Issued: January 20, 2026 Railroad Investigation Report: RIR-26-01

BNSF Railway Maintenance-of-Way Employee Fatality

Location	New Rockford, North Dakota
Date	November 4, 2024
Accident type	Maintenance-of-way employee fatality
Train	BNSF Railway freight train X-PTNNGT2-31A
Vehicle	BNSF Railway welding truck
Track	Single main track intersecting with farm road at highway-railroad grade crossing
Hazardous materials	None
Fatalities	1
Injuries	1
Damage	$250,000

Summary

On November 4, 2024, about 11:00 a.m. local time, a BNSF Railway (BNSF) maintenance-of-way (MOW) employee driving a welding truck was fatally struck by a BNSF freight train as the welding truck was crossing a private highway-railroad grade crossing (grade crossing) at milepost 128.1 near New Rockford, North Dakota.[1] (See figure 1.) Another BNSF MOW employee who was on the passenger side of the welding truck was injured, transported to a nearby hospital, and released. BNSF estimated damages to equipment to be about $250,000. At the time of the accident, visibility conditions were daylight but cloudy with about 4 miles visibility; the weather was 36°F with no precipitation but the ground was wet and soggy.

[1] (a) All times in this report are local. (b) Visit ntsb.gov to find additional information in the public docket for this NTSB accident investigation (case number RRD25FR003). Use the CAROL Query to search safety recommendations and investigations. (c) A *welding truck* is a service truck with a hydraulic system and storage space for construction and maintenance equipment used for welding.

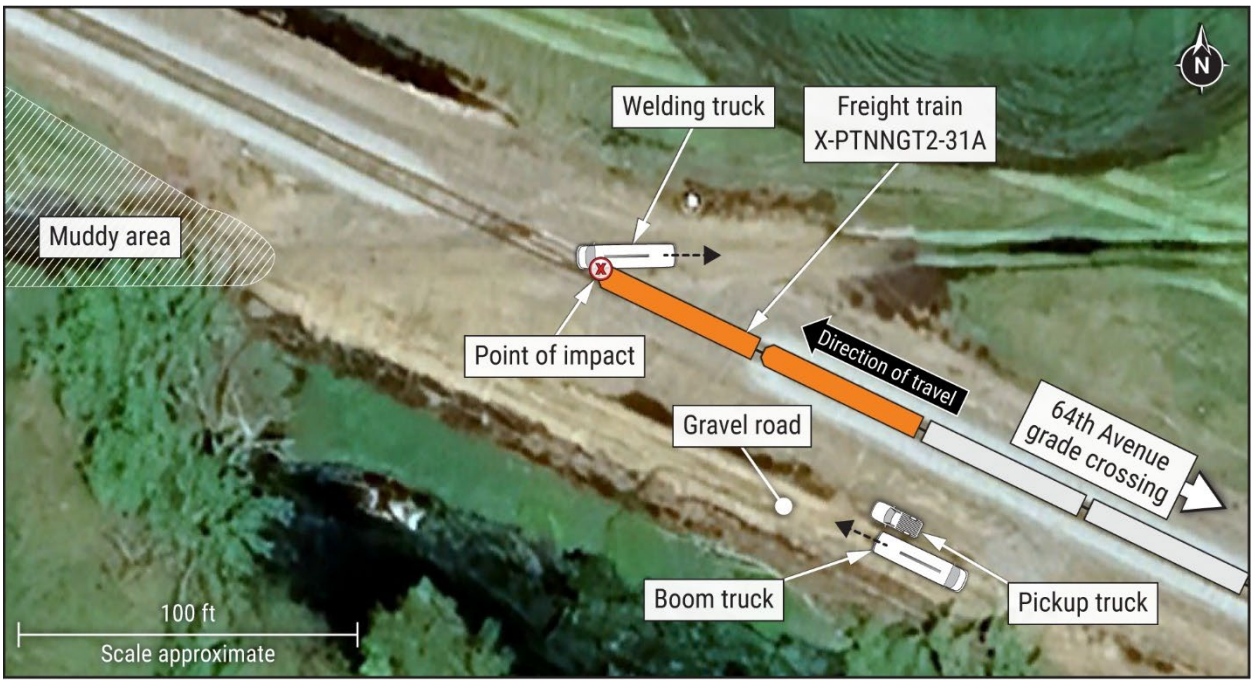

Figure 1. Aerial view of the accident site. (Source: BNSF Railway.)

