



BNSF Railway

Safety Culture

Assessment Report

August 26, 2024

BNSF Railway Safety Culture Assessment Report

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EXECUTIVE SUMMARY

Purpose

This report documents the results of the 60-day safety culture assessment of BNSF Railway Company (BNSF) conducted by the Federal Railroad Administration (FRA). The BNSF safety culture assessment (assessment) occurred between October 10 and December 8, 2023. Since this report only covers results found during the 60-day assessment, it does not cover any follow-up activities or corrective actions by BNSF. FRA will monitor BNSF's progress on recommendations¹ made in this report.

FRA has had longstanding engagement in efforts to improve railroad safety culture, by developing voluntary programs like the Confidential Close Call Reporting System and peer to peer coaching programs, as well as by issuing regulations that require railroads to measure and improve their safety cultures.² Additionally, FRA has included an assessment of safety culture as part of its comprehensive railroad safety audits. Following a catastrophic derailment in East Palestine, Ohio, on February 3, 2023, FRA conducted a safety culture assessment of the accident-involved railroad, Norfolk Southern Railway (NS), between March 15 and May 15, 2023. To gain insight into common safety culture issues, and to identify best practices for the railroad industry, FRA plans to perform safety culture assessments consecutively, until all Class I freight railroads are assessed. FRA expects to complete this task by the end of calendar year 2024.³ FRA's safety culture assessment of BNSF is the second Class I freight railroad assessment FRA has completed.

¹ Except when referencing laws, regulations, policies, or orders, the recommendations in this document do not have the force and effect of law and are not meant to bind the public in any way.

² 49 Code of Federal Regulations Part 270 *System Safety Program* and 49 Code of Federal Regulations Part 271 *Risk Reduction Program* require covered railroads to develop and implement programs that promote and support a positive safety culture. See §270.101(b) and §271.101(a).

³ FRA's safety culture assessment of Union Pacific Railroad (UP) was scheduled to occur between April 15 – June 14, 2024. However, on April 26, 2024, FRA suspended its UP safety culture assessment after discovering the railroad engaged in several activities that could adversely impact the integrity of the assessment. FRA will issue an interim report.

Methods

FRA conducted this safety culture assessment in three parts: (1) a safety culture review, including structured field interviews of BNSF's craft employees conducted primarily by FRA inspectors, as well as semi-structured interviews (fixed questions with open-ended responses) by FRA staff of BNSF's leadership, management, and union officials; (2) focused inspections and investigations designed to evaluate safety-critical elements of BNSF's operations; and (3) an evaluation of BNSF's responses to prior FRA safety recommendations.

As part of the safety culture review portion of the overall assessment, FRA evaluated the current safety culture at BNSF using the Fleming Safety Culture Maturity Model (FSCMM)⁴ as a guide. For the review, FRA collected baseline information on 10 essential safety culture elements. FRA used information from the field and structured interviews, observations, focused inspections, and the FSCMM to determine the relative maturity (advancement) of BNSF's safety culture. (Figure 1 illustrates the different maturity levels within the FSCMM).

The lowest levels of safety culture maturity are focused primarily on minimal compliance with relevant statutes, regulations, and industry standards or reactive efforts to prevent accidents. The highest levels of safety culture maturity focus on continuous learning and improvement. As an organization's safety culture matures, safety practices become more ingrained in all aspects of an operation. Safety culture is dynamic, and even at the highest levels of maturity everyone in the organization must continuously work together to refine programs and enhance efforts to improve safety and avoid complacency, so as not to slip to a lower level of maturity.

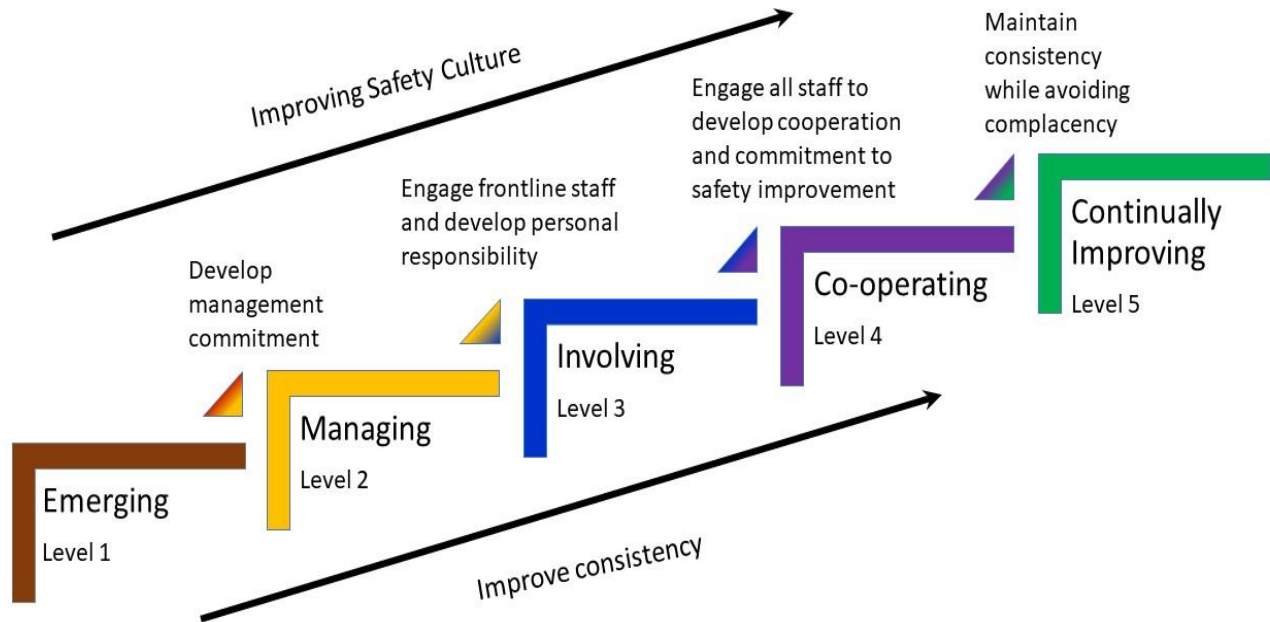
As noted above, the assessment is not based solely on the numerical scores derived from the short form field interviews; FRA applied expert judgement to combine the disparate data sources from long form interviews, inspection activities, and responses to prior safety recommendations to assess the maturity level for each of the 10 core safety culture elements individually. To arrive at its assessment of the overall safety culture at BNSF, FRA considered the aggregate assessments of the

⁴ Fleming, Safety Culture Maturity Model, 2001, pp. 4-6.

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individual core elements, and holistically factored in any information derived from the sources described above that seemed to address safety culture broadly.

Figure 1. Fleming Safety Culture Maturity Model



The information collected during this assessment serves as a “snapshot” of the current safety culture at BNSF. The information collected is used to determine the maturity of each safety culture element at the time of the assessment and will be used as a benchmark for future safety culture assessments.

BNSF Safety Practices

Overall findings from the safety culture assessment indicate that BNSF's safety culture is generally moving from the *involving level* of safety culture maturity to the *cooperating level*. During the assessment, FRA found several examples of practices implemented by BNSF to keep its safety culture moving towards a more mature and robust safety culture, with a focus on continually improving. Underscoring this commitment was a consistent finding that BNSF leadership cite safety as a core value of the organization.

BNSF has created a presentation on safety that it has incorporated into all its trainings (see Appendix I).⁵ This safety culture playbook presentation outlines the safety values at BNSF and empowers employees to take control of safety. Furthermore, the presentation encourages the continued development of safety culture elements. The presentation explains not only how employees can develop and grow these skills, behaviors, and activities but also explains how they work to make a safer workplace and more robust safety culture.

Several craft employees provided "free form" comments during their structured interviews to specifically call out safety improvements made by BNSF. Responses from leaders, front-line managers, and craft employees were consistent and positive when discussing how job safety briefings review potential hazards and discuss the safest way to perform a task. This practice demonstrates the priority of safety over other demands as well as an overall safety conscious work environment. Other commenters specifically mentioned good safety outcomes in their own work units or teams. Some long-term employees indicated that they have seen safety improve over the past several years. During the course of the field interviews FRA encountered BNSF employees with railroad experience with different railroads. Several of these employees with previous experience at different railroads indicated BNSF was the safest railroad on which they had worked. Although FRA did not follow up

⁵ The training and brochure that is shown in Appendix I is provided to all BNSF employees, as well as new hires when they attend training at their facility in Kansas City. This training is based on their "Approaching Others" aspect of safety, which has been in existence for over a decade.

to determine timeframes of previous employment or other railroad names, it is still noteworthy that employees of different crafts and at different locations noted BNSF's commitment to safety.

Although BNSF has made some commitments to improving its safety culture, as illustrated above, the safety culture assessment revealed areas of safety culture which require improvement. These less mature safety culture elements, as well as FRA's recommendations for improvement, will be discussed more fully in subsequent sections of this report. For instance, FRA found issues regarding the mutual trust that is fostered between employees and the railroad (Element 8); the perceived inconsistency in handling safety concerns and lack of fairness when applying discipline policies (Element 9); and the access to sufficient training and continuous learning resources (Element 10). FRA also identified a perceived need to improve reporting systems and accountability (Element 4). Additionally, FRA identified a perceived lack of consistency in how safety information is communicated throughout BNSF. For instance, there is a perceived inconsistency in how "lessons learned" are shared with employees across the railroad, and a perceived filtering (and presumed resultant altering) of information as it is passed from BNSF leaders to front-line employees. Of these areas requiring improvement, making changes to ensure that information, especially as it relates to safety and the prioritization of tasks, is consistent throughout the railroad is where BNSF has the greatest opportunity to positively impact its safety culture across all elements (Element 7).

Chapter 4 describes the four global safety culture assessment findings FRA identified and the accompanying recommendations to BNSF to address issues discovered when reviewing all assessment data.

INTRODUCTION

Factual Background

BNSF Railway Company is one of the largest freight railroads in the United States, with its headquarters located in Fort Worth, Texas. Operating in 28 states and three Canadian provinces, its network spans 32,500 miles.⁶ BNSF reports that it has approximately 250,000 active freight cars on its network at any time.⁷ These freight cars are a combination of BNSF's own cars, as well as freight cars owned by shippers and other railroads. Generally, these freight cars carry four main categories of products: (1) agricultural products; (2) consumer products; (3) industrial products; and (4) coal.⁸

In January 2021, Katie Farmer became President and CEO of BNSF.⁹ Under her leadership, on January 19, 2023, BNSF announced its 2023 capital investment plan of \$3.96 billion,¹⁰ which has continued to grow over the last couple of years.¹¹ Where \$2.85 billion of the capital investment plan would be used to maintain current infrastructure, such as performing maintenance projects to replace or upgrade rail and track, and maintain rolling stock,¹² the remaining \$700 million would be used for expansion and efficiency projects.

BNSF states that safety is its highest priority¹³ and its vision statement goal is to operate free of accidents and injuries.¹⁴ Despite the stated policies, however, FRA believes BNSF has opportunities to improve its safety record. On April 7, 2021, in Louisiana, Missouri, a BNSF conductor was killed while dropping off and picking up railcars.¹⁵ The National Transportation Safety Board (NTSB)

⁶ BNSF website (Dec. 6, 2023), [fact_sheet.pdf \(bnsf.com\)](#).

⁷ BNSF website (Dec. 6, 2023), [BNSF 3D Trains](#).

⁸ BNSF website (Dec. 6, 2023), [BNSF Virtual Tour](#).

⁹ BNSF website (Dec. 6, 2023), [Our Executive Team | BNSF](#).

¹⁰ BNSF website (Dec. 6, 2023), [BNSF Announces Plan for 2023 Capital Investments](#).

¹¹ BNSF's capital investment announcements for the year 2021 was \$2.99 billion, and for the year 2022 it was \$3.55 billion, BNSF website (Aug. 20, 2024), [bnsf.com/news-media/news-releases/newsrelease.page?relId=bnsf-announces-plan-for-2021-capital-investments](#); [bnsf.com/news-media/news-releases/newsrelease.page?relId=bnsf-announces-plan-for-2022-capital-investments](#).

¹² BNSF website (Dec. 6, 2023), [BNSF Announces Plan for 2023 Capital Investments](#).

¹³ BNSF website (Dec. 6, 2023), [BNSF's layers of safety protect employees, communities and trains](#).

¹⁴ BNSF website (Dec. 6, 2023), [Safety and Security | BNSF](#).

¹⁵ National Transportation Safety Board, *BNSF Railway Employee Fatality*, Louisiana, MO, April 7, 2021, [RRD21LR009.aspx \(ntsb.gov\)](#).

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investigation found this was a shoving movement accident with insufficient safe walking space for the conductor to protect the shove move.

On March 3, 2021, BNSF had a 45-car derailment in Ludlow, California, where one of the tank cars carrying ethyl alcohol ruptured.¹⁶ Estimated damages were over \$4 million.¹⁷ FRA's accident investigators determined this accident was caused by excessive buffing due to the train makeup.

Another accident occurred on December 22, 2020, in Custer, Washington.¹⁸ In this accident, 10 railcars derailed that were carrying crude oil, and three out of the 10 railcars caught fire. Businesses and homes within a ½ mile radius had to be evacuated, and part of the nearby interstate had to be shut down for approximately 11 days. FRA investigators found BNSF management and crew failures caused this accident.

On September 6, 2020, about 25 cars derailed in Temple, Texas, causing over \$3 million in damages.¹⁹ FRA investigations found failed subgrade track conditions caused that accident. Two months earlier in Winslow, Arizona, 29 railcars derailed on July 6, 2020.²⁰ FRA determined the accident was caused by rapid application of full dynamic braking with no train air braking. A few weeks after this accident, BNSF issued a Safety Update on the proper use of Dynamic Braking/Train Braking.²¹

Lastly, in December 2022, BNSF petitioned FRA for emergency relief from certain requirements for periodic inspections, asking for additional time to complete those inspections on locomotives impacted by severe winter weather. FRA notes, however, that careful planning, including building inspection schedules that take into consideration potential winter weather delays, would obviate the need for any such relief.

¹⁶ Federal Railroad Administration, Office of Railroad Safety, Accident Investigation Report on BNSF in Ludlow, CA, March 3, 2021, [HQ-BNSF-2021-0303-1417 | FRA \(dot.gov\)](#).

¹⁷ Ibid.

¹⁸ Federal Railroad Administration, Office of Railroad Safety, Accident Investigation Report on BNSF in Custer, WA, December 22, 2020, [HQ-2020-1401 | FRA \(dot.gov\)](#).

¹⁹ Federal Railroad Administration, Office of Railroad Safety, Accident Investigation Report on BNSF in Temple, TX, September 6, 2020, [HQ-2020-1397 | FRA \(dot.gov\)](#).

²⁰ Federal Railroad Administration, Office of Railroad Safety, Accident Investigation Report on BNSF in Winslow, AZ, July 6, 2020, [HQ-2020-1389 | FRA \(dot.gov\)](#).

²¹ Ibid.

Safety Culture in General

In 2017, FRA published a report on safety culture sponsored by the U.S. Department of Transportation's (DOT) Safety Council.²² The report states that when safety culture is strong, there are less frequent and less severe accidents. DOT defines safety culture as the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands, and cited the following 10 key elements of a strong safety culture:

1. Leadership is clearly committed to safety.
2. The organization practices continuous learning.
3. Decisions demonstrate that safety is prioritized over competing demands.
4. The reporting systems and accountability are clearly defined.
5. There is a safety conscious work environment.
6. Employees feel personally responsible for safety.
7. There is open and effective communication across the organization.
8. Employees and the organization work to foster mutual trust.
9. The organization responds to safety concerns fairly and consistently.
10. Safety efforts are supported by training and resources.

FRA is using this safety culture assessment to measure and document the current state of BNSF's safety culture and will compare the results of this effort with future safety culture assessments to determine whether the railroad's safety culture is maturing.

