur when roadway workers perform certain activities that fall outside the scope of FRA's safety regulations, but within the purview of the U.S. Occupational Safety and Health Administration's (OSHA) regulations. FRA is issuing this Safety Advisory to remind railroads and railroad contractors, and their employees (including roadway workers) of the importance of identifying hazardous conditions at job locations, conducting thorough job safety briefings to discuss the hazardous conditions, and taking appropriate actions to mitigate those conditions. This Safety Advisory reminds railroads, railroad contractors, and their respective employees that OSHA's job safety regulations may apply to certain roadway worker activities and makes recommendations for hazard recognition strategies and challenge procedures that could improve roadway worker safety while roadway workers are engaged in activities subject to OSHA's regulations. FRA considers this Safety Advisory responsive to the National Transportation Safety Board's (NTSB) Recommendations R–14–33, R–14–35, and R–14–36."*

The following text is an excerpt from the supplementary information section of the advisory:

> *"…FRA reminds railroads and railroad contractors and their respective employees that when their roadway workers are engaged in activities that fall outside the scope of FRA's safety regulations, those activities may be subject to OSHA's regulations. And, those OSHA regulations may require job*

[15] https://www.federalregister.gov/documents/2016/11/28/2016-28558/identification-and-mitigation-of-hazards-through-job-safety-briefings-and-hazard-recognition.

safety briefings prior to beginning certain work activities, and additional job safety briefings if a new hazard is discovered during the work assignment. Job safety briefings, specific to the task or tasks to be performed, provide a mechanism to not only communicate identified risks to every member of the roadway work group, but to also ensure that the roadway work group agrees as to how the identified risks will be mitigated. The job safety briefing is a key component in preventing individual conditions, which can be harmless in isolation, from becoming a potentially dangerous situation.

16.5.2 National Transportation Safety Board

The National Transportation Safety Board (NTSB) has previously recognized the importance of job briefings in worker safety, for example in the following statement:[16]

"Industry needs to ensure that job briefings are done correctly and that procedures are in place to audit those briefings."

NTSB discussed job briefings in their 2014 Special Investigative Report on Railroad and Rail Transit Roadway Worker Protection.[17] The following excerpt is from page 35 of that report:

"Federal regulations contained in 49 CFR 214.315 require job briefings, and it is likely that the accidents may not have happened had more comprehensive job briefings been conducted beforehand. All except one of the accidents discussed in this special investigation report were preceded by some type of job briefing, safety meeting, or toolbox safety talk. The evidence shows that the briefings omitted essential and job-specific elements related to hazard

[16] https://www.ntsb.gov/Advocacy/mwl/Pages/mwl-21-22/mwl-rph-02.aspx.
[17] NTSB/SIR-14/03. PB2015-100583. Notation 8595. Adopted September 24, 2014.

recognition and mitigation. The NTSB believes it is critical that all members of roadway worker groups actively participate in hazard recognition and ensure that hazards are adequately mitigated before work begins. Further, the NTSB believes the previous accident examples and discussion demonstrate that roadway workers are at risk while doing tasks unrelated to the need for on-track protection."

As a result of the special investigation, NTSB issued numerous recommendations to the FRA regarding job briefings and hazard recognition and mitigation:

Revise the portions of Title 49 Code of Federal Regulations (CFR) Part 214 for comprehensive job briefings for roadway workers to include the best practices in the Occupational Safety and Health Administration standards contained in Title 29 CFR Parts 1910 and 1926. (R-14-33)

Revise your national inspection program to include specific emphasis on roadway worker activities, including emphasizing hazard recognition and mitigation in job briefings. (R-14-34)

Require initial and recurring training for roadway workers in hazard recognition and mitigation. Such training should include recognition and mitigation of the hazards of tasks being performed by coworkers. (R-14-36)

These three recommendations have all been closed because the FRA completed an acceptable action.

16.5.3 Confidential Close Call Reporting System

The Confidential Close Call Reporting System (C^3RS) is a partnership between the National Aeronautics and Space Administration (NASA), the FRA, in conjunction with participating railroad carriers and labor organizations.[18] It is designed to improve railroad safety by collecting and analyzing reports which describe unsafe conditions or events in the railroad industry. Employees can report safety issues or "close calls" voluntarily and confidentially. By analyzing these events, potential life-saving information can be obtained to help prevent more serious incidents in the future. A 2016 issue of Inside the Rail from C^3RS discusses job briefings.[19] According to the report:

> *"The team of C^3RS Expert Rail Safety Analysts at NASA all agree: communication is key to safety. Job Briefings are one of the methods of communicating operational and environmental factors on the railroad. A Job Briefing is a conversation about the work to be done, how to accomplish that work and the potential safety hazards that might be encountered. It is important that pertinent information is provided and understood. In the initial Job Briefing, questions or discrepancies should be discussed and resolved. New information must be shared immediately, the Job Briefing should change as the situation changes. Repetition of instructions should be utilized to confirm that information has been received correctly."*

The report discusses 3 close calls that might have been prevented with better communication.