Background

The BNSF freight train (X-PTNNGT2-31A) consisted of 2 head end locomotives (BNSF 6806 and BNSF 6580) and 116 empty covered hopper cars.[2] The train was westbound from Dilworth, Minnesota, to Minot, North Dakota.[3] The train crew consisted of one engineer and one conductor.

The welding truck was a 2023 Freightliner 114SD, equipped with backup alarms. The MOW employee driving the welding truck was a grinder and the MOW employee on the passenger side of the truck was a welder, who was also the foreman of the welding team.[4]

The accident site had a single main track running southeast to northwest on BNSF's KO Subdivision. The maximum authorized speed for freight trains on the KO subdivision was 55 mph. Train movement on the KO subdivision was coordinated by a BNSF train dispatcher from BNSF's Network Operations Center located in Fort Worth,

[2] A *hopper car* is a freight railcar that is used to transport dry bulk commodities such as grain. It has doors on the undersides for easy discharge of cargo.

[3] See the timetable, Twin Cities Division No. 1. Last updated on September 4, 2024. p. 59.

[4] A *grinder* is an assistant welder who grinds the welds made by a welder to make them smoother.

Texas. The track was signalized and equipped with a positive train control system, which was enabled and operating at the time of the accident.[5]

At milepost 128.1, an unpaved farm road which ran east and west intersected the track at a skew angle of about 30°, making the grade crossing (accident grade crossing) a skewed intersection.[6] The accident grade crossing was paved to facilitate the movement of vehicles and was at a higher elevation than the unpaved farm road. The accident grade crossing was passive but equipped with stop signs on either side of the track for eastbound and westbound vehicles traveling on the farm road.[7] A gravel road on the south side of the track ran parallel to the track. This road was used by MOW employees to access the track for repair work.

Before the Accident

On the day of the accident, a BNSF MOW team had been assigned the task of replacing a defective rail at the accident grade crossing. The MOW team consisted of a welding team and a maintenance team. The welding team consisted of two employees, grinder and the welder, who were in a welding truck. The maintenance team consisted of four employees, the foreman of the maintenance team (who was also the roadway worker-in-charge of the MOW team) and a laborer who were in a pickup truck, and two vehicle operators, who were in a boom truck.[8]

The welding team and the maintenance team met at the MOW office in New Rockford to plan the replacement work. The roadway worker-in-charge had planned for the welding team and the maintenance team to position their trucks on either side of the track so that the rear of the trucks would be within a few feet of the track with the front of the trucks facing away from each other. This position would allow the welding team and the maintenance team to access the hydraulic systems of both trucks to facilitate the replacement work. According to this plan, the welding team and the maintenance team would wait for scheduled trains to pass, the roadway worker-in-charge would then

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[5] A *positive train control system* enforces speed limits and prevents a train from passing through a signal that requires it to stop.

[6] A *skew angle* is any angle less than 90° according to the American Association of State Highway and Transportation Officials in *A Policy on Geometric Design of Highway and Streets*, 7th Edition, 2018.

[7] A *passive grade crossing* is a highway railroad grade crossing which does not have active warning or barrier systems, such as flashing lights or gates.

[8] (a) A *roadway worker-in-charge* is an employee qualified to establish on-track protection for workers. (b) A *boom truck* is a service truck, equipped with a hydraulic crane and a telescoping boom, designed for lifting and transporting materials.

establish track protection and conduct a job briefing, after which the welding team and the maintenance team would begin the replacement work.

Accident Sequence

About 10:40 a.m., the welding team drove down the gravel road on the south side of the track and waited for the maintenance team to arrive. About 15 minutes later, the roadway worker-in-charge of the MOW team and the laborer drove down the same gravel road in the pickup truck and stopped behind the welding truck. Shortly after this, the vehicle operators backed the boom truck down the gravel road and stopped beside the pickup truck. Because the boom truck arrived on the south side of the track, the welding team decided to back the welding truck over the accident grade crossing to the north side of the track because the trucks needed to be on either side of the track to perform the rail replacement work.