²² Federal Railroad Administration, *Safety Culture, a Significant Influence on Safety in Transportation*, [DOT/FRA/ORD-17/09](#).

Organization of the Report

This report consists of four main sections.²³ Chapter 1 discusses the methodology of this BNSF safety culture assessment. In this chapter, FRA explains the definitions associated with safety culture, data collection methods, and models used to evaluate BNSF's safety culture. Chapter 1 also provides a detailed analysis of the 10 elements of safety culture and identifies BNSF's current level of safety culture maturity. At the end of this chapter, FRA discusses the overall safety culture findings and recommendations for BNSF.

Chapter 2 discusses the discipline-specific focused inspections and investigations that FRA conducted during the assessment. Five of FRA's divisions participated in this assessment: (1) Operating Practices; (2) Track and Structures; (3) Signal and Train Control; (4) Motive Power and Equipment; and (5) Hazardous Materials. This chapter details the locations visited by each FRA division along with what was observed. Based on what the FRA divisions observed during the assessment, FRA developed findings and recommendations for improvement in certain areas.

Chapter 3 highlights recent FRA-issued Safety Advisories and Safety Bulletins, as well as other safety alerts and important safety-related correspondence between FRA and BNSF. Chapter 4 synthesizes the conclusions of the preceding chapters and summarizes FRA's overall findings and recommendations. Additionally, this last chapter highlights the main themes found throughout this assessment and lists recommendations regarding steps BNSF can take to make improvements.

Information collected through this assessment went beyond the scope of FRA compliance audits, which typically focus on a single railroad discipline and assess whether a railroad is in conformance with a clear standard.²⁴ Instead, this assessment provides a more comprehensive look at BNSF's overall safety culture and operations, evaluating a railroad's culture by examining actions and behaviors that demonstrate such things as a commitment to safety, and how safety is prioritized over competing organizational priorities. Information gathered will be used to target specific areas for

²³ Unlike the NS safety culture assessment that included a section on how the railroad had addressed FRA recommendations from a prior system audit, this report does not include such a discussion. FRA has not conducted a system audit of BNSF to date.

²⁴ Future audits of railroads' SSPs or RRP's will also attempt to capture similar information, so that FRA can gauge the overall performance of the programs.

FRA's oversight and enforcement efforts, and to help BNSF identify risks not easily addressed by Federal regulations but that might be effectively mitigated using other processes.

CHAPTER 1: SAFETY CULTURE ASSESSMENT

Section 1.1 Safety Culture Elements and Maturity Model

The DOT defines safety culture as the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands.²⁵ The 10 key elements of a strong safety culture are condensed from several different safety culture models, all of which share these essential elements:

1. Leadership is clearly committed to safety.

Leaders across all layers of an organization model safety-first attitudes and behaviors, and employees learn what the accepted practices are by following examples set by leaders.

2. The organization practices continuous learning.

Opportunities to improve safety are continuously sought out and implemented. Organizations are open to learning from accidents when they do happen, and willing to make changes to prevent such incidents in the future.

3. Decisions demonstrate that safety is prioritized over competing demands.

The organization uses decision making processes that demonstrate that safety is prioritized over competing demands. When the two priorities are in conflict, the organization will consistently choose safety over performance.

4. The reporting systems and accountability are clearly defined.

Reporting systems and lines of accountability are in place so that safety issues can be promptly identified, fully evaluated, and corrected appropriately.

5. There is a safety-conscious work environment.

²⁵ Federal Railroad Administration, *Safety Culture, a Significant Influence on Safety in Transportation*, DOT/FRA/ORD-17/09, <https://railroads.dot.gov/elibrary/safety-culture-significant-influence-safety-transportation>.

The organization exercises constant vigilance and an elevated awareness of the importance of safety. Employees are encouraged and provided opportunities to raise safety concerns using reporting systems and procedures.

6. Employees feel personally responsible for safety.

Employees take more ownership in following safety procedures and are likely to speak up when they see other employees behaving in an unsafe manner.

7. There is open and effective communication across the organization.

Employees feel comfortable communicating with their managers about safety issues and communicating with their peers when they see unsafe behaviors. The organization provides safety information in a way that is easy to find and understand.

8. Employees and the organization work to foster mutual trust.

An environment of trust exists that facilitates open and honest communication about safety and minimizes fears of reprisal.

9. The organization responds to safety concerns fairly and consistently.

The organization responds to safety concerns in a manner that is perceived by employees as fair, just, and consistent.

10. Safety efforts are supported by training and resources.

The organization ensures that the personnel, procedures, and other resources needed to ensure safety are available, and that those who manage and operate the system have current knowledge that enables them to perform their jobs in the safest manner possible.

An organization's performance in each of these 10 elements is measured on a common scale; in the case of the BNSF safety assessment, FRA used a scale from 1 (strongly disagree) to 5 (strongly agree). FRA then used the information gathered on each of the 10 elements to develop a maturity

model framework of BNSF's safety culture, as described below. Results of focused inspection efforts that shed light on aspects of BNSF's safety culture are also discussed in this chapter.

Safety Culture Maturity Models are tools that help FRA describe and understand the level of development an organization's safety culture has reached. They use a set of defined criteria and processes to identify the characteristics of milestones associated with different developmental levels and can provide practical insight into steps that can be taken to improve the safety culture. These models can look at safety culture as a whole or examine the maturity of different aspects and elements of an organization's safety culture. There are numerous different maturity models. For various reasons, including the use of terminology easily understood within the railroad industry, FRA uses the Fleming Safety Culture Maturity model (FSCMM)²⁶ for all safety culture assessments. The FSCMM identifies five levels of organizational safety culture: Emerging, Managing, Involving, Cooperating, and Continuously Improving.

As an organization's safety culture develops and strengthens, practices that reinforce safety become more ingrained in the organization's operations, and safety culture moves from early levels to a goal state of a dynamic safety culture based on continuous improvement. The lowest levels of safety culture maturity are focused primarily on minimal compliance with relevant statutes, regulations, and industry standards or reactive efforts to prevent accidents. The highest levels of safety culture maturity focus on continuous learning and improvement. As an organization moves up the ladder to higher maturity levels, the safety culture becomes more robust, and safety improves. At the same time, all levels of the organization become more consistent, and all employees increasingly work together to avoid complacency.

²⁶ Fleming, *Safety Culture Maturity Model*, 2001, pp. 4-6, https://www.researchgate.net/figure/Safety-culture-maturity-model-Fleming-2001_fig1_348115374.

Section 1.2 Objectives, Scope, and Methodology

The objectives of the BNSF safety culture assessment were to: (1) gather baseline information for the 10 safety culture elements, including an assessment into compliance with relevant regulations as examples of safety culture performance; and (2) determine the maturity/advancement of the railroad's safety culture using the FSCMM using information from interviews, observations, and focused inspections.

This information provides a baseline “snapshot” of the BNSF safety culture as it existed at the time of this assessment. The information is used to determine the maturity of each safety culture element now and can be used as a benchmark for future safety culture assessments.

To obtain the data needed to develop an initial benchmark of BNSF's current safety culture, FRA's Office of Safety Audit Management Division (AMD) developed safety culture assessment materials. AMD reviewed the materials used in the safety culture assessment for Norfolk Southern Railway (NS) and, in the interest of continuous improvement, reviewed lessons learned from FRA inspectors, Safety Management Teams (SMT), and AMD staff, as well as feedback from NS leadership, management, and frontline employees. The methodology used in the BNSF safety culture assessment was informed by this feedback.

FRA developed open-ended interview questions for FRA to address to BNSF leadership and labor leaders in a semi-structured interview format. FRA's SMT personnel provided AMD personnel names and contact information for BNSF leaders, as well as several union officials across the BNSF system and territories. AMD personnel conducted one-on-one interviews via telephone with identified BNSF leaders and union officials.

Structured, forced-choice interview questions were developed to ask in the field by FRA personnel. FRA deployed inspectors and other FRA personnel to rail yards in every state in which BNSF operates and asked craft employees and front-line managers if they would volunteer to participate in a one-on-one survey interview. The inspectors were integral in visiting numerous yards and administering the surveys. FRA collected survey data in conjunction with other inspection activities, and therefore the interview locations were not chosen at random, but instead generated a

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“convenience” sample reflecting interviews conducted at locations FRA visited for inspection purposes.

For the BNSF assessment, FRA refined its methodology following the NS safety culture assessment to provide reassurance as to the purpose of the safety culture assessment as well as to have a more formal gauge of the magnitude of any hesitancy to participate in the assessment. SMT staff worked with the railroad in advance of the data collection period to discuss the scope of the effort and what would be needed to ensure success. Independently to assist this effort, BNSF released a notice to employees alerting them of the FRA safety culture assessment and encouraging employees to participate (see Appendix A). Additionally, FRA worked with union leaders representing BNSF’s represented employees to provide information about the safety culture assessment, provide information on how to reach FRA with questions, and to encourage participation. Lastly, the interview forms were modified to capture the number of employees who were approached to participate but declined to do so. This enabled FRA to more accurately quantify hesitancy and disinclination to participate than it has been able to do in previous assessments.

FRA did not retain and will not use any individually identifiable information. To ensure confidentiality and to protect anonymity, FRA has not and will not report any names, titles, union names and officials, or other information or combination of information that could identify any railroad employee who was contacted in relation to the data collection effort, including railroad leadership. FRA continues to explore ways to improve its messaging to employees regarding how data collected will be used and the commitment to protect employee anonymity.

As part of the BNSF assessment, FRA conducted structured close-ended interviews (survey interviews) with railroad craft employees and front-line managers and semi-structured interviews with BNSF leadership and labor representatives. In addition, FRA completed a series of focused regulatory compliance inspections across the BNSF system. FRA personnel completed a total of 1,343 survey interviews of various railroad craft employees and front-line managers across BNSF railroad division locations.²⁷ Appendix E reflects aggregated demographic information of the

²⁷ Interviews were completed in conjunction with other inspection activities. As such, the locations for interviews were not chosen at random and the interview data collected was a sample of convenience.

employees who responded to the survey interviews including a breakdown of crafts surveyed, years of experience, and yard locations. A copy of the survey interview questions is in Appendix B.

FRA interviewed 14 labor leaders and 29 members of the BNSF leadership team as part of the assessment. These were semi-structured interviews, and each individual was asked to respond to the same series of open-ended questions based on the 10 safety culture elements, as defined by the DOT Secretary's Safety Council. A copy of the questions asked in the semi-structured interviews is in Appendix C.

FRA's assessment is not based solely on the numerical scores derived from the short form field interviews; FRA applied expert judgement to combine the disparate data sources from long form interviews, inspection activities, and responses to prior safety recommendations to assess the maturity level for each of the 10 core safety culture elements individually. To arrive at its assessment of the overall safety culture at BNSF, FRA considered the aggregate assessments of the individual core elements, and holistically factored in any information derived from the sources described above that seemed to address safety culture broadly.

Section 1.3 Findings: Current BNSF Safety Culture

FRA reviewed information from the semi-structured interviews, survey interviews, and focused inspections to understand BNSF's safety culture environment as it exists today. Inferences and comparisons between groups are not reported here to maintain the anonymity of the responses. As previously stated, the survey data were collected in conjunction with other inspection activities. As such, the locations visited were not chosen at random. Inferential analysis cannot be applied to "convenience" samples such as this. Therefore, providing a global view of the safety culture of the BNSF system rather than providing more fine-grained analyses, as would be possible with a random sample, is more consistent with available data. As such, data are reported by craft across the BNSF system and years of experience of all employees interviewed across the system. Information about specific work units, interactions between crafts and years of experience, or other comparisons are not reported as these types of analyses require a random sample to ensure accuracy.

Instances where FRA believes specific information would be useful to BNSF have been provided under the “Anecdotal Findings” subheading. Information from anecdotal findings is not included in the general findings nor are any recommendations made based on this anecdotal information. FRA is aware that BNSF made changes to its attendance policy after the safety culture assessment data collection concluded. Because the change occurred after the assessment’s data collection period, it will not be further discussed in this report, but FRA will continue to monitor how this, and any similar policy changes impact the BNSF safety culture.

Overall BNSF Safety Culture

Information collected as part of this safety culture assessment indicates that, overall, the BNSF safety culture is currently between the *involving* and *cooperating* levels of safety culture maturity. Information collected suggests that there may be some disparity in opinions regarding safety culture depending on the location of the employee interviewed.

Results related to the 10 safety culture elements are presented below. Managers and employees who participated in the structured field interviews were asked to provide their responses on a scale of 1 to 5 where 1 was “strongly disagree,” 2 was “disagree,” 3 was “neutral,” 4 was “agree,” and 5 was “strongly agree.”. Higher values reflect a stronger safety culture. BNSF employees who participated in these interviews were also given the opportunity to provide additional comments. These comments are referred to as “free-form” comments throughout the report. These free-form comments were voluntary and could be related to a specific safety culture element or BNSF safety culture in general. A summary of results for each safety culture element for management employees and all craft employees is shown in Figure 2. These results demonstrate a consistent difference between the perceptions of employees and those of managers.

Figure 2. Differences in BNSF Safety Culture Perceptions between Front-line Managers and Craft Employee

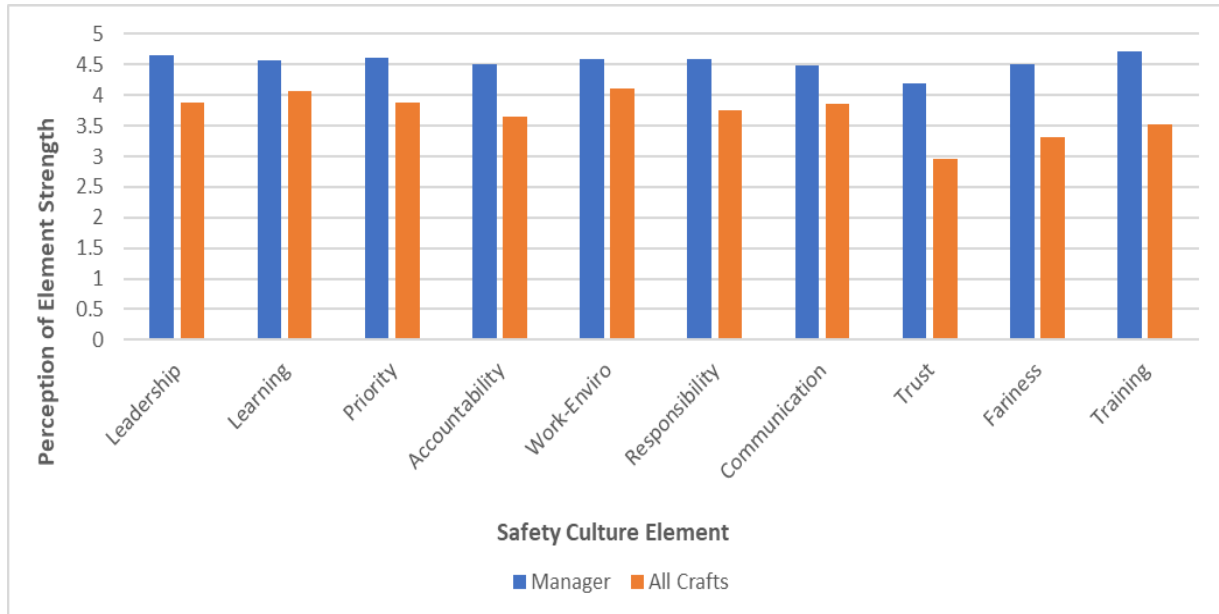
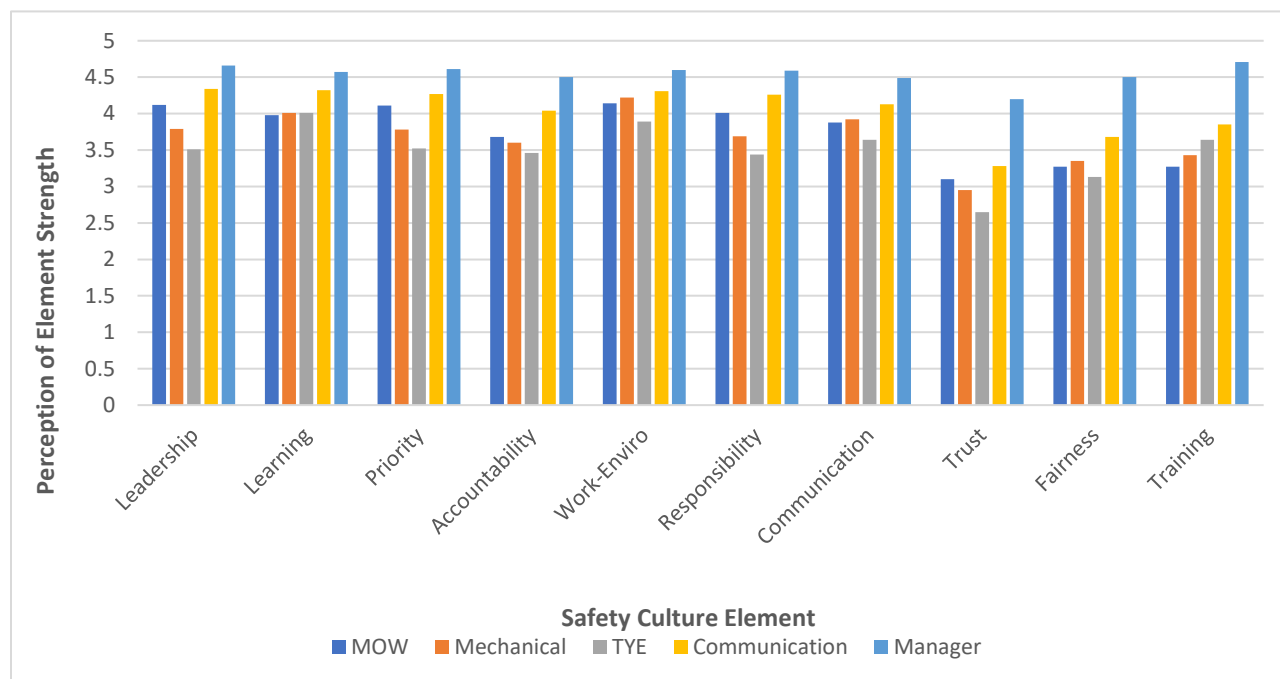