[18] https://c3rs.arc.nasa.gov/about.html.
[19] https://c3rs.arc.nasa.gov/docs/itr/C3RS_InsideTheRail_Issue2.pdf

16.5.4 Fatality Analysis of Maintenance-of-Way Employees and Signalmen (FAMES)

According to the FRA:[20]

On April 24, 2009, the Federal Railroad Administration (FRA) invited railroad labor and management representatives to Washington, D.C., to form an ad-hoc committee to review roadway worker fatalities which occurred since January 1997. Additionally, the Committee was tasked with reviewing roadway worker fatalities at highway-rail grade crossings that are not classified as Roadway Worker Protection (RWP) events. The Committee became known as the Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES).

FAMES is a voluntary, consensus-based Committee focused on identifying risks, trends, and factors impacting roadway worker safety. FAMES will periodically issue findings and recommendations based upon its review of available safety data. The Committee's activities are focused on education and prevention. The findings and recommendations of FAMES are separate from the regulatory process.

The FAMES committee examined the topic of job briefings. A report from the committee states that it analyzed 62 fatal Roadway Worker Protection (RWP) accidents that occurred between 1997 and 2023, in which 66 roadway workers sustained fatal injuries.[21] They identified an insufficient or nonexistent job briefing (or re-briefing) as a possible contributing factor in 25 (38%) of the accidents.

[20] https://railroads.fra.dot.gov/sites/fra.dot.gov/files/2025-07/FAMES_Intro_7-15-25.pdf.
[21] https://www.aslrra.org/aslrra/document-server/?cfp=aslrra/assets/File/public/safety/fames/FAMES_OTS_Briefing_7_26_2023.pdf.

16.5.5 Switching Operations Fatality Analysis

In 2020, the Switching Operations Fatality Analysis (SOFA) group published a document pertaining to job briefings.[22] The group, which has members from multiple unions and the FRA, reported that it has reviewed more than 210 switching operations fatalities since 1992. SOFA concluded that inadequate job briefings contributed to 20% of switching operations fatalities.

17.0 POST-ACCIDENT ACTIONS

17.1 Safety Flash Communication

On August 6, 2025, BNSF released a Safety Briefing to all transportation employees via electronic distribution describing the general details of the accident. The briefing identified 3 GCOR rules for review including 6.5 Shoving Movements, 6.28 Movement on Other than Main Track and 8.12 Hand Operated Crossover Switches.

[22] https://railroads.dot.gov/elibrary/sofa-lifesavers-job-brief.

Safety Briefing

Transportation

Employee Seriously Injured on the Powder River Division

SB-2025-09T
Aug. 6, 2025

On August 5, a BNSF employee was seriously injured while yarding a train in Denver Yard in Denver, Colorado, on the Powder River Division.

Please take time to engage with your teams in a Job Safety Briefing (JSB) about this incident and discuss preventive measures to minimize this risk.

While the investigation is still ongoing, this is the preliminary information we know:

At approximately 0015MT on August 5, 2025, an inbound train crew pulled into Denver Yard Track 104 where they secured the rear portion of their train and cut away the head portion to set over to Track 103. There was a standing cut of cars in Track 102 and the crossover switch between Track 103 and Track 102 was lined into Track 102. The conductor was riding the lead car of the shove into Track 103 prior to it colliding with the standing cut of cars in track 102 causing a derailment.

As we continue to investigate the circumstances that led to this incident, we want to take the opportunity to review several critical factors to help ensure all movements are completed safely.

Risk Mitigation

We work in a safe but unforgiving environment with the potential for incidents that could have life-altering or fatal results. **Always remember that no task is more important than your safety and the safety of your co-workers.**

Ask yourself the following questions prior to initiating a shoving movement.

- Did I complete a thorough Job Safety Briefing (JSB) before beginning this task?
- Have I visually verified all switches are lined for my intended route?

Ask yourself the following questions before moving over or through hand-operated crossover switches.

- Are the switches in the corresponding position?
- What position must crossover switches be left in after use?

Please review the following rules:

GCOR 6.5 Shoving Movements SIF

GCOR 6.28 Movement on Other than Main Track SIF

GCOR 8.12 Hand-Operated Crossover Switches SIF

Please note that rules and policies that are in effect at the date of issuance of this publication are subject to change. Contact Safety/Rules to determine validity before you use the information in this document at a later date.

BNSF RAILWAY | We Choose Safety.

Figure 75: BNSF post-accident safety briefing. SOURCE: BNSF

17.2 Discontinuation of Use Pending Removal

Immediately after the track and crossovers were repaired, BNSF added a second track department locking device to both switch machines of the 103-102 crossover locking them in the non-crossover (straight) positions. This effectively discontinued the use of these switches for establishing blue signal or adjacent track protection in the BNSF Globeville Yard. BNSF has reported that the 102-103

crossover and switches are scheduled for removal in the future and has been asked to update the NTSB when the removal of the crossover is complete.

17.3 BNSF System General Order No 24

On October 24th, 2025, BNSF issued system general order number 24. In this general order, BNSF rule S- 13.1.5 was modified to prohibit employees from riding equipment at locations identified by timetable or special instructions as having close track centers. This general order is included in the docket.