BROTHERHOOD OF MAINTENANCE

OF WAY EMPLOYES DIVISION

OF INTERNATIONAL BROTHERHOOD OF TEAMSTERS

MEMBER OF THE TEAMSTERS RAIL CONFERENCE

BEFORE THE NATIONAL TRANSPORTATION SAFETY BOARD

NTSB Accident Number: RRD24FR001

Proposed findings, probable cause, and safety recommendations in connection with the derailment involving BNSF Train C-ATMCRDO-31 that led to a bridge collapsing onto the southbound lanes of Interstate 25 5 miles north of Pueblo, Colorado, causing one fatality to a semi-truck driver on October 15, 2023

Gene Thompson Accident Investigator, BMWED-IBT Of Safety

Final Submission

The Brotherhood of Maintenance of Way Employes ("BMWED"), a division of the International Brotherhood of Teamsters ("IBT"), was granted party status by the Board in the above-referenced investigation. BMWED respectfully submits these proposed findings, probable cause, and safety recommendations to the Board for consideration.

Accident Summary

On October 15, 2023, at approximately 3:24 PM MDT, southbound BNSF Railway (BNSF) freight train C-ATMCRD0-31 derailed 31 cars at Mile Post 109.656 on the BNSF Pikes Peak Subdivision, approximately 5 miles north of Pueblo, Colorado. The derailment occurred as the train approached a railroad bridge, resulting in the collapse of the bridge onto the southbound lanes of Interstate 25. One fatality was reported, as a semi-truck driver was trapped under the collapsed bridge.

BNSF train C-ATMCRD0-31 was carrying 124 loaded coal cars and had no empties, with a total weight of 17,719 tons and a length of 6582 feet. The train was powered by five locomotives, arranged with two at the head and three at the rear, resulting in a total length of 6,950 feet including locomotives. At the time of the derailment, the train was traveling southbound on Main Track 1 at a speed of 33 mph, operating within the parameters of centralized traffic control (CTC) with positive train control (PTC) overlay. The maximum speed at the location of the derailment was 45 mph. The 31 cars that derailed were situated between lines 5-35 from the head end of the train.