Figure 3 shows the summary results for each safety culture element by employee craft. The majority of the safety culture elements were rated lowest by operating craft employees (TY&E). The one exception is element 2 (railroad practices continuous learning) which was rated lowest by maintenance of way (MOW) craft employees. Communications craft employees (signal and dispatch) had the highest non-manager rating for all 10 safety culture elements. Consistently, craft employees with 31+ years of railroad experience rated most safety culture elements lower than any other experience group. Again, because the sample was one of convenience, it is not known what might be driving this result.

Figure 3: BNSF Safety Culture Perceptions by Employee Craft



The biggest disparities in ratings between managers and craft employees involve safety culture elements related to trust, fairness, and training. Free-form comments provided by craft employees during the survey interviews revealed some employees who believed there was a strong culture of safety built upon mutual trust at their work location. Others reported that they felt the work environment was divided between craft employees and managers with each group wary of the other. Opinions regarding mutual trust at BNSF varied, and it is possible that these may be related to location. However, given the nature of the data, FRA cannot make a conclusive determination.

When discussing fairness, several interviewed labor leaders as well as some front-line employees providing free-form comments during their field interviews indicated that discipline is not consistent throughout BNSF. Again, given that data collected were taken from a convenience sample, inferential analysis was not conducted. However, much like with trust, opinions may be related to location or even to specific management groups.

Although opinions on training had one of the largest rating disparities between managers and front-line employees, the interviews and comments also revealed disparity among crafts and years of

railroading experience. Notably, although data from other elements was consistent regarding which crafts rated the element highest and lowest, training is the only element that was rated lowest by MOW craft employees. There also was a disconnect in perception of training availability.

Specifically, many railroaders, across crafts, with more experience reported ample opportunities to take advantage of safety and continuous learning trainings on the job as well as at the BNSF Technical Training Center (TTC) in Overland Park, Kansas. However, comments from several field interviews expressed concern over training that new hires are receiving. No comments specifically discussed the quality of training received. Rather, opinions consistently were related to the length of the training, with many believing there should either be additional training provided or a longer training period to allow new employees more time to develop their railroading skills.

A few comments specifically discussed BNSF reinstating the mentorship program for new hires. Mentorship programs have existed in some form at BNSF for at least 20 years. However, BNSF ramped up these mentorship programs in the second quarter of 2023 in response to the influx of new hires. Some craft employees providing comments felt that having a mentorship program would enhance the existing new employee training requirements and provide new employees with the ability to continue to learn as they begin their new jobs. Comments also indicated that the mentorship program, in addition to providing support to newly hired employees, was also beneficial to the mentors who could use this opportunity to boost morale and show pride in their craft.

The perceived filtering (and presumed resultant altering) of information as it is passed from BNSF leaders to front-line employees is a thread that is woven through each safety culture element. Some employees reported that their front-line and midlevel managers do an excellent job keeping them informed about information critical to safety, job performance, and the overall BNSF mission. However, as many employees reported that manager communication is lacking. Some managers were reported in comments and interviews to be noncommunicative and as such the employees seldom receive regular information updates. Others reported that information must be sought out by employees on BNSF's electronic resources for employees. Overall, employees across crafts reported that this information was easy to find. However, some reported feeling "information overload" from this. This may represent an opportunity for BNSF to develop a system to organize electronic resources in a way that is less overwhelming for employees or for BNSF to deliver training on

strategies to effectively navigate the information system. Additionally, BNSF could explore ways to improve manager communication, especially as it pertains to consistent content of information shared and the frequency of communication.

Related, some commentors noted that there have been fewer management interactions and safety stand downs than there previously had been at BNSF. Some related this to changes made since the COVID-19 pandemic, while others indicated perception that their management team has limited time for these interactions because of other competing demands. The last group of comments expressed that as information is passed from BNSF leadership to front-line employees the message changes. One labor leader indicated that some managers may dilute the safety messages of BNSF leadership to prioritize production goals. Although it appears from the data that the perception of how management communicates with front-line employees varies, information provided by BNSF Safety Bulletins was consistently mentioned as being helpful and engaging. When considered together, this demonstrates that the lessening of overall interactions between managers and employees, especially larger scale interactions like safety stand downs, has led to a more piecemeal approach to the dissemination of information. This, in turn, may have had the unintended consequence that safety information is diluted or changed when shared with individual employees or small groups.

In the subsequent sections, each safety culture element is discussed in terms of rating and general findings. For each finding the numerical value reported represents the average rating out of 5 for that element. Note that higher numbers indicate stronger agreement. Safety culture maturity is determined by reviewing all available data and information including field interview data, comments from field interviews, information from long form interviews with railroad and labor leaders, inspection reports, and observations from inspectors in the field.

Safety Culture Elements

Element 1. Leadership is clearly committed to safety.

Results from the survey interviews revealed a rating of 4.12 across all participating BNSF employees. Managers reflected the highest rating (4.66) followed by communications employees (signal and dispatch, 4.33) while operating craft employees had the lowest (TY&E, 3.51). Employees

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with less than one year of experience had the highest rating (4.48) and those reporting 31+ years of experience had the lowest (3.51). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Feedback from interviews revealed a variety of opinions on leadership's commitment to safety. Of the voluntary, free-form comments provided, approximately 60% reported that leadership at BNSF is committed to safety and that commitment has strengthened over the years. A few of the comments indicated that the work leadership puts in to prioritizing safety is apparent and noticeable across the BNSF system. However, approximately 40% of responses were the opposite with commenters indicating that production or "velocity" is prioritized over safety. A few of these responses went on to further clarify that while training and messaging are clear that safety is a priority, leadership actions indicate that production is prioritized over all else.

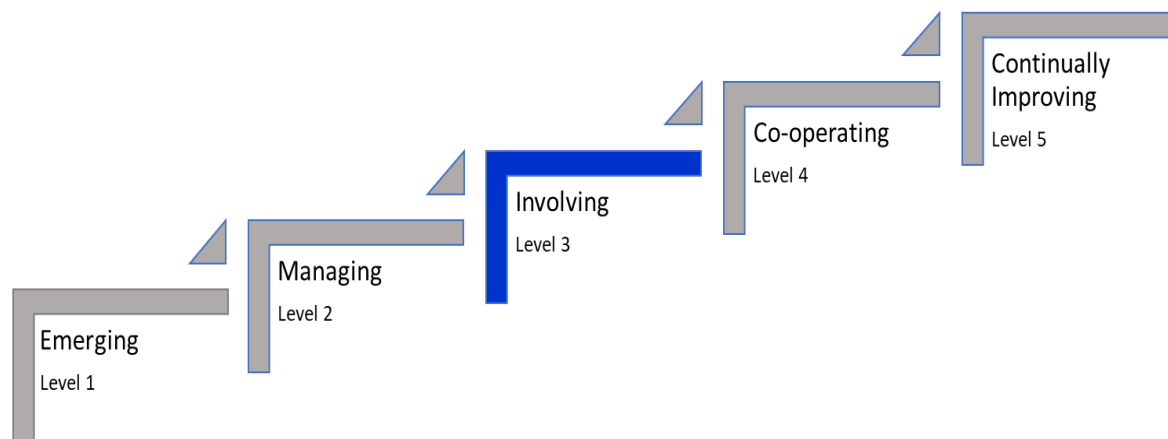
The semi-structured interviews mirrored findings of the survey interviews. Specifically, among labor leaders there was a similar 60/40 split between those perceiving that safety is a priority of leadership and those not sharing that belief. Of those interviewed who believed that leadership at BNSF is committed to safety, some offered information that safety goals and messaging are filtered through different divisions and managers and the effectiveness of leadership's safety messaging is sometimes impacted by how it eventually reaches employees. Those who reported that safety is not a priority frequently cited the feeling that BNSF's priority was in maintaining a competitive edge over other freight railroads. Among BNSF leadership, all reported that leadership is committed to safety. Many also indicated that BNSF leadership sets the tone of the workplace: that all of the BNSF workforce is responsible for and committed to safety. The majority of BNSF leadership also discussed safety as a core value (with most of those further stating safety to be the core value at BNSF).

As part of the safety culture assessment, inspectors from FRA's Motive Power and Equipment (MP&E) Division performed several focused inspection activities throughout the BNSF system. Specific findings from these inspections are presented in Chapter 2 of this report. However, it should be noted that while MP&E inspectors were conducting these assessments, FRA was contacted by BNSF expressing concern that these inspections were creating delay and causing a system backlog. The concern at BNSF seemed to be more consistent with keeping trains moving, than with discussing preliminary inspection findings or working with the MP&E Division to find a way for these safety

inspections to continue in a way that was more agreeable to BNSF production needs, without compromising safety. Although the majority of employees interviewed indicated that BNSF leadership does prioritize safety, FRA's MP&E Division inspection activities revealed a prioritization on production over safety.

Reviewing all results show two trends. First, the majority of craft employees, managers, and leaders believe that BNSF leadership prioritizes safety. Secondly, it appears that, in many instances, differing views on leadership's commitment to safety is the result of how information is communicated at the local level, as well as the feeling that local managers prioritize production goals over safety. Taking all this information together reveals BNSF overall to be currently at the involving level of safety culture maturity, as shown in Figure 4.

Figure 4. BNSF Maturity Level for Safety Culture Element 2



Element 2. The railroad practices continuous learning.

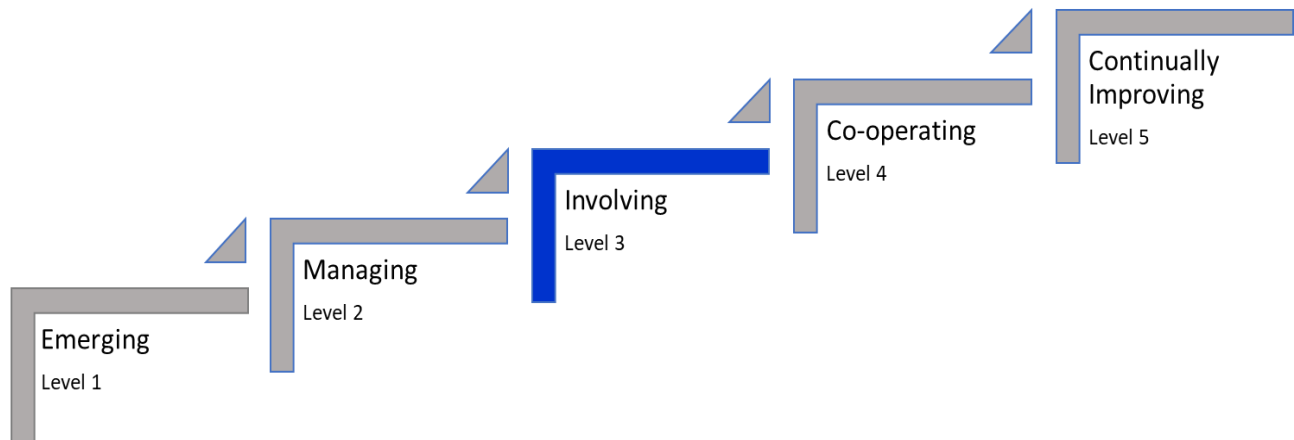
Most employees interviewed indicated that BNSF reviews incidents, accidents, near misses, and inspections for “lessons learned.” Only 8.26% of respondents said that BNSF did not review incidents and 7.04% reported they were unsure. Of those responding yes, across all crafts the rating was 4.14 when asked if BNSF shares the results of these reviews and lessons learned. Managers had the highest rating (4.57) followed by communications employees (signal and dispatch, 4.32) while MOW had the lowest (3.98). Employees with less than one year of experience had the highest rating

(4.58) and those reporting 31+ years of experience had the lowest (3.88). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Information from the semi-structured interviews indicated that BNSF leaders all believe that BNSF reviews incidents, accidents, near misses, and inspections for “lessons learned.” Furthermore, BNSF leadership indicated that this information is shared broadly throughout the BNSF system. However, information from labor leaders was divided. While more than half of the labor leaders interviewed indicated that BNSF shares lessons learned after accidents, incidents, near misses and inspections, there were also approximately 40% of labor leaders who indicated this information is not shared. Of those who said the information is not shared, some indicated that since the COVID-19 pandemic information that used to be shared in person is now being shared during Zoom calls or other virtual meetings. Labor leaders indicated that this change in how information is shared has made it less accessible to front-line employees. Other labor leaders indicated that sharing of this information is manager specific and some managers are very conscientious about sharing lessons learned with their front-line employees whereas others are not forthcoming sharing this information.

Reviewing all results reveal that the majority of craft employees, managers, and leaders believe that BNSF practices continuous learning. However, comments from many labor leaders in semi-structured interviews and information provided in “free form” comments from the field survey interviews indicated that there is a perception that the practice of continuous learning is not as good as it once was or that lessons learned are not always shared with front-line employees. Taking all this information together reveals BNSF to be currently at the involving level of safety culture maturity, as shown in Figure 5.

Figure 5. BNSF Maturity Level for Safety Culture Element 2



Element 3. Decisions Demonstrate Safety Is Prioritized over other Competing Demands.

Across all crafts BNSF employees provided a rating of 3.73 when asked if safety was prioritized over other competing demands. Managers had the highest rating (4.60) while operating craft employees had the lowest (TY&E 3.27). Communications employees (signal and dispatch) rated this the highest of all non-manager employees at 3.92. Employees with less than one year of experience had the highest rating (4.54) and those reporting 6-10 years of experience had the lowest (3.63).