NTSB's review of the inward-facing camera in the welding truck showed that at 10:59:45 a.m., the grinder began to back the welding truck toward the accident grade crossing. Video footage from the camera revealed that the welder was mostly looking out of the passenger side window and the grinder was using the side-view mirrors on the driver and the passenger sides to maneuver the truck. Video footage showed that the grinder did not accelerate to clear the track as the train was approaching from the 64th Avenue grade crossing.[9] NTSB's interview with the welder confirmed that he did not see the train as they were backing over the accident grade crossing until about 4 seconds before the accident when he saw the train's headlights in the side-view mirror on the driver side. The maintenance team on the south side of the track saw the train approaching and broadcast warnings over their radios to alert the welder and the grinder.

NTSB's review of the forward-facing cameras in the train's lead locomotive revealed that at 10:59:47a.m., the train horn sounded multiple times as the train approached the 64th Avenue grade crossing. NTSB's review of the inward-facing camera in the train's lead locomotive confirmed that the train crew was alert in the moments leading up to the accident. NTSB's interviews with the train crew revealed that the engineer and the conductor saw the welding truck at 10:59:47 a.m. when the train was approaching the 64th Avenue grade crossing. The engineer sounded the locomotive horn continuously as the train approached the accident grade crossing. Event recorder data showed that the engineer applied the emergency brakes at 11:00:16 a.m. and struck the welding truck at 11:00:19 a.m. before it could clear the accident grade

[9] The 64th Avenue grade crossing was at milepost 127.9, about 400 feet south of the accident grade crossing.

crossing. The train came to a stop at 11:00:56 a.m. The train was traveling about 46 mph when it struck the welding truck. Immediately after the accident, the conductor called BNSF's Network Operations Center to report the accident and request emergency medical services.

Table 1 is a timeline of the accident and Figure 2 is an image from the forward-facing camera of the train's lead locomotive as it approached the accident grade crossing.

Table 1. Timeline of the accident.

Time	Observation	Source
10:59:12 a.m.	The grinder began driving the welding truck forward.	Welding truck inward-facing camera
10:59:45 a.m.	The grinder stopped driving forward and began backing the welding truck toward the accident grade crossing.	Welding truck inward-facing camera
10:59:47 a.m.	The train approached the 64th Avenue grade crossing and the train crew sounded the horn.	Lead locomotive forward-facing camera
11:00:06 a.m.	As the train crossed the 64th Avenue grade crossing, the train crew sounded the horn as the train approached the accident grade crossing.	Lead locomotive forward-facing camera
11:00:08 a.m.	The rear end of the welding truck entered the accident grade crossing.	Lead locomotive forward-facing camera
11:00:16 a.m.	The train crew applied the emergency brakes.	Lead locomotive inward-facing camera
11:00:19 a.m.	The train struck the welding truck.	Lead locomotive forward-facing camera and welding truck inward-facing camera

Figure 2. Image from the forward-facing camera on the train as it approached the accident grade crossing.

BNSF Safety Rule

BNSF Safety Rule S-12.8 on backing vehicles, instructs employees to "position the vehicle, when possible, to avoid backup movement." In cases where there are no other options, BNSF requires a person to be present on the ground to guide the movement. BNSF also requires the person to inspect the ground to the rear of the vehicle and the driver to sound the horn if the vehicle is not equipped with backup alarms and to stop the vehicle if the person guiding the movement disappears from view.[10]

Analysis

On November 4, 2024, a welding truck was backing over a private grade crossing when it was struck by a BNSF freight train. As a result of the accident, the grinder, who was driving the truck, was fatally struck and the welder, who was on the passenger side of the truck, was injured.

NTSB's investigation confirmed that the actions of the train crew did not contribute to the accident. The train crew took prompt action when they saw the welding truck backing over the accident grade crossing and applied the emergency brakes

[10] BNSF Railway. Maintenance of Way Safety Rules. August 4, 2021. Last updated on February 1, 2024. p. 59.

within 8 seconds. The engineer had sounded the horn while going through the 64th Avenue grade crossing and approaching the accident grade crossing.