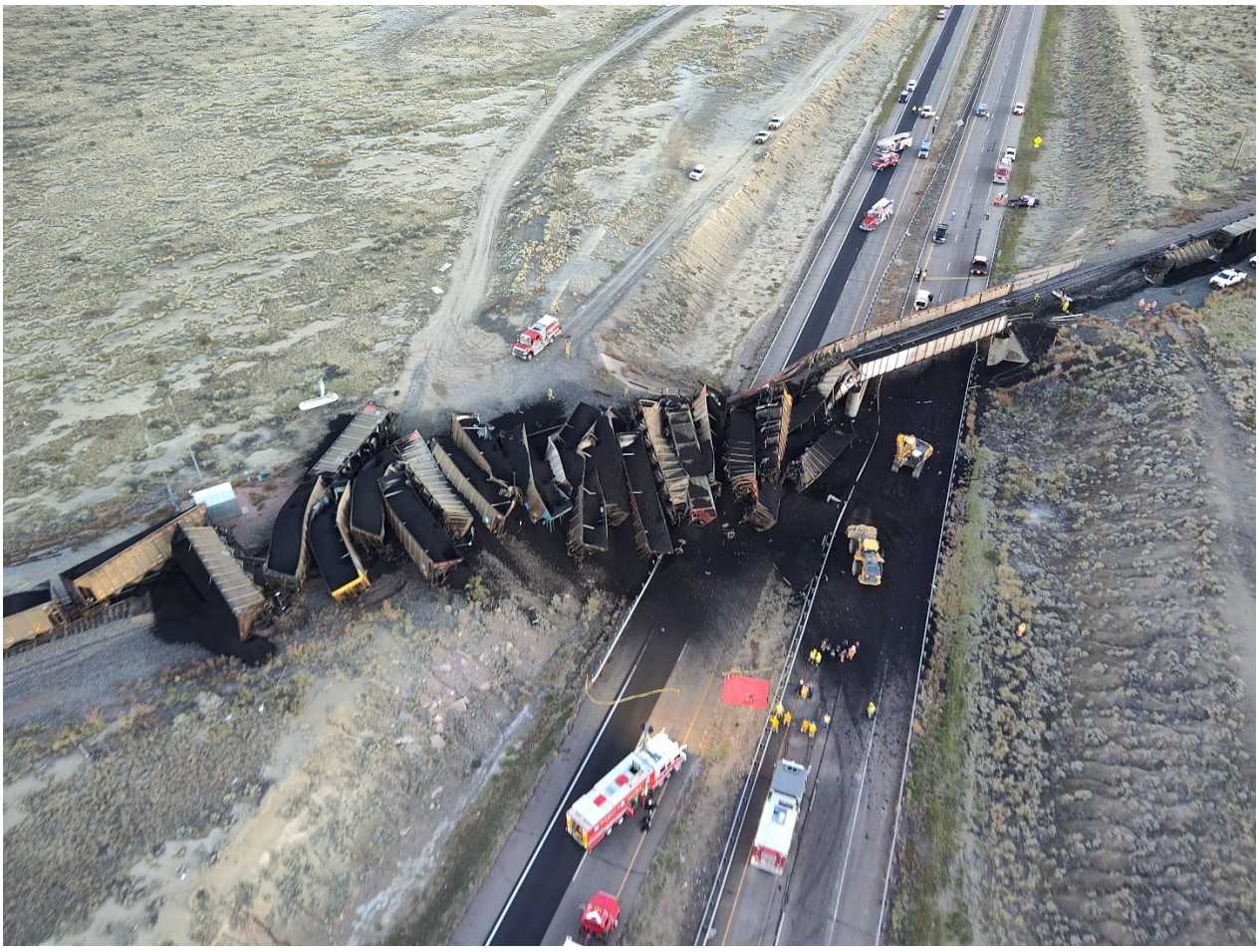

Figure 1**.** Aerial photo of the point of collision site. (source: BNSF Drone footage)

Track Description

The Pikes Peak subdivision stretches across 119.2 miles, commencing from milepost 0.0 in Denver, CO, and terminating at milepost 119.2 in Pueblo, CO. Predominantly, this subdivision comprises double-main track sections, with occasional segments featuring triple main tracks in South Denver, CO, and a singular main track passage through Colorado Springs, CO. Operational control primarily relies on centralized train control (CTC) with a positive train control (PTC) overlay, except for two sections of main track 2 designated for track warrant control (TWC). Classified as FRA class 4 track, the subdivision boasts a maximum authorized speed of 60 m.p.h. However, at S. Bragdon, the speed limit varies, set at 55 mph for trains under 100 tons per operative brakes (TPOB), and 45 mph for those exceeding 100 TPOB. Southbound trains traverse a flat grade from milepost 108.7 to 109.8, where a slight descending grade of -0.33 percent commences. Notably, the track alignment at the accident site was tangent.

Track Details

The derailment at S. Bragdon switch involved an Atchison, Topeka, and Santa Fe (ATSF) #14 right-hand turnout located approximately 116 ft north of a 180 ft long ballast-deck bridge over Interstate 25. Main track 1 utilized 136 lb. RE continuously welded rail (CWR), consistent with rail used throughout the switch and sourced from various manufacturers. The track featured 8.5’ hardwood crossties interspersed with switch ties of varying dimensions. Rail fastening included standard double-shoulder tie plates with a 6” rail base secured by cut spikes, while the turnout rail was affixed to switch ties using steel hook plates. The frog section of the switch employed Pandrol e-clips and lag screws, supported by 2” crushed granite ballast.

Additionally, the BNSF bridge at M.P. 109.70 sustained damage, resulting in the collapse of its north span onto Interstate 25 below. This 180 ft long ballast deck through plate girder structure, constructed in 1958, featured reinforced concrete abutments on each end and a central pier. During the most recent inspection on August 16, 2021, no new findings were recorded, but "open informational exceptions" from the September 24, 2020, inspection noted "old hit damage" on various girder parts. A previous inspection on September 3, 2019, observed "map cracking" on the pier.

The derailment itself occurred at M.P. 109.656 on the west rail (Main 1 straight lead), approximately 21 crossties north of the switch points. Witness marks on the east rail and rear locomotive footage from the previous train revealed a broken rail at this location. The incident caused severe damage to the switch's turnout section and approximately 215 ft of track, including the switch, required repair. A rail recovery and rebuild operation on site managed to salvage about 90% of the rail, predominantly 136 lb. rail manufactured by Bethlehem Steel in

1996 and Rocky Mountain Steel Mill in 2004. Two thermite field welds on the west rail of Main Track 1 between the heel block and guard rail were identified: the South weld (Weld #71), executed on May 24, 2023, exhibited friction batter on the rail end, while the second weld, created on June 19, 2007, displayed signs of sudden catastrophic failure. Three rail pieces, including the welds, were subsequently sent to the NTSB Materials Lab for further examination.

Track Inspections and Regulatory Compliance

BNSF adheres to 49 CFR Part 213.233, which mandates track inspections twice weekly on Main tracks exceeding 10 million gross tons (MGT) annually. In the week prior to the derailment, BNSF conducted three inspections. On October 9, 2023, from M.P. 84.397 to M.P. 120.177, no defects were found. A subsequent inspection on October 11, 2023, from M.P. 108.2 to M.P. 120.177 also recorded no defects. An error in reporting during the third inspection on October 13, 2023 had originally shown the derailment area had been inspected, NTSB confirmed that the inspection actually started at 84.39 and ended at M.P. 106.512 this did not traverse the derailment area however compliance with inspection frequency had been met.