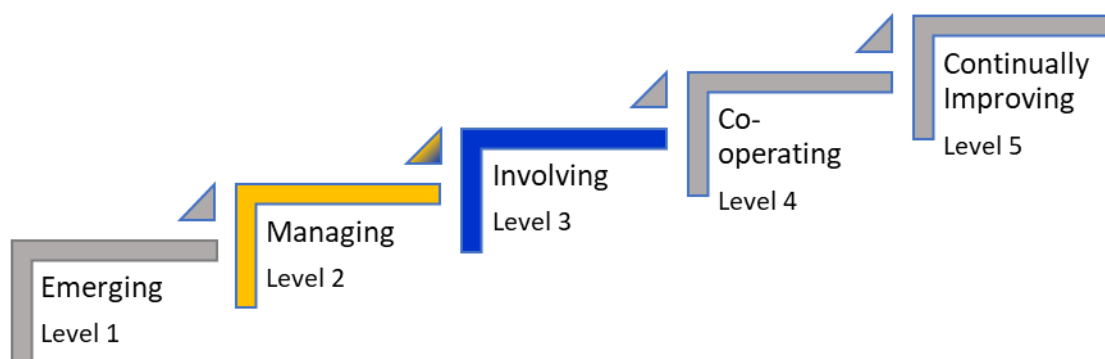
Employees gave a rating of 4.21 when asked specifically if potential hazards were discussed to determine the safest way to perform a task during job safety briefings. This was the highest rated item across the survey interview questions. Managers had the highest rating (4.62) followed by communications employees (4.60) while operating craft employees had the lowest (TY&E, 3.78). Employees with less than one year of experience had the highest rating (4.49) and those reporting 31+ years of experience had the lowest (4.11). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

BNSF leaders who participated in the semi-structured interviews all reported that safety is prioritized over other competing demands. Many leaders further went on to reiterate that safety is the core value of BNSF and that all decisions are made centered around safety. Information from “free-form” comments in the field survey interviews as well as from labor leaders participating in semi-structured

interviews is more nuanced. One common theme of these comments is that a perceived lack of a sufficient workforce is impacting the ability of the railroad to prioritize safety over other demands. Several commenters indicated that the top levels of BNSF prioritize safety, but as that message gets filtered to front-line managers and ultimately craft employees, it is changed to stress production over safety. Approximately 20% of labor leaders who participated in the semi-structured interviews or provided free-form comments indicated that some jobs or locations have work quotas, such as completing a specific number of inspections or moving a certain number of railcars, and that sometimes meeting the quotas results in sacrificing safety. Many went further to clarify that they believed the quotas were reasonable but there is often a lack of labor that makes these quotas more difficult to achieve than they were in the past.

When reviewing all information, it appears that while safety is prioritized over other competing demands at the highest levels of BNSF leadership, this information, when reaching front-line employees often changes to a perception that production is valued over safety. Furthermore, a perceived or actual reduction in the workforce over the past several years has left many labor leaders and front-line employees concerned that safety is being compromised in an effort to meet quotas or other production demands. Additionally, FRA track and structures inspectors found discrepancies in BNSF track inspector reports. For example, FRA inspectors found some instances where information was not reported and documented as required. Failing to report and document required information could impact safety as problems could be addressed without following established protocol or the failure to document could create unnecessary delays. Furthermore, reporting and documentation allows for information to be shared across the railroad system allowing the railroad to identify and appropriately address systemic problems. Using the information from field interviews, long form interviews, comments provided by field interview participants, inspection reports, and inspector findings, this element is currently between the managing and involving levels of safety culture maturity as shown in Figure 6.

Figure 6. BNSF Maturity Level for Safety Culture Element 3



Element 4. Reporting systems and accountability are clearly defined.

Across all crafts, BNSF employees provided a rating of 3.91 when asked if reporting systems and accountability are clearly defined. Employees provided a rating of 3.62 when asked if appropriate actions are taken when employees make a safety report. Managers had the highest rating (4.54) while operating craft employees had the lowest (TY&E, 3.65). These rankings were consistent when asked about follow-up actions with managers having the highest ranking (4.45) and operating craft employees having the lowest (TY&E, 3.27). Communications employees (signal and dispatch) rated these questions the highest of all non-manager employees at 4.20 and 3.88, respectively. When asked if reporting systems and accountability are clearly defined, employees with less than one year of experience had the highest rating (4.50) and those reporting 31+ years of experience had the lowest (3.58). These rankings were consistent when asked about follow-up actions after an employee files a safety report, with employees with less than one year of experience having the highest ranking (4.26) and those employees with 31+ years of experience having the lowest (3.35). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

FRA inspectors from the Track and Structures Division found several instances of report discrepancy and concentrated load defects under 49 CFR 213.123(b) that led to inspection reports not matching actual conditions in the field. Upon further investigation, inspectors discovered BNSF track inspectors were not reporting the actual conditions found during inspection runs. A possible

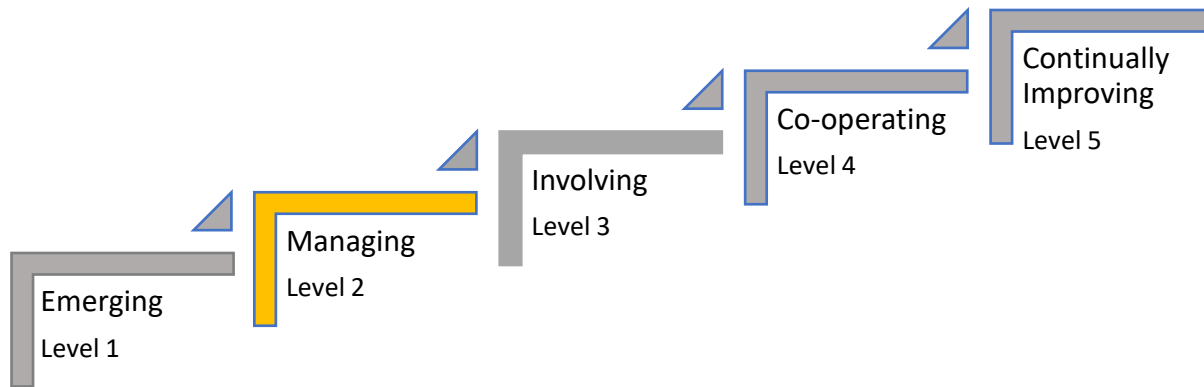
explanation for this is described in Element 7, and this discrepancy points to a lack of accountability through efficiency checks within the system.

Interview findings consistently identified the Safety Issue Resolution Process (SIRP)²⁸ system as an effective way for employees to report any safety concerns. Information from semi-structured interviews as well as from free-form comments provided during field survey interviews indicate that managers and employees across the BNSF system are aware of, and in many cases have used, the SIRP.

Approximately 25% of labor leaders interviewed, as well as some providing free-form comments in field survey interviews indicated that since the removal of the Safety Summit (a previously existing collaborative safety agreement), SIRP is the only system available to report safety concerns. Some also expressed disappointment at the dissolution of the Safety Summit and of those, a few indicated that although the dissolution of the Safety Summit is well known by employees at BNSF, the systems implemented to replace the Safety Summit have not been as well publicized. Lastly, several labor leaders indicated that while it is easy to report safety issues using the SIRP system, follow-up actions taken in response to those reports are not always shared with the employee who initially made the report. Some labor leaders indicated that follow-up information was provided to managers and some managers kept their employees informed of the status of safety issues and resolutions while others did not. One commenter specifically mentioned concern that there was not a mechanism at BNSF that would enable craft employees to report near-misses without fearing discipline or other punitive action. Using all information collected, BNSF is currently at the managing level of safety culture maturity for this element as shown in Figure 7.

²⁸ SIRP is one of BNSF's oversight processes that is designed to help communicate issues, assign champions, and track progress to completion. Those safety concerns that have been reported to a supervisor but cannot be corrected immediately are tracked, and the supervisor is responsible for addressing the safety concern in their respective area of responsibility.

Figure 7. BNSF Maturity Level for Safety Culture Element 4



Element 5. There is a safety conscious work environment.

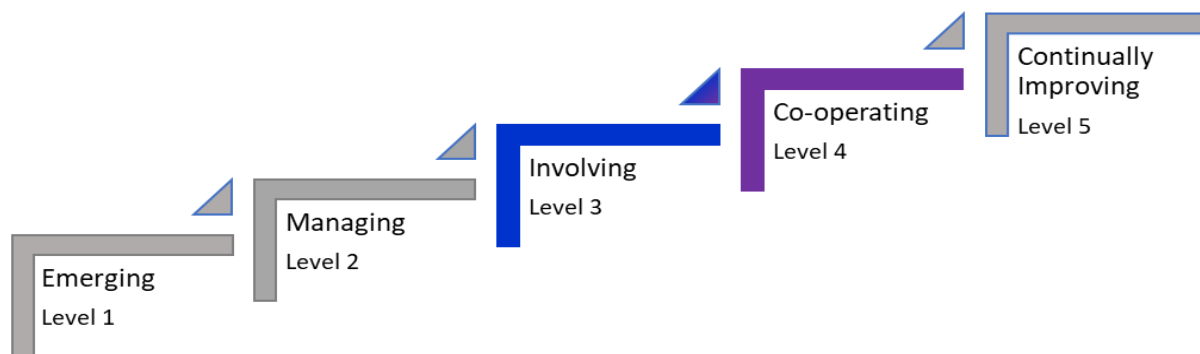
Across all crafts BNSF employees provided a rating of 4.18 when asked if there is a safety conscious work environment at BNSF. This was the second highest rated item across the survey interview questions. Managers had the highest rating (4.60) while operating craft employees had the lowest (TY&E, 3.89). Of the non-manager employees, those in the communications craft (signal and dispatch) had the highest rating at 4.31. Employees with less than one year of experience had the highest rating (4.51) and those reporting 31+ years of experience had the lowest (3.38). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Consistent with previous safety culture elements related specifically to safety, information from BNSF leadership interviews reiterated that safety is the core value at BNSF. Several employees who provided free-form comments as part of field interviews indicated that BNSF is a safe place to work. Others took the opportunity to highlight their division or craft's accident rate, with some even indicating their division had been accident-free for an extended period of time. Labor leaders also indicated that the overall work environment at BNSF is safety conscious. However, labor leaders did point out that in some BNSF territories safety is not always considered at the front-line manager level. One interviewee went on to elaborate that occasionally managers do not follow safety rules that railroad craft employees are expected to follow when performing tasks. As part of BNSF's

commitment to maintaining a work environment that is safety conscious, they have developed the presentation “We are Empowered to Choose Safety” and teach this as part of recurrent training. The presentation materials are available in Appendix I.

As with other safety culture elements, there was a perceived disconnect between the safety priority messaging of BNSF leaders and the less safety focused instructions from some front-line managers. Considering all of this information, BNSF is currently between the involving and cooperating levels of safety culture maturity as shown in Figure 8.

Figure 8. BNSF Maturity Level for Safety Culture Element 5



Element 6. Employees feel personally responsible for safety.

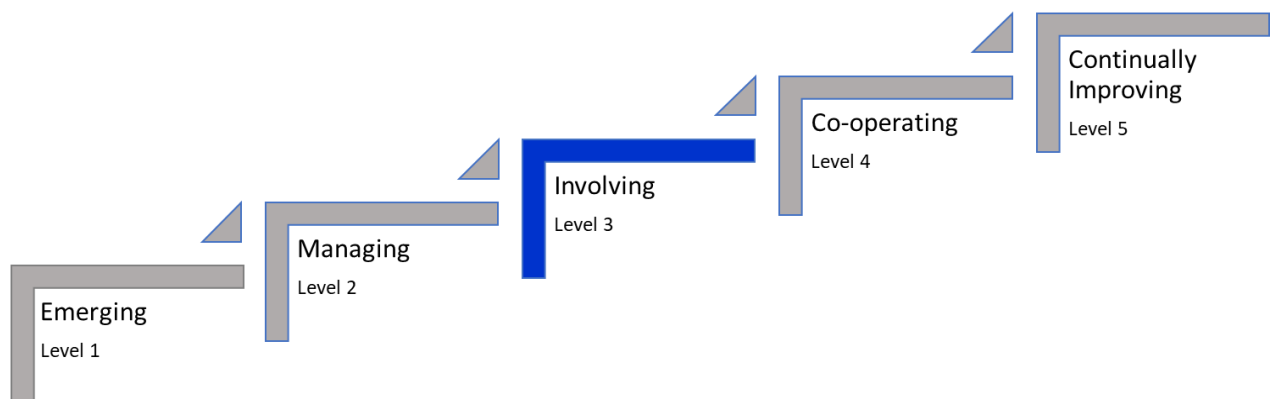
Across all crafts BNSF employees provided a rating of 3.90 when asked if BNSF employees feel personally responsible for safety. Managers had the highest rating (4.59) while operating craft employees had the lowest (TY&E, 3.44). Of the non-manager employees, those in the communications craft (signal and dispatch) had the highest rating at 4.20. Employees with less than one year of experience had the highest rating (4.36) and those reporting 31+ years of experience had the lowest (3.75). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

BNSF leadership, along with most labor leaders, reported that safety is everyone’s responsibility. However, when discussing who is responsible for safety, some labor leaders reported that, while

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employees are personally responsible for safety, BNSF is ultimately responsible for creating an environment where the commitment to safety is evident. Employees providing free-form comments indicated that front-line employees feel a personal responsibility for safety, and some mentioned that front-line and midlevel managers have stressed that each employee has a personal responsibility for safety. Some BNSF leaders and labor leaders indicated that pressure to meet productivity quotas or task fatigue at the end of a work shift occasionally led to employees prioritizing their responsibility to meet production targets over their responsibility to work safely. A few employees expressed that, although they feel personally responsible for safety, sometimes there are concerns regarding maintenance issues that impact safety. Since these issues must be resolved by someone other than the employee, once the issue has been reported, these employees indicated that they feel less in control of their personal safety as well as the overall safety of operations. Put another way, although these employees feel responsible for safety in these instances, they feel there is little they can do to ensure safety until the reported issue is resolved. Using this information, this element is currently in the *involving* levels of safety culture maturity as shown in Figure 9.

Figure 9. BNSF Maturity Level for Safety Culture Element 6



Element 7. There is open and effective communication across the railroad.

When asked if there is open and effective communication across the railroad, BNSF employees provided a rating of 3.92 regarding BNSF providing information to employees in a way that is easy to find. Managers rated this highest (4.47). The highest non-manager rating was provided by the communications craft (signal and dispatch, 4.17). The lowest rating was provided by operating craft employees (TY&E, 3.61). Employees with less than one year of experience had the highest rating (4.44) and those reporting 31+ years of experience had the lowest (3.43).

A second question asked employees if BNSF presents information in a way that is easy to understand. BNSF employees provided an overall rating of 3.96. Managers rated this highest (4.50). The highest non-manager rating was provided by the communications craft (signal and dispatch, 4.10). The lowest rating was provided by operating craft employees (TY&E, 3.37). Employees with less than one year of experience had the highest rating (4.46) and those reporting 31+ years of experience had the lowest (3.71). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

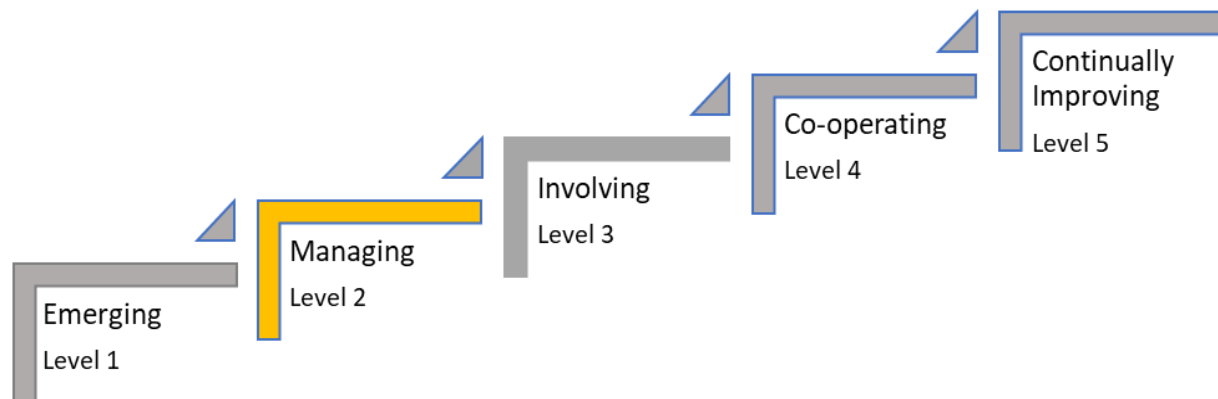
FRA's Track and Structures Division inspectors observed a communication breakdown between leadership and front-line employees. In interviews with FRA inspectors, BNSF employees reported that the lack of communication was creating feelings of frustration and being undervalued. Furthermore, employees expressed frustration in keeping up with the number of changes being made across the BNSF system. Employees expressed concern over the difficulty of remembering all the new changes and that the number of changes increased the possibility of error.