On the day of the accident, based on ground conditions and the space available to maneuver the welding truck, the welding team decided to back the welding truck over the accident grade crossing. The welder told NTSB investigators that he knew from recent experience of working at the accident grade crossing that there was a muddy area on the south side of the track (to the north of the farm road). Given the size of the welding truck, the muddy area was the only space available to the welding team to turn the truck around, but the welder assessed that the truck would likely have gotten stuck during the maneuver if he tried to do it.[11] The welder also remembered from recent experience that there was enough space to maneuver and turn the welding truck around on the north side of the track.

The accident grade crossing was a skewed intersection. The American Association of State Highway and Transportation Officials notes that skewed intersections can challenge a driver to turn their head farther to see approaching traffic and recommends that crossings have an angle of intersection as close as practicable to 90° to avoid this challenge.[12] NTSB's review of the inward-facing camera in the welding truck confirmed that the grinder did not lean forward and turn his head to look over his shoulder to see the train approaching the accident grade crossing. During his interview, the welder told NTSB investigators that he was concerned about the elevation of the accident grade crossing and that he and the grinder were focusing on the backing movement rather than the track.

BNSF Safety Rule S-12.8 requires a person (in this case, the welder) to be on the ground at the rear of the vehicle to guide the vehicle's backing movement. The welder and the grinder had been working at BNSF since 2014. NTSB's review of their training records showed that they completed their last operations training on March 14, 2024. This training included a review of BNSF's *Maintenance of Way Operating Rules*, which mentions that employees need to follow BNSF's *Maintenance of Way Safety Rules* at all times. During his interview, the welder told NTSB investigators that he knew and understood BNSF's safety rule about backing but that he did not get out of the welding truck to position himself on the ground and guide the movement. If the welder had positioned himself at the rear of the welding truck to guide the trucks backing

[11] The welding truck was 20 feet long and 8 feet wide.

[12] American Association of State Highway and Transportation Officials. *A Policy on Geometric Design of Highway and Streets*, 7th Edition. 2018.

movement, he would have heard the horns and seen the freight train approaching and could likely have prevented the accident.

NTSB's interviews with other MOW employees revealed different understanding of BNSF Safety Rule S-12.8. MOW employees said that having a person on the ground to guide backing movements of vehicles could be followed on a case-by-case basis according to the judgment of the employees. Company officials, on the other hand, understood that MOW employees needed to adhere to Safety Rule S-12.8 at all times, without exception. NTSB's interviews highlighted that not all MOW employees understood that they were required to position a person on the ground at all times to guide the backing movement of a vehicle.

NTSB's review of BNSF's operational testing records shows that from October 11, 2023, to November 4, 2024, neither the grinder nor the welder was tested for BNSF's backing rules, including Safety Rule S-12.8. Postaccident operational testing conducted by BNSF from November 2024 to June 2025, documented 21 failures to follow safety rules while backing vehicles.

Immediately after the accident, BNSF conducted a safety stand down for the rest of the workday. BNSF extended the safety stand down to the entire workday of November 5, 2025, to review the accident and emphasize safety over productivity. Subsequently, on March 1, 2025, BNSF amended Safety Rule S-12.8 to highlight railroad crossings. Section S-12.8.1 of the new safety rule focuses on backing vehicles over railroad crossings and states that in cases where there are no other options, a person on the ground or on-track safety must be used to guide the movement.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the welding team's failure to detect the approaching BNSF Railway freight train as they were backing the welding truck over the private highway-railroad grade crossing. Contributing to the accident was the welding team's noncompliance with BNSF Railway's Safety Rule S-12.8, which requires positioning a person on the ground to guide the movement. Further contributing to the accident was the inadequate understanding of BNSF Railway's Safety Rule S-12.8 by BNSF Railway employees.

Lessons Learned

This accident highlights the dangers of backing vehicles over railroad tracks without positioning a person on the ground to guide the movement and the importance of following safety rules when backing vehicles over railroad tracks. After the accident, BNSF clarified the backing rule by adding a section (Section S-12.8.1) that focuses on

backing vehicles over railroad crossings, which emphasizes that either a person on the ground or on-track safety should be used during the movement.

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For more detailed background information on this report, visit the NTSB Case Analysis and Reporting Online (CAROL) website and search for NTSB accident ID RRD25FR003. Recent publications are available in their entirety on the NTSB website. Other information about available publications also may be obtained from the website or by contacting—

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