In compliance with 49 CFR Part 213.237, BNSF conducted four ultrasonic rail tests within the year prior to the incident. Herzog Services, Inc. performed all tests, with the first on November 10, 2022, identifying three defects, including one at M.P. 109.668. The subsequent tests on January 27, 2023, April 15, 2023, and July 19, 2023, revealed additional conditions, none of which were near the derailment site.

Geometry car tests on BNSF's Pikes Peak Subdivision, conducted from M.P. 97 to 117 starting a year before the derailment, revealed sporadic surface and gage conditions. An irregularity noted on August 8, 2023, reappeared twice thereafter, classified as a non-regulated "TOP_CHORD" condition. FRA's automated track inspection vehicle (DOTX220) surveyed the subdivision on October 2, 2023, identifying a class 4 track deviation near the derailment location on the west rail.

FRA conducted two regulatory inspections on the Pikes Peak Subdivision within the year prior to the derailment, on August 11, 2022, and July 11, 2023. The latter inspection identified a defect at M.P. 109.69, promptly addressed by BNSF with ballast placement on September 9, 2022.

Track Image Recorder ("TIR") / Outward Facing Camera Footage:

BNSF provided photo images from train C-BTMSPS0-33D, which had passed through the derailment location before the incident. Both lead and rear locomotives captured images analyzed in the investigation. Additionally, video footage from the lead locomotive and a mid-train locomotive was reviewed. High-definition imagery of the two welds conducted on June 9th, 2023, Using their track imaging system, BNSF provided us with high-definition images conducted on June 9th, 2023, of the two thermite field welds near the derailment site.

Furthermore, the NTSB Operations investigation group reviewed Track Image Recorder (TIR) and outward facing camera footage from the lead locomotive of C-ATMCRD0-31D (BNSF 9015). During this examination, a broken rail was observed on the west rail of Main Track No. 1 just before the train passed through the area.