Interviews with labor leaders as well as from some free-form comments in field survey interviews revealed some commonalities across the BNSF system, as many reported that communication from BNSF leadership is "filtered" through midlevel and front-line managers. Those labor leaders and front-line employees further indicated that this filtering causes messaging to change as it makes its way through to front-line employees. BNSF leaders as well as labor leaders indicated that communication provided through the company intranet as well as written communication is both easy to find and understand. However, the disconnect seems to be when information is shared with midlevel and front-line managers who are then asked to convey this to front-line craft employees.

When this happens, some employees have indicated they feel the message changes or is diluted. Some labor leaders interviewed further elaborated that the emphasis on the information and the degree it is (or is not) altered from its original presentation is often manager or location dependent. Some went further to comment that although leadership prioritizes safety, some midlevel and front-line managers do not. As an example, FRA's Track and Structures Division inspectors observed reluctance of BNSF track inspectors to report the actual conditions they found during inspection runs. This may be in response to direction from midlevel and front-line managers to manage defects locally without reporting them rather than reporting them in a database that can be accessed across the BNSF system prior to making corrections. The database allows the railroad to know the scope of defects across the system and identify emerging safety issues by looking for trends in all defect reports.

Labor leaders indicated that some managers are very communicative whereas others are not. This dichotomy between the relatively positive perceptions of BNSF leadership's communication (including the ease of finding and understanding written communication) and the inconsistent messaging that is sometimes provided to craft employees by midlevel and front-line managers puts BNSF at the *managing* level of safety culture maturity for this element as shown in Figure 10.

Figure 10. BNSF Maturity Level for Safety Culture Element 7



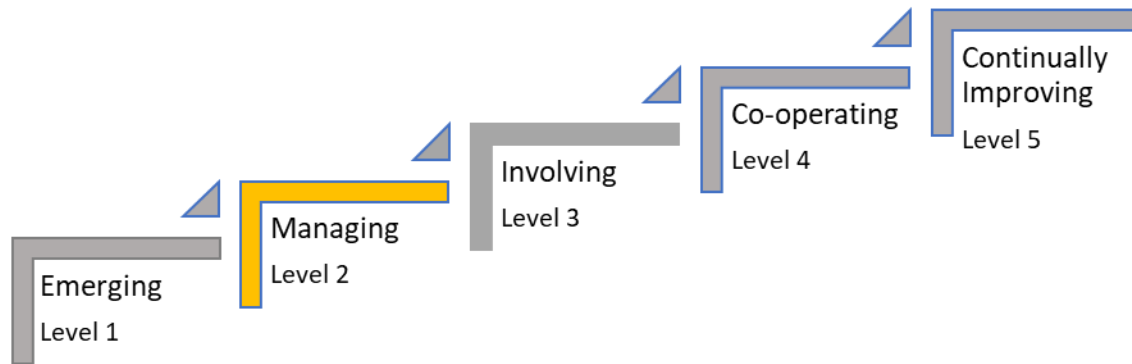
Element 8. Mutual trust is fostered between employees and the railroad.

The element concerning mutual trust between management and employees was rated the lowest of all the elements by both employees and management. Overall, BNSF employees provided a rating of

3.12 for this element. Managers rated this highest (4.20), and the highest non-manager craft rating was provided by the communications craft (signal and dispatch, 3.28). The lowest rating was provided by operating craft employees (TY&E (2.65). Employees with less than one year of experience had the highest rating (4.01) and those reporting 21-30 years of experience had experience had the lowest (2.89). This element, in addition to being the lowest rated, also had the biggest disparity in ratings between manager and non-manager employees. All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Mutual trust was the lowest rated element in the field survey elements. This was consistent with information from BNSF leadership and labor leader interviews. A common theme from labor leader interviews and free-form comments provided as part of field interviews indicated that trust is often location- or manager- dependent. Several employees reported great satisfaction with their management team whereas others reported a disconnect. One front-line craft employee indicated that he felt there was an “us versus them” attitude in his management team. Interviews with labor leaders indicated there is a perception that interaction between management and front-line craft employees has become more infrequent. Perceived satisfaction in the content and quantity of interactions between front-line employees and midlevel and front-line managers appears to be the key factor in determining the level of mutual trust felt by craft employees. However, BNSF leadership largely indicated that management interaction was frequent and effective. This is another instance where there appears to be a disconnect between BNSF leadership, midlevel and front-line managers, and craft employees. Taking all information into consideration, including field interviews, comments from field interviews, long form interviews with railroad and labor leaders, inspection reports, and inspector observations, this puts BNSF in the managing level of safety culture maturity for this element as shown in Figure 11.

Figure 11. BNSF Maturity Level for Safety Culture Element 8



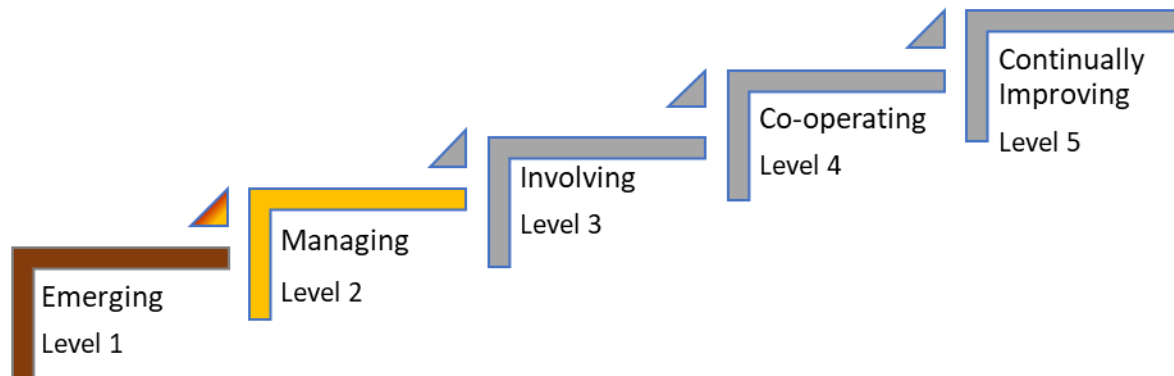
Element 9. The railroad is fair and consistent when responding to safety concerns.

BNSF employees provided the second lowest rating for this safety culture element, rating this element at 3.47. For this element, managers provided the highest rating (4.50) and operating craft employees provided the lowest (TY&E, 3.13). Of the non-manager employees, the communications craft (signal and dispatch) provided the highest rating (3.68). Employees with less than one year of experience had the highest rating (4.07). Employees reporting 6-10 and 31+ years of experience had the lowest (3.40). This element had the most consistent ratings among all employees. All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Information from BNSF leadership and labor leader interviews was consistent with information from the field survey interviews. BNSF leaders indicated that safety concerns are dealt with fairly and consistently. One interviewee cited the policy for employee performance accountability (PEPA), as evidence of BNSF's commitment to handling safety concerns consistently and equitably. However, information from labor leader interviews and free-form comments in field interviews indicated that safety concerns and discipline are not handled consistently. Many cited that handling of safety concerns and any resulting punitive action is manager dependent. According to those interviewed some managers still rely on punishment rather than education. One labor leader interviewee provided an example to illustrate this inconsistency. In his retelling, a manager asked a crew to reenact an event that led to an injury so the manager could understand what had happened. According to the interviewee, the crew were then disciplined by the manager for reenacting the events that had led to

the injury. When considering all information this element is moving from the *emerging* to *managing* level of safety culture maturity, as shown in Figure 12.

Figure 12. BNSF Maturity Level for Safety Culture Element 9



Element 10. Training and resources are available to support safety.

Across all crafts BNSF employees provided a rating of 3.65 when asked if there were training and other resources available to support safety. Managers had the highest rating (4.71) while operating craft employees had the lowest rating (TY&E, 3.64). Communications employees (signal and dispatch) rated this the highest of all non-manager employees at 3.85. Employees with less than one year of experience had the highest rating (4.13) and those reporting 11-20 years of experience had the lowest (3.56). All values are reported out of 5 where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

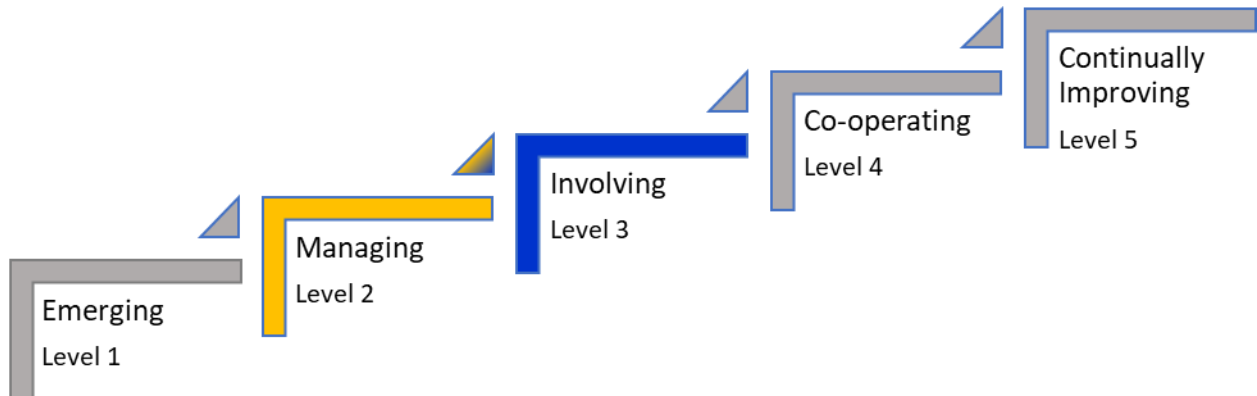
As part of their focused inspection activities, inspectors from FRA's Signal and Train Control and Track and Structures Divisions identified a need for MOW employees to receive additional training regarding crossing interference and how to perform work within the approach to a highway-rail grade crossing. Additionally, FRA's Operating Practices Division inspectors found that BNSF does not have a process for recurrency training of certified locomotive engineers who have not operated a train in the preceding 12 months. Current FRA standards for recurrency training include a required skills evaluation. Therefore, the absence of additional training and skills evaluation could present a safety risk. The frequency of technological changes associated with systems such as positive train control (PTC) and the general degradation of training handling skills over time are not addressed or

accounted for with the existing training and skill evaluation schedule. FRA Track and Structures inspectors also found inadequate resources to support safety of BNSF track inspectors as evidenced by discrepancies observed between actual field conditions and information provided in reports.

During visits to the BNSF technical and training center in Overland Park, Kansas, FRA Operating Practices Division inspectors had the opportunity to interview several newly hired employees. These interviews revealed concern that on-the-job training has been shortened at some locations due to workforce issues. Those interviewed expressed a desire for more on-the-job training on local and yard assignments. Additionally, some employees interviewed indicated certified conductors are declining to work with conductors in training. This has the potential of a student never working a particular job before being certified. However, these interviews also demonstrated BNSF's commitment to safety on the railroad as well as in fostering a positive safety culture. Several employees interviewed indicated that BNSF is working to instill safety over other competing demands in its training programs. However, employees still cited the need for more training for newly hired employees, especially opportunities for more on the job training. Interview information as well as free-form comments provided during field survey interviews revealed inconsistency when discussing if training and resources are available to support safety.

Overall, BNSF leaders indicated training is available to all employees. Labor leaders mostly agreed with this point when referring to railroaders who are more established in their craft. Many labor leaders and those providing free-form comments indicated that the training provided for new employees was insufficient. Some comments specifically requested the reestablishment of a mentorship program to address these perceived gaps in training and education for new railroaders. Effective new hire training creates the foundation upon which a safe railroad career can be built. It is also an opportunity to establish the values and priorities of the railroad. A lack of adequate training during these early days is unlikely to be offset by additional training and continuing education opportunities offered later in a railroader's career. The dichotomy between the available continuing education and perceived lack of sufficient training for new employees indicates this element is between the *managing* and *involving* level of safety culture maturity, as shown in Figure 13.

Figure 13. BNSF Maturity Level for Safety Culture Element 10



Anecdotal findings

As previously stated, data collected at BNSF for the safety culture analysis was taken from a sample of convenience. Convenience samples may not be an accurate representation of the underlying population of BNSF employees. Furthermore, convenience samples can be vulnerable to self-selection bias. This could potentially lead to one group, or opinion, being overrepresented or underrepresented in the sample when compared to the population as a whole. Therefore, no inferential analysis was performed. The information below is provided in an effort to illuminate potential data trends. Since the sample was one of convenience, it is possible that these findings are unique to the employees interviewed and not a representation of the entire BNSF workforce.

One finding of note was that those employees with 31+ years of experience rated almost all safety culture elements the lowest of any experience group whereas those with less than one year provided the highest ratings. It may be worthwhile to investigate if BNSF has changed its safety messaging in such a way that it is being imprinted upon newly hired employees but those who have more experience are not receiving those same messages. It is also possible that this trend is the result of the particular employees interviewed in these two groups and not as a result of differences that are pervasive throughout the BNSF system at these levels of railroad experience.

Safety culture elements related to training had the lowest rating from MOW craft employees whereas all other elements were consistently rated lowest by operating craft employees. Reviewing available

training, training needs, and perceptions of training specifically as they relate to MOW craft employees would allow BNSF to determine if this observation in the data is consistent with an issue across the system for MOW craft employees.

Manager interaction is another area that would benefit from further examination by BNSF. Specifically, BNSF can determine if the information regarding the disconnect between leadership messaging and the messages received by front-line employees (as filtered through midlevel and front-line managers) is happening across the system, at specific locations, to specific crafts, or if it is just an artifact of the employees interviewed.

Employees interviewed reported mixed feelings about their front-line managers. Some reported having a very good relationship with their management team while others classified their relationship as adversarial. Likewise, many employees indicated they are now having less manager interaction because of a perception that management workload has increased in such a way as to limit time for interactions between front-line managers and the employees they supervise.

Again, BNSF can use this information as a starting point to determine if manager satisfaction/interaction is dependent on craft or location, if it is found evenly distributed throughout the BNSF system, or if it is an artifact of employees interviewed.

Some comments revealed a perceived lack of a sufficient workforce within a specific craft or location. These comments also indicated that this lack of workforce was creating stress and affecting the ability to perform tasks and meet production goals safely. This may be an issue that is system wide, apparent in a few crafts or locations, or an opinion by those employees interviewed that is not widely held throughout the BNSF system.

Several employees interviewed indicated that the SIRP is currently the only way to report a safety issue for follow-up action. These employees cited that some dissolution of programs and the infrequent usage of other programs as the reasoning behind the reliance on SIRP. Employees mentioned safety summits, the BNSF Safety Council, and safety stand downs all as other mechanisms that were previously used to report and resolve safety issues. Comments indicated that as these programs have been phased out or become inactive, they are not aware of other programs or initiatives that are being launched to replace these programs. Some employees also indicated that

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SIRP reports of follow-up actions are not always shared with all relevant employees. Specifically, some employees indicated that SIRP follow-up reports are shared with some manager employees but that this information does not always reach the employees who initially identified the issue leaving them unsure of the status of the issue. One employee indicated that although BNSF has the SIRP program there is currently no way for an employee to report near-misses in a way that does not risk discipline or other punitive action.²⁹

Information regarding how discipline is handled across the BNSF system was mixed. Two employees, one in a semi-structured interview and one providing a free-form comment, specifically mentioned that the discipline policy at BNSF is improving. BNSF leadership also cited the PEPA as a mechanism to ensure that discipline is consistent throughout the BNSF system. However, as noted under safety culture element 9, discipline is perceived as being manager dependent and inconsistent.

Lastly, almost all labor leaders who participated in long form interviews and who did not think leadership prioritized safety, also believed that BNSF was ultimately responsible for safety. Those who believed leadership did prioritize safety also believed that safety is a shared responsibility. From this it appears that information on how safety is prioritized and who at BNSF bears responsibility for safety is something that has not reached all employees and their representatives at BNSF.

Note: After the conclusion of the safety culture assessment, FRA learned that BNSF failed to include its directly affected employees in the annual internal assessment of its Risk Reduction Program (RRP) as required by 49 CFR Part 271.113, Involvement of Railroad Employees. As a result of this failure, FRA is considering the recommendation of civil penalties.

RRPs must promote and support a strong safety culture, and one of the best ways to do so is to involve employees throughout the program's implementation. Although the safety culture assessment showed that BNSF's overall safety culture at the time of the study was moving from involving to cooperating, nevertheless FRA believes the railroad is missing opportunities to use effective RRP implementation as a tool to further improve their safety culture maturity.

²⁹ After this assessment's study period ended, BNSF agreed to implement a pilot implementation of FRA's Confidential Close Calls Reporting System. This pilot, which includes BNSF dispatchers, began in August 2024, and is expected to run for 12 months.

Section 1.4 Conclusions

Fostering and maintaining positive safety culture is an on-going activity that is evidenced by gradual change over time. Success requires a focus on continuous improvement and requires the commitment and engagement of leaders, managers, and front-line employees. FRA found the overall safety culture at BNSF to be between the *involving* and *cooperating* levels of maturity.

As outlined in the sections above, issues regarding the perceived lack of fairness when applying discipline policies impacted the safety culture maturity at BNSF as did issues regarding training, specifically for newly hired employees and maintenance of way craft employees, and issues regarding safety reporting systems. The perception by a majority of employees that safety is a priority at BNSF and that commitment to safety is improving year over year also impacted the BNSF safety culture maturity rating.

Perceived issues regarding communications was a pervasive thread that ran through comments for each of the 10 elements. Improving how safety information is communicated at all levels would have positive ramifications for every safety culture element as well as the overall safety culture at BNSF.

As mentioned above, FRA evaluated ten essential elements of BNSF's safety culture, and evaluated each using the Fleming Safety Culture Maturity Model. Results are shown in Table 1.

Table 1. BNSF Safety Culture Maturity Level on Each of Ten Essential Elements of Safety Culture

Safety Culture Element	BNSF Maturity Level
Leadership is clearly committed to safety	Involving
The railroad practices continuous learning	Involving
Decisions demonstrate safety is prioritized over other competing demands	Moving from managing to involving
Reporting systems and accountability are clearly defined	Managing
There is a safety conscious work environment	Moving from involving to cooperating
Employees feel personally responsible for safety	Involving
There is open and effective communication across the railroad	Managing
Mutual trust is fostered between employees and the railroad	Managing
The railroad is fair and consistent when responding to safety concerns	Moving from emerging to managing
Training and resources are available to support safety	Between managing and involving

CHAPTER 2: FOCUSED INSPECTIONS AND INVESTIGATIONS OF OPERATIONAL ELEMENTS

Section 2.1 Critical Operational Elements Overview

After the derailment in East Palestine, Ohio, last year, U.S. Department of Transportation (DOT) Secretary Pete Buttigieg issued a press release on March 7, 2023.³⁰ The press release highlighted operational elements that FRA would evaluate during the 60-day NS safety culture assessment.

FRA has adopted this same format for all 60-day safety culture assessments of the other Class I freight railroads. For instance, FRA opted to perform focused inspections and investigations for this BNSF assessment, which focused on the same operational elements listed in Secretary Buttigieg's press release. The FRA divisions involved in these focused inspections and investigations were: Operating Practices; Track and Structures; Signal and Train Control; Motive Power and Equipment; and Hazardous Materials.

The operational elements FRA evaluated³¹ during the assessment of BNSF included:

- Track, signal, and rolling stock maintenance, inspection, and repair practices.
- Protection for employees working on rail infrastructure, locomotives, and rail cars.
- Communication between staff in the transportation, mechanical and engineering departments.
- Operation control center procedures and dispatcher training.
- Compliance with federal Hours of Service regulations.
- Evaluating results of operational testing of employees' execution and comprehension of all applicable operating rules and federal regulations.
- Training and qualification programs available to all railroad employees, including engineer and conductor training and certification.
- Maintenance, inspection, and calibration policies and procedures for wayside defect detectors.

³⁰ Press Release, U.S. Department of Transportation, USDOT's Federal Railroad Administration Announces a Supplemental Safety Assessment of Norfolk Southern Railway's Operations (March 7, 2023) [FRA 02-23.pdf \(dot.gov\)](#).

³¹ Two operational elements listed in the press release that FRA did not evaluate during this assessment are related to the Risk Reduction Program (RRP) rule. FRA did not evaluate BNSF's RRP during this assessment because a separate audit of BNSF's RRP was already scheduled for early 2024.

- Procedures related to all wayside defect detector alerts.

The following sections will discuss the specific operational elements FRA divisions evaluated and FRA's findings on how BNSF performed.

Section 2.2 Operating Practices Division

Network Operations Center

A team from FRA visited BNSF's Network Operations Center (NOC) in Fort Worth, Texas, to evaluate BNSF's performance on train makeup, train handling, energy management systems, and training. FRA found that BNSF has a comprehensive and proactive approach to these areas. Some of the highlights of BNSF's approach are:

- BNSF's operating practices provide clear and detailed guidance on train makeup, which considers the grade characteristics and car types of each territory. The guidance is updated regularly based on the analysis of accidents and train energy simulations conducted by the Train Operations and Energy Simulator (TOES) team.
- BNSF has a 24-hour operating practices road foreman desk within its dispatching center, which can advise train crews, corridor managers, and dispatchers on train makeup and operating rules. The desk also has access to a train makeup program that can check if enroute car pickups, setouts, and distributed power unit (DPU) placements comply with BNSF's train makeup requirements. DPUs are additional locomotives placed throughout a train to provide additional power and train handling to a train.
- BNSF employs specific guidelines for the configuration of trains and the placement of DPUs to enhance safety and efficiency. The rules state that for any train, long or short cars cannot be placed in front of a section exceeding 3,000 tons in weight. For trains weighing over 5,500 tons, no restricted cars—those requiring special handling—appear in the first 10 cars. Additionally, in trains surpassing 7,000 tons, the weight of the last quarter of the train must not exceed one-third of the total train weight. Furthermore, DPUs must adhere to specific placement rules: for long trains, a mid-train DPU should not be more than 10,000 feet from the front and should be located at least 20 cars away from the first half of the train.

- BNSF has clear guidelines for foreign trains³² that are detoured. For example, foreign trains that follow BNSF train makeup instructions can operate at the highest speed permitted for BNSF. If the foreign train does not follow BNSF train makeup instructions, it can only reach maximum speeds of 45 mph.
- If a train is found to be noncompliant with train makeup enroute (e.g., Automatic Equipment Identification (AEI) readers), it must slow down to 45 mph until it is fixed. A predeparture train consist list is done at the first terminal to see if the train makeup is compliant, and if not, it must be fixed before departing. NSF tests auto control train handling with CORYS³³ CORYS dynamic simulations, TOES,³³ and field-testing methods. BNSF utilizes input data from Train Energy and Operations Simulator (TOES), New and Untried Car Analytic Regime Simulation programs, and field-testing methods to model in-train forces and evaluate train handling procedures, both for improvement and in response to incidents like derailments. They also collaborate with auto control vendors during post-accident analysis.

However, BNSF does not have a process in place for recurrency training of certified locomotive engineers who have not operated a train for over 12 months, apart from required skills evaluation. This is a concern because of the frequency of technology changes associated with auto control, PTC systems, and degradation over time of train handling skills.

BNSF, unlike some other Class I railroads, does not currently use a pre-trip in-train forces analyzation tool. These pre-trip models analyze in-train forces from origin to destination against preset allowable forces. If forces exceed preset limits, train speed is reduced, or changes are made to the consist. BNSF's interchange agreements do not require BNSF to verify train makeup compliance of the foreign railroad. If the foreign train adheres to BNSF train makeup instructions, there are no speed restrictions. However, if compliance cannot be verified, the train is limited to a maximum speed of 45 mph.

³² The term "foreign trains" typically refer to trains that are owned or operated by a different railroad company than the one whose tracks they are running on. For example, if a train owned by Union Pacific is operating on tracks owned by BNSF Railway, it would be considered a foreign train to BNSF. This term helps distinguish between trains that belong to the host railroad and those that do not.

³³ CORYS is the name of the company used by BNSF.

BNSF indicated approximately 50% of its total operation uses energy management systems (i.e., Trip Optimizer) with some areas as high as 90%. BNSF acknowledges that some locomotive engineers' loss of skills may occur due to significant reliance upon Trip Optimizer (TO). BNSF indicated it is aware of and monitoring this potential through various software tools that monitor and coach locomotive engineers' train handling skills. For example, one tool can detect if an engineer switches from tractive power to dynamic braking too abruptly, which can cause excessive in-train forces. The road foremen can intervene and counsel the locomotive engineer if this behavior is repeated. BNSF showed FRA how it trains the crews with simulators and continually updates its simulator profiles based on the most challenging and realistic situations. Additionally, BNSF requires its locomotive engineers to disengage TO and operate the locomotive manually during a skill ride assessment.

Hours Of Service

FRA reviewed BNSF's Hours of Service (HOS) program for dispatching and transportation employees. BNSF uses an Electronic Hours of Service (EHOS) system for transportation employees and paper records for dispatch employees. FRA's last EHOS audit of BNSF was conducted in late 2019 and was found to have minimal noncompliance. BNSF has added the ability for transportation employees to amend HOS records, a crucial regulatory requirement. Currently, BNSF is in the testing and training phase of this required provision and is the second Class I to integrate this requirement into its EHOS system.³⁴

Additionally, BNSF has developed an internal auditing procedure to prevent excess HOS on duty periods. In 2022, BNSF had 287 defects and 261 recommended civil penalties for occurrences of excess HOS. For calendar year 2023, BNSF reduced these numbers to 111 defects and 79 recommended civil penalties.

However, FRA identified a problem regarding HOS. BNSF has a position designated Yard Control Operators (YCO), which are under the dispatcher HOS, located in only three locations on the BNSF Railway system: Galesburg, IL; Pasco, WA; and Lincoln, NE. YCOs perform the same functions as dispatchers, but instead of directing traffic on the main network, YCOs direct traffic in rail yards.

³⁴ CSX Transportation is the other Class I.

FRA is working with BNSF to permanently resolve this issue. BNSF is currently hiring additional employees to increase the number of qualified employees for this unique position. Additionally, BNSF is considering transferring the dispatching duties back to the Network Operations Center (NOC) located in Fort Worth, TX. FRA has stressed the urgency of this compliance and warned BNSF that further continuation of this noncompliance will result in recommendations of ordinary maximum penalties due to the critical nature of the dispatching position.

Dispatching Center

Between November 28-30, 2023, a team of three Operating Practices inspectors participated in the assessment of processes and procedures around multiple operational functions in the NOC located in Fort Worth, TX, with an emphasis on wayside detection and communications. A total of 30 BNSF employees in various positions covering all three shifts were observed and interviewed throughout the three-day assessment.

The observations and interviews of dispatchers, dispatch managers, and the wayside desk employees uncovered no concerns. Overall BNSF's processes, procedures, and communications were consistent across all positions and shifts. The review of BNSF's processes and procedures surrounding wayside detection and communications also uncovered no concerns and contained necessary redundancies and processes.

Finding 1: Yard control operators' training may not be sufficient to enable them to safely perform required tasks.

FRA identified significant safety concerns regarding the standardization and management oversight of yard control operator (YCO) training programs at BNSF locations in Galesburg, IL; Pasco, WA; and Lincoln, NE. The BNSF standard for personnel involved in safety-sensitive dispatch functions mandates comprehensive training, exemplified by a 12-week program for dispatchers. However, YCO training deviates from the dispatcher standard, as YCOs undergo only a two-week training regimen despite bearing similar responsibilities to those of dispatchers. The discrepancy stems from a lack of uniform training policies that ensure all operators receive adequate preparation, coupled with insufficient management oversight.

Recommendation:

- FRA recommends that the formalized training program for YCOs be comparable to that of dispatchers.

Finding 2: Yard control operators are not managed by dispatch managers and were not part of BNSF's operational testing program until January 2023.

YCOs are currently supervised by field managers lacking the necessary experience and knowledge specific to YCO functions, rather than by managers directly assigned to the NOC. To mitigate these consequences, it is essential to revise supervision policies to ensure YCOs are managed by NOC-assigned managers with the appropriate skills or, alternatively, to enhance the training of field managers to bridge this knowledge gap. An additional oversight by BNSF was the exclusion of YCOs from the railroad's operational testing program. This exclusion eliminates a method to ascertain whether the training provided is adequate or if the procedures are being followed correctly.

Recommendation:

- YCOs who are performing functions that classify as dispatch functions should be supervised by dispatch managers who have successfully completed training required to oversee necessary dispatching employees training. For the short term, BNSF has begun working to develop plans to enhance its current two-week training program for YCOs and, as of January 2023, were providing YCOs with operational testing and inspections along with its dispatchers.

Training Center

During the assessment, FRA inspected BNSF's training center in Overland Park, Kansas. 25 new hire conductor trainees in the final week of classroom instruction and 20 training/field managers were part of the assessment. Observations and discussions with both groups took place between November 27-29, 2023. FRA inspectors toured the campus upon arrival.

- FRA observed efforts to highlight situational awareness and safety, with measures designed to promote awareness of one's surroundings and encourage proactive safety behaviors. For example, all steps inside the building are orange in color, providing visual awareness to focus when climbing or descending the staircase.
- Similarly, the floors outside of doors opening out towards the hallways had orange boxes outlined showing the swing path of the door. This gives the person using the hallway a visual aid to see what doors open out and prevents passers-by from being struck with the door if it opens unexpectedly. All persons using the training center are briefed on the meaning and use of the orange boxes and are encouraged to address anyone seen walking into the boxes to correct their behavior.
- Individuals on campus are told to refrain from walking and talking on cell phones. The expectation is that individuals will stop walking once they receive a call on their cell phone, complete their conversation, and end the call before moving again (FRA observed this multiple times).
- Individuals on campus are expected to use handrails while ascending and descending stairs.
- Individuals using classroom chairs are told to watch for movement while sitting or standing, as the chairs are on wheels.
- All classrooms visited had at least one poster that addressed an aspect of safety.
- All classrooms had fire escape plans posted by the exit doors.
- In multiple locations, the campus had fire extinguishers that were all properly charged and inspected.
- Rooms are equipped with a locking feature that once active will not allow anyone to enter the room until campus police arrive to unlock the doors. This system is in place in the event of an active shooter incident on campus.

FRA observed the morning job briefings as part of its observation of classroom activities. During the job briefings, beyond identifying the customary 911 caller, automated external defibrillator (AED) person, etc., BNSF discussed the most recent restricted speed violations with the new students to raise awareness and to show the seriousness of these incidents.