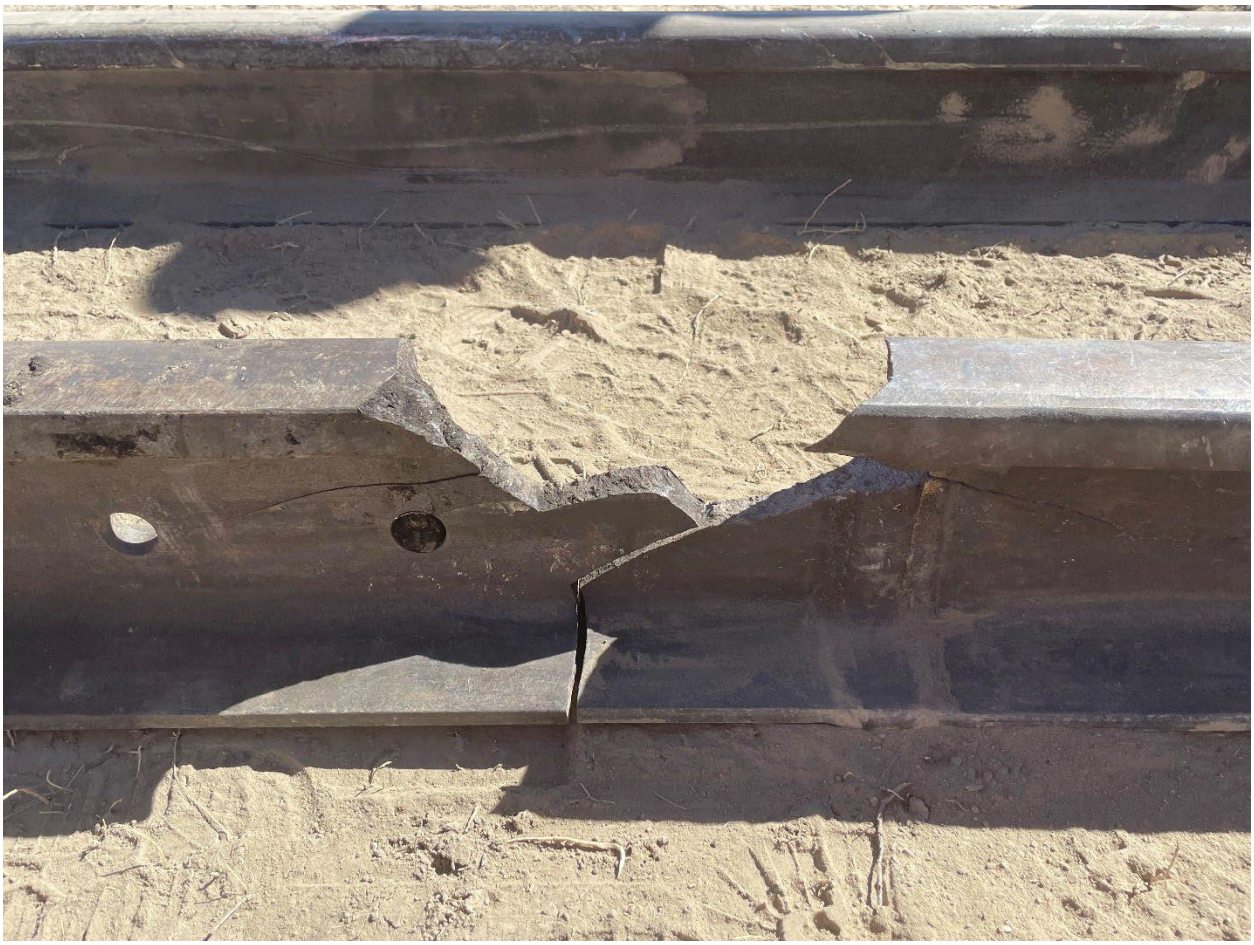

Figure 2. Photograph of breakout in the rail located 71” north of the initial broken rail (weld #71). This rail broke under the last train prior to the derailment as confirmed in video footage.

Proposed Recommendations

To BNSF:

1. Increase the frequency for main track switch inspections over BNSF tracks until regulations or guidance are published for appliances that could alert an operating train crew to compromised track, broken rail within opposing signals of a Control Point, or damage to its infrastructure.

2. Increase the frequency of main track walking switch inspections on BNSF to bi-monthly. This enhanced inspection schedule should include a thorough examination of all track components, with particular focus on vulnerable joints and dead zones. By identifying and addressing potential issues in these critical areas more frequently, the goal is to improve track safety, prevent failures, and ensure the integrity of the rail infrastructure. Additionally, detailed records of these inspections should be maintained to track the condition of the track over time and to facilitate timely maintenance and repairs.

To the Federal Railway Administration ("FRA"):

1. Implement rulemaking to re-evaluate the value of guidance, regulations, or orders for currently unregulated appliances that could help prevent or mitigate future accidents. This includes:
    - Switch position monitoring devices or indicators
    - Broken rail indicators to detect breaks between opposing signals at a Control Point
    - Radio, remote control, or other power-assisted switches
    - Hot box, high water, or earthquake detectors
    - Remote control locomotive zone limiting devices
    - Slide fences
    - Grade crossing video monitors
    - Track integrity warning systems
    - Other comparable rail safety technologies
2. Collaborate with VOLPE to create and execute a program aimed at advancing technology across CTC territories. This initiative focuses on detecting broken rails between opposing signals at Control Points. Participation from all Class I rail carriers is mandatory for the development of this technology.
3. Implement rulemaking requiring an increased frequency of main track walking switch inspections to bi-monthly. This enhanced inspection schedule should include a thorough examination of all track components, with particular focus on vulnerable joints and dead zones. By identifying and addressing potential issues in these critical areas more frequently, the goal is to improve track safety, prevent failures, and ensure the integrity of the rail infrastructure. Additionally, detailed records of these inspections should be maintained to track the condition of the track over time and to facilitate timely maintenance and repairs.
4. Until regulations or guidance are issued for appliances or technology capable of alerting operating crews to compromised track or infrastructure, including broken rails at

Control Points, raise the minimum 213.233frequency of main track inspections for all rail carriers.

To NTSB:

1. Due to the number of significant accidents on multiple Class I rail carriers in the US, open additional special investigations into the organization and safety culture of all Class I rail carriers. These special investigations could be done on an individual basis with each rail carrier (with involvement of management, employees and rail union labor leaders) with a goal of ensuring that they all have active and productive safety plans and policies, as well as a safety culture that fosters good working relationships, with participation and input from employees and rail union labor leaders at all levels.

CERTIFICATE OF SERVICE

I certify that on September 25, 2024, I have electronically served upon Mr. Richard Skolnekovich ([redacted]), Investigator in Charge, National Transportation Safety Board, a complete and accurate copy of these proposed findings regarding the October 15, 2023, BNSF train derailment which occurred in the vicinity of Pueblo West, Colorado (NTSB Docket No. RRD24FR001). An electronic copy of same was also forwarded to the individuals listed below in this certificate of service, as required by 49 CFR § 845.27 (Proposed Findings)

Mr. Richard Skolnekovich

Investigator-in-Charge, RRD24FR001

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Sincerely yours,

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