FRA interviewed multiple students throughout this assessment. Interviews focused on how BNSF discusses safety and the railroad's safety culture, and whether the students understand their part in it. The students' responses expressed a consistent and active safety culture theme. Students took part in presenting job briefings in class and were instructed on classroom safety basics (i.e., chairs pushed in, bags stowed to prevent tripping hazards, etc.).

During conversations with the BNSF students, they provided the following observations:

- On-the-job training (OJT) at some locations appears to have been shortened due to workforce issues.
- Certified conductors will decline to work with conductors-in-training, which could result in the conductor-in-training never having OJT for a particular job before being certified.
- Multiple students expressed a desire for more OJT on local and yard assignments.
- Multiple students raised questions about operational testing. Very few have had exposure to operational testing at this point, and those who were exposed to operational testing did not understand the process completely.
- Drone usage was identified as a safety concern. One student felt that the noise from the drone could create a distraction while working.

Overall, FRA did not identify any concerns during the safety assessment of the BNSF training center. Concerns brought up by the students above were discussed with BNSF managers before FRA departed.

Movement Planner

Finding 3: Movement planner is routing trains unnecessarily through switches and sidings.

During the dispatcher observation and assessment, FRA found that BNSF's Computer Aided Dispatching (CAD) system and Movement Planner did not always function as intended, and dispatchers communicated several safety sensitive concerns. Some movements produced by the CAD system and Movement Planner, including the observation of a Key Train lined through two turnouts into and out of a siding traversing over multiple switches, unnecessarily increased the possibility of an incident. FRA also noted the automatic route lining of trains through multiple crossovers, which in

some instances created a meeting of two trains with lengths that exceeded the track capacity. Multiple instances of these items were observed in real time by FRA.

Recommendation:

- BNSF should establish a more robust and systematic approach to collecting, prioritizing, and addressing Movement Planner issues. The systematic approach should include communications to and from the dispatcher ranks, as well as the vendor, with resolution plans communicated to the personnel who have reported these issues.

General Track Bulletins

Finding 4: BNSF's General Track Bulletins auto routing may not include the correct route.

FRA observed and noted that when BNSF is clearing trains with General Track Bulletins (GTBs), the dispatching system does not always auto generate the correct route for the train. Although it is the dispatcher's and train crew's responsibility to make sure they have the proper paperwork for the territory/route they will be operating on, this is a potential area for concern. Having the routes auto generated is intended to reduce the potential for the dispatcher and crew to make an error selecting the wrong train route. PTC automatically extends protection in front of the train, even when the paperwork is not sent to the crew on the GTB. However, when the crew does not have the proper paperwork there is an increased potential for an incident to occur. Currently, a standard process to correct these misroutes is not in place at the NOC. Train crews are required to verify they receive the proper paperwork for the trip. If the paperwork is not correct, the crew will contact the dispatcher to have the proper paperwork issued to them.

Recommendation:

- BNSF should establish a mechanism for the instantaneous collection of feedback from any dispatcher desk that experiences difficulties with the generation of routes on the GTB system. This approach will facilitate the immediate correction of inaccuracies, thereby maintaining the integrity and dependability of route management.

Field Familiarization

Finding 5: BNSF provides no cross-discipline field trainings for train dispatchers of crafts.

During the NOC assessment and in the time leading up to it, multiple dispatchers revealed that BNSF lacks a “Field Familiarization” process for both new and existing qualified dispatchers. This absence of a structured cross-discipline training program has led to a substantial knowledge gap among train dispatchers, which restricts their grasp of the entire range of railroad operations. Such a deficiency in comprehensive training compromises train dispatchers’ ability to make informed decisions, as they are potentially unaware of the roles, challenges, and safety protocols faced by other crafts within the railroad. This situation adversely affects BNSF’s operational efficiency and its adherence to safety standards. Given that dispatchers play a pivotal role in ensuring the smooth and secure movement of trains, their limited understanding of operational dynamics could result in operational inefficiencies, communication breakdowns, and heightened safety hazards.

Recommendations:

- BNSF should ensure that dispatchers spend time with various crafts in the field to gain a better understanding of how their interactions with other crafts impact operations.
- Dispatchers should be provided sessions of initial and recurrent training to better understand and relate to operations outside of the office.
- Historically on many railroads dispatchers have done “ride alongs” with track inspectors. The ride alongs give the dispatchers valuable information and familiarity with territories they dispatch and the work the track division is responsible for. BNSF should have their dispatchers conduct yearly ride alongs.

Section 2.3 Track and Structures Division

In response to the FRA Track and Structures Division's recent focused inspection over BNSF's Montana Division North, FRA targeted the following engineering items to investigate systemic defect concerns during this safety culture assessment:

- BNSF Continuous Welded Rail (CWR) cut-in records and procedures.
- Quality control inspections of concentrated load defects after system maintenance work is performed.
- Compliance observations of roadway worker on-track protection procedures.
- Sample bridge inspection reports to compare railroad reports to field conditions.

FRA's Track inspection team evaluated the following: CWR field cut-in procedures, documentation, and rail anchoring patterns for compliance with BNSF's approved CWR plan; quality control inspections after maintenance activities for concentrated load bearing defects; Roadway Worker Protection (RWP) and Roadway Maintenance Machine (RMM) compliance; along with bridge observations for compliance with BNSF's bridge inspection plans.³⁵

Finding 1: Concentrated loads and documented track inspection reports did not match actual field conditions.

During the assessment period, FRA's Track and Structures Division conducted 180 inspections, identified 1,455 defects, and recommended 14 civil penalties with defects identified in all focused investigation areas. Based on this assessment, FRA did not find egregious violations or incidents (e.g., gross negligence, severity of consequence or safety risk, and past compliance history) that warranted an individual liability despite multiple recommended civil penalties. Specifically, FRA found 81 CWR rail anchor application defects³⁶ that accounted for the majority of all CWR defects, 437 loose turnout component defects, and 65 concentrated load defects that, when combined, accounted for approximately 35% of all defects identified by the Track discipline. Addressing

³⁵ In accordance with 49 CFR § 213.237.

³⁶ In accordance with 49 CFR § 213.119.B.

concerns in these three areas would have a direct impact on improved safety through better quality control management after production work.

Note: Although outside the dates for this assessment, the week following the conclusion of FRA's Safety Culture assessment defect focus, a Texas state inspector identified approximately 116 concentrated load defects on the Galveston Subdivision, which prompted a mini focused inspection. In addition, a recent joint FRA and Texas Department of Transportation focused inspection found numerous cross-tie defects including those across bridges.

BNSF inspectors identified multiple defects during this assessment. However, the type of defects found by FRA and identified in this report were not identified by BNSF inspectors during their compliance inspections. Of specific concern are CWR rail anchors defects under 213.119 (b) and concentrated load defects under 213.123 (b). Both defects have the potential to cause derailments. As part of this assessment, FRA did an inspection records comparison to FRA inspectors' field inspections and found that BNSF inspection reports often did not match the actual conditions FRA found in the field. Inspectors are trained and qualified by BNSF and not reporting conditions in the field would be a defect under 213.241(b). There appeared to be a reluctance for track inspectors to report conditions found during inspection runs when the condition required a remedial action in the form of a speed restriction (slow order).

When in-field conditions are not reported accurately and remediated properly, there is increased risk to public safety and possible derailments.

Recommendations:

- BNSF should ensure proper training of inspectors to find and document all defective conditions.
- FRA will make it clear to BNSF that FRA expects all non-compliant conditions must be reported by BNSF inspectors, including anchor defects.
- Managers should ensure proper inspections and documentation of conditions, and that conditions in the field match those documented on the inspection reports.
- BNSF should improve quality control inspections after planned maintenance work to ensure rail anchors are reapplied and concentrated loads are remediated before resuming

operation on Class 3 through 5 track. BNSF managers should ensure that loose turnout components are not repeated defects due to worn components.

Rail Integrity Team

Finding 2: Communication within the Track department between BNSF leadership and those employees who are qualified under Part 213.7 (a)(b)(c) and whose duties require them to perform construction, maintenance, and inspection activities in CWR territory was not always clear or consistent.

BNSF field employees expressed continuous frustration to FRA's Rail Integrity personnel regarding technical and organization information not being shared with them by their leadership. Overall, there appeared to be a communication breakdown from leadership to maintenance employees who expressed feelings of frustration and being undervalued.

According to FRA's interviews, employees felt the time spent with FRA specialists during the assessment was valued because they learned more during that time than during BNSF training. The only other comments employees made indicated that they were frustrated with the number of changes BNSF was making, and it was hard to keep up, meaning it was just a matter of time before they made a mistake and experienced repercussions.

Recommendation:

- Implement improved communication and information dissemination between BNSF leadership and those employees responsible for the supervision and installation, adjustment, maintenance, and inspection of CWR under 49 CFR 213.7 (a)(b)(c) designations so employees are promptly informed of any BNSF structure or policy changes to their CWR procedures.

Bridge Team

Finding 3: BNSF's bridge reports were incomplete and did not fully comply with Part 237.

FRA's Bridge and Structures Group found that BNSF is performing thorough bridge inspections; however, the inspection reports do not fully comply with Part 237 requirements. As part of this assessment, FRA's Bridge and Structures Group conducted limited observations of BNSF bridges in Illinois, Wisconsin, and Texas. A total of 59 bridges were observed by BNSF and FRA bridge personnel on the Boise City, Red River Valley, St. Croix, and Chicago Subdivisions. At each of these 59 locations, the latest BNSF bridge inspection report was reviewed and compared to the conditions observed in the field. FRA did not identify any deficiency in BNSF's inspection program, nor did FRA observe any conditions in the field that are of any immediate safety concern. However, FRA is taking exception to the way BNSF reports some of the results of its regulatory inspections.

As an example, the Bridge Safety Standards³⁷ require each track owner to adopt a Bridge Management Program (BMP) to prevent the deterioration of railroad bridges and the capability to safely carry the traffic operated over them. These are performance-based standards, with responsibility for most of the details, within certain minimum requirements, being determined by the track owner's designated railroad bridge engineer(s). Among the requirements established by the regulation are the requirements for bridge inspection records to be "*dated with the date(s) the physical inspection takes place and the date the record is created*"³⁸ and indicate "*the condition of components inspected.*"³⁹

Since, in many instances, the inspection record is not always filled out on the day of the inspection but often created in an office days or weeks after the physical inspection is completed, two distinct dates are required on the record - the date(s) that the physical inspection takes place and the date the record (bridge inspection report) is created.⁴⁰ The date the record is created is meant to coincide with the time of the record being signed or otherwise certified by the person making the inspection, at

³⁷ 49 CFR § 237.

³⁸ 49 CFR § 237.109(b).

³⁹ 49 CFR § 237.109(c)(6).

⁴⁰ 49 CFR § 237.109(b).

which point the record cannot be altered by any individual, only amended in accordance with the regulations.⁴¹

BNSF's bridge inspection reports were reviewed for each of the 59 bridges observed. A standard format is used, and names and dates appear in two locations. Under "Inspection History," the inspection type (as indicated in BNSF's bridge management program) is indicated as well as the most recent date and name of the person(s) inspecting. A separate section, for "Open Maintenance Exceptions," lists deficiencies identified for remediation, who found/created the "exceptions," and when it was done. FRA has observed reports with four or five different names and/or dates within these sections of the report, making it is very difficult to discern when the record was created and certified, and by whom. It is important that the record shows when the inspection report is "complete" (not subject to further alteration) and who is taking responsibility for the completed inspection. FRA noted the missing record creation date and issued defects for "bridge inspection report missing date record was created" on all 32 bridges assessed on the Chicago and St. Croix Subdivisions. Similar omission exists on the 27 bridges on the Boise City and Red River Subdivisions. FRA, at its discretion, did not issue defects for those reports, based on FRA's assessment of the bridge conditions and safety risk.

Section 237.109(c)(6) requires that every bridge inspection report include *"the condition of components inspected, which may be in a condition reporting format prescribed in the bridge management program, together with any narrative descriptions necessary for the correct interpretation of the report."* The inspection report must be a "condition report" where the current state of all components or classes of components is recorded, not an "exception report" where only the condition of deficient components is recorded, and all others are assumed to be in a like-new condition and functioning as intended. Unless a condition assessment is assigned to a component or class of components, there is no indication that these items were even inspected, and taken to the extreme, a bridge in like-new condition might show just the header information, the date of the inspection, the date of report creation, and the inspectors identification. A report containing only this information is considered defective.

⁴¹ 49 CFR § 237.155.

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During its assessment, FRA observed a bridge and inspection report that very nearly meets the “taken to extreme” circumstances just described. Bridge 19.3 on the Boise City Subdivision is a 1,736-foot bridge, built in 1930, and includes four 220-foot deck truss spans. It was last inspected by BNSF on February 27, 2023. The inspection report indicates only general information (location, type, configuration, etc.), inspection history, and an “exception history.” There are no indications of the conditions of any components, nor are any components identified. The “exception history” identifies only one condition which is five rivets missing on Span 4, a 60-foot deck plate girder. FRA issued a defect on this structure for “bridge inspection reports not accurate.” BNSF’s inspection report did not make note of several non-critical conditions that should have been observed such as loose handrails, certain tie conditions, wingwall deterioration, and bearings buried in ballast.

Although FRA did not issue defects for “bridge inspection report missing condition of component inspected” for bridges in Texas, FRA did issue defects at all 32 bridges assessed on the Chicago and St. Croix Subdivisions. All reports accurately list exceptions found but BNSF reports do not identify the condition of the components inspected as required by regulation.⁴²

While FRA did not observe any unsafe conditions or indications that BNSF was managing their bridges in an unsafe manner, the inspection reports reviewed do not fully comply with Part 237 requirements for documenting the actual condition of the bridge components inspected. FRA will work with BNSF for an acceptable resolution to the items noted during this audit.

Recommendation:

- FRA recommends BNSF initiate a thorough review of the section of its BMP (Engineering Instructions), which pertains to recording inspections and the format of the bridge inspection reports currently being provided to FRA to ensure that they meet the requirements of Part 237, Bridge Safety Standards.

Conclusion:

Track and Structure Division focused on several areas of parts 213, 214, and 237, finding that missing rail anchors under 213.119(b) and concentrated loads defects (metal objects under the rail

⁴² In accordance with 49 CFR § 237.109(c)(6).

base) under 213.123(b) are widespread across the BNSF network. BNSF failed to take remedial action either by immediately repairing the defect or appropriate speed restrictions.

FRA also found deficiencies in bridge reports that did not document the actual condition of the bridge components inspected and were not in full compliance with Part 237.

Note: FRA found patterns of defects identified in this safety culture assessment that were similar to those found in our recent focused inspection of Montana Division North.

Section 2.4 Signal, Train Control and Crossing Division

FRA's assessment of BNSF's Signal and Train Control operations consisted of two key areas of review. First, during the week of November 13, 2023, FRA conducted a safety and compliance inspection of the BNSF Dispatch Center. This inspection assessed BNSF's Signal Operations Center (SOC), at their Headquarters in Fort Worth, TX, which receives dispatcher, private citizen, and other reports of crossing malfunctions. The SOC desk notifies appropriate BNSF signal forces to correct any issues. This inspection focused on the SOC for compliance with Title 49 CFR Parts 234 and 236; and was conducted at the BNSF Headquarters in Fort Worth, Texas. FRA also conducted a review of 234 credible reports randomly selected from multiple districts within BNSF's system.

Second, during the week of October 16, 2023, FRA's Signal, Train Control and Crossing Division (STCC) Inspectors, under the escort of the BNSF General Director of Railroad Training and Manager of Railroad Training Services, assessed BNSF's training facility at Johnson County Community College in Overland Park, Kansas. FRA requested a tour of the facilities and technical installations to observe training classes, and interview students and BNSF staff supporting the training. Overall, FRA regards the training program as thorough and emphasizing a safety culture.

Signal Maintenance, Inspection, and Repair Practices

The inspection evaluated the BNSF SOC and field personnel on their current level of compliance with the following federal regulatory requirements:

BNSF Railway Safety Culture Assessment Report

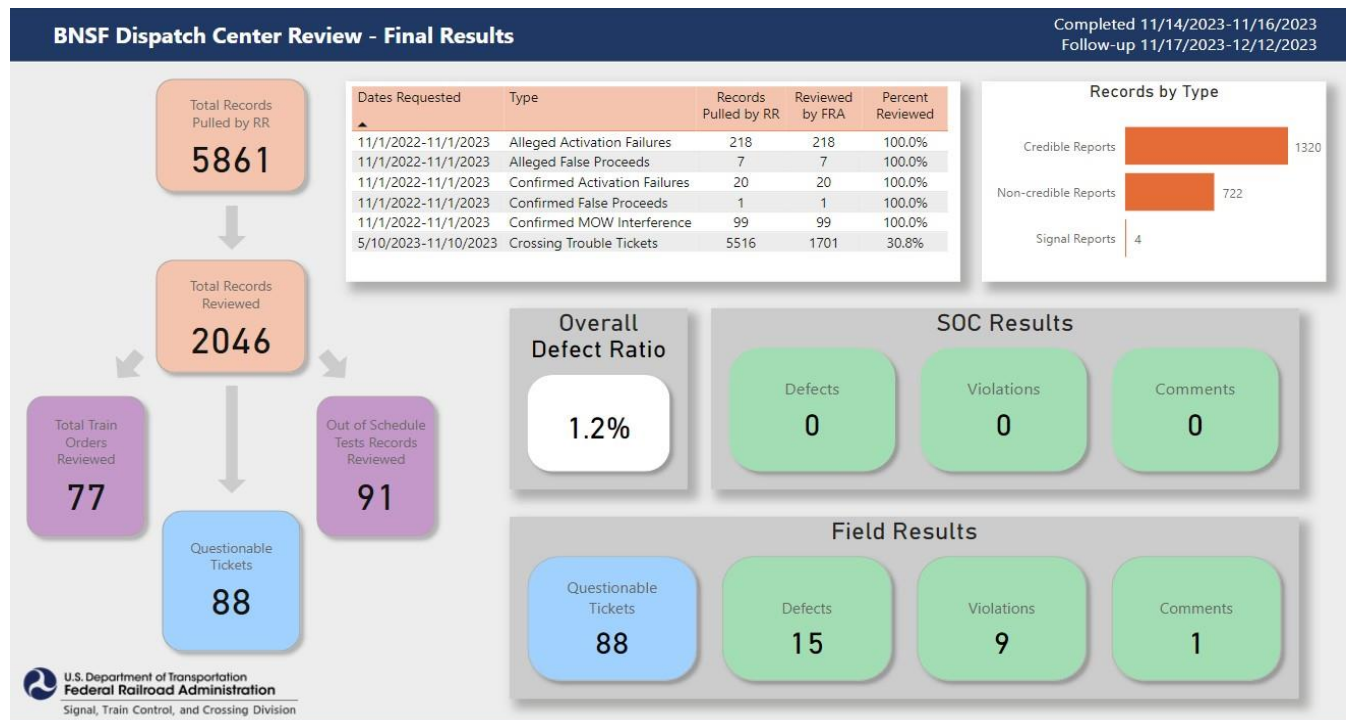
- 49 CFR Part 234 Grade Crossing Safety, and
- 49 CFR Part 236 Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances.

FRA reviewed the following functions associated with the above regulations:

- Credible Reports,
- Emergency Notification System Compliance/Non-Credible Reports,
- Activation Failures,
- False Proceeds,
- Maintenance-of-Way Interference, and
- Test Records.

Figure 15 below has a breakdown of the records reviewed and results. These results include the BNSF SOC Headquarters records and the actions taken by FRA field inspectors.

Figure 15. Overview of FRA's examination of BNSF Signal and Train Control records



Finding 1: Maintenance-of-Way employees interfered with the normal operations of grade crossing warning systems.

During the inspections at the BNSF Dispatch and SOC in Fort Worth, Texas, FRA inspectors found numerous instances of interference⁴³ with the normal operation of grade crossing warning systems by MOW employees during the credible report inspections. These actions cause false activations of the grade crossing warning systems (lights flashing no trains). This reduces the public's trust in the warning system and may cause bad driving behaviors, such as driving through the grade crossing while the warning devices are activated. Although BNSF field personal have made significant improvement since the last audit pertaining to MOW interference with grade crossing warning systems, further improvement is still needed.

Recommendation:

- BNSF should re-train MOW employees to identify work that interferes with the normal operation of a highway/rail grade crossing warning system and to understand how they are required to perform work within the approach to a grade crossing.

Signal Training

The FRA team observed multiple lab environments within BNSF's training facility and were given a general overview of the signal training program. The visit included a tour of the BNSF field training site located at Johnson County Community College in Overland Park, Kansas. FRA STCC inspectors also completed 12 field interviews with students and BNSF staff supporting the training. Based on this work, FRA found BNSF's training facility and the field training site are continuously developing

⁴³ Interference was mostly from MOW employees working in the approach to a highway-rail grade crossing and causing it to activate intermittently. MOW employees are required to either flag the crossing, place a shunt to cause the crossing warning system to time out, or work with a signal maintainer to jumper the crossing while they are working. Some interference incidents were caused by train crews tying a train down too close to the crossing, resulting in continuous activation of the highway-rail grade crossing warning system.

and providing training that is applicable to today's rail industry. The training facility and program emphasizes a safety culture.

Features of BNSF's training program include:

- All Engineering employees spend their first 10 days on property at the BNSF Technical Training Center (TTC) completing safety training courses and obtaining roadway worker protection qualification.
- The BNSF TTC projected a total of 347 engineering employees enrolled through 2023.
- An average of 120-130 signal apprentices per year attended classes over the last three years.
- The BNSF TTC works in conjunction with BNSF's "Back Office" to provide real world simulation.
- Signal apprenticeship (SA) is a two-year program consisting of four sessions that are each two weeks long. At the conclusion of each two-week session, the signal apprentice must pass a written exam with a score of no less than 80% and 100% in the On-Job-Training (OJT) component.
 - The SA program has a 93% success rate.
 - Session One has the highest failure rate.
 - In the event of a test failure, the signal apprentice has 30 days to re-test one time.
 - Failure of the re-test results in employee resignation from the railroad.
 - OJT is required between each session and is tracked by BNSF TTC Management utilizing Rail Tasker, a computer program.
 - Signal apprentices are given the opportunity to work with signal maintainers throughout the OJT process as needed (or requested) by the signal apprentice.
 - Signal apprentices are required to obtain a Commercial Driver's License (CDL) within 180 days of their start date.
 - CDL training is offered by the BNSF TTC through Johnson County Community College.
 - BNSF employees are CDL trained and qualified using railroad trucks provided by BNSF.
 - The student to instructor ratio for CDL training is 4:1.

- BNSF TTC offers six Advanced Journeymen (AJ) classes with online enrollment open to all qualified signal employees.
 - BNSF TTC recommends that signal maintainers re-take AJ classes every four years to stay current with developing technologies within the rail industry.
 - An average of 200 Journeymen per year, over the last five years, attended AJ classes. Classes offered include:
 - Vital Logics
 - Highway-Rail Grade Crossing Systems
 - Wayside Detector Systems
 - Test and Inspections
 - Wayside Signal Systems
 - Highway-Rail Grade Crossing In-service
 - Hands-on outdoor training is offered for Track, Signal, Communications, Operating, and Mechanical employees.
 - The BNSF TTC offers Fall Protection training at their outdoor facility.

Overall, the BNSF TTC training program emphasizes safety culture. BNSF TTC offers a large variety of training classes. These classes encompass all aspects of signaling, from the new signal apprentices just getting started with the railroad to advanced courses for journeyman signal employees.

Section 2.5 Motive Power and Equipment Division

FRA's Motive Power and Equipment (MP&E) Division reviewed the following safety elements during a BNSF assessment from October 9, 2023, to November 3, 2023:

- Communication among the Transportation, Mechanical, and Engineering departments.
- Rolling stock maintenance, inspection, and repair practices.
- Blue flag procedures; and
- Single car airbrake test records.

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FRA's review included observations of brake tests, daily inspections, mechanical inspections, and blue flag protection for mechanical employees and crews designated to inspect freight cars and locomotives at 27 locations across the BNSF system. During its review, the MP&E Division inspected 7,505 freight cars and 317 locomotives. The MP&E Division also reviewed BNSF's communication procedures for transportation and mechanical employees, as they apply to protection of the employees when trains are moved in and out of shops and yards.

FRA identified 860 defects on freight cars for a defect ratio of 11.46% (number of defects divided by the number of units inspected) and 210 defects on locomotives for a defect ratio of 66.25%, which are slightly better than found on other safety assessment audits. FRA recommended civil penalties for six occurrences of noncompliance with the Railroad Safety Appliance Standards,⁴⁴ seven with the Railroad Freight Car Safety Standards,⁴⁵ and six occurrences with Locomotive safety standards. FRA's assessment did not find systemic safety issues or any issues resulting in individual liability recommendations. FRA did not find instances of blue signal protection miscommunication between BNSF Transportation and Mechanical departments, or any instances of the transportation department overriding mechanical inspector recommendations for removing noncompliant cars from operating.

Note: FRA discovered the following information after the BNSF safety culture assessment period.

Prior to FRA's safety culture assessment, BNSF requested an extension of an existing waiver from certain provisions of 49 CFR § 232.213, Extended Haul Trains. That existing relief allowed BNSF to operate identified extended haul trains for up to 1,702 miles. FRA received comments in opposition to the waiver from several nonprofit labor organizations. The waiver expired on October 22, 2023, before FRA had rendered a decision about whether to extend the waiver. At that time, BNSF should have modified its operations to comply with all applicable regulations. Instead, BNSF continued to operate as though the waiver was still in effect.⁴⁶

⁴⁴ In accordance with 49 CFR § 231.

⁴⁵ In accordance with 49 CFR § 215.

⁴⁶ See Appendix G for FRA's letters dated March 18 and March 25, 2024 (noting that "[f]iling a request for an extension of regulatory relief does not affect the expiration of the relief" and that "once a waiver expires, existing FRA regulations apply.")

Section 2.6 Hazardous Materials Division

FRA's Hazardous Materials (Hazmat) Division looked at the following operational element:

- Protection for employees working on rail infrastructure, locomotives, and rail cars.

FRA's Hazmat Division participated in this assessment by focusing on BNSF's compliance with the hazardous material regulations (HMR) of 49 CFR Part 174 – Carriage by Rail. A railroad's ability to transport hazardous materials safely, and the impact on its safe operations is, in part, contingent upon the actions of the hazardous materials shippers who offer these shipments for rail transportation. The rail carrier's transportation responsibilities for moving shipments are primarily limited to ensuring:

- Shipments appear ready for transportation at time of acceptance;
- Shipments are properly placed into a train;
- Accurate placement-in-train documents are maintained for a train;
- Shipments maintain a compliant condition while in transit; and
- Movement of hazardous material shipments is expedited to the destination.

While there are other carrier responsibilities related to the movement of hazardous materials (e.g., routing analysis, HHFT reporting, training, etc.), those responsibilities occur outside of the responsibilities of the train and yard personnel who assemble and transport trains with hazardous material shipments.

During this assessment, the Hazmat Division inspected approximately 80 train consists and identified defects related to maintaining accurate placement-in-train documents. In the event of a derailment, emergency responders would rely on the accuracy of these documents to appropriately identify where hazardous materials were so they could safely work around the derailed equipment, and they could monitor the correct cars for changes that might indicate an impending fire or explosion. These defects were primarily the result of a numbering error by the conductor when adjusting the train consist after making pickups and deliveries. Typically, these numbering/counting errors result in the placement-in-train documents being off by one or two positions. In most cases, the conductor corrected the defect immediately. Due to this immediate corrective action, the FRA inspector recorded the defective condition but did not recommend a violation.

Overall, during the 60-day assessment, the Hazmat Division conducted approximately 200 focused inspections and identified approximately 300 defects related to HMR compliance. The identified noncompliance was minor in nature and did not warrant violation recommendations. The defects identified resulted from the actions of a few individuals across the BNSF network. However, these identified defects could have a significant impact on first responder decisions. First responders are taught train documentation is critical during an incident and they should be confident that documents supplied by the railroads are accurate.

CHAPTER 3: BNSF RESPONSES TO RECENT SAFETY ACTIONS

Section 3.1 FRA Safety Advisories

Between December 2022 and November 2023, FRA issued the following industry-wide Safety Advisories (SA), containing recommendations to the entire rail industry designed to address specific safety issues:

- Safety Advisory 2022-02: Addressing Unintended Train Brake Release.⁴⁷
- Safety Advisory 2023-01: Evaluation of Policies and Procedures Related to the Use and Maintenance of Hot Bearing Wayside Detectors.⁴⁸
- Safety Advisory 2023-02: Train Makeup and Operational Safety Concerns.⁴⁹
- Safety Advisory 2023-03: Accident Mitigation and Train Length.⁵⁰
- Safety Advisory 2023-04: High-Impact Wheels Causing Damage to Rails and Track Structures.⁵¹
- Safety Advisory 2023-05: King Pin Assemblies in Highway-Rail Grade Crossing Warning Systems.⁵²
- Safety Advisory 2023-06: Roadway Maintenance Machines – Importance of Clear Communications and Compliance with Applicable Rules and Procedures,⁵³ and
- Safety Advisory 2023-07: Review and Implement New Weather Modeling and Proactive Safety Processes across the National Rail Network to Prevent Weather Related Accidents and Incidents.⁵⁴

⁴⁷ Federal Register Notice, Vol. 87, No. 249, Dec. 29, 2022, [2022-28336.pdf \(govinfo.gov\)](#).

⁴⁸ FRA's e-library at [Safety Advisory 2023-01.pdf \(dot.gov\)](#).

⁴⁹ FRA's e-library at [2023-07579.pdf \(dot.gov\)](#).

⁵⁰ FRA's e-library at [2023-09239.pdf \(dot.gov\)](#).

⁵¹ FRA's e-library at [2023-19677.pdf \(dot.gov\)](#).

⁵² FRA's e-library at [2023-21289.pdf \(govinfo.gov\)](#).

⁵³ FRA's e-library at [Safety Advisory 2023-06.pdf \(dot.gov\)](#).

⁵⁴ FRA's e-library at [2023-25924.pdf \(govinfo.gov\)](#).

In general, BNSF has taken action in response to recommendations in FRA Safety Advisories. FRA will continue to monitor those responses to ensure effectiveness. A list of FRA's recommendations in these Safety Advisories and BNSF's responses are included in Appendix D.

Section 3.2 FRA Safety Bulletins

FRA issued the following Safety Bulletins from December 2022 through September 2023:

- 2022-01: Pre-Departure Inspections – Appendix D to 49 CFR Part 215.⁵⁵
- 2023-01: Switching Operation Accident.⁵⁶
- 2023-02: Highway-Rail Grade Crossing and Shove Movement Accident.⁵⁷
- 2023-03: Train Collision Involving a Mis-Aligned Switch – Dark Territory.⁵⁸
- 2023-04: Trainee Switching Fatality Involving a Shove Movement in a Yard.⁵⁹
- 2023-05: Shoving Movement Close Clearance Fatality.⁶⁰
- 2023-06: Employee Amputation – Flat Switching Kicking Operations and Securement,⁶¹ and
- 2023-07: Employee Fatality – Crossing Tracks.⁶²

FRA's recommendations listed in these Safety Bulletins and BNSF's responses are included in Appendix E.

⁵⁵ FRA's e-library at [Safety Bulletin 2022-01: Pre-Departure Inspections – Appendix D to 49 CFR Part 215 | FRA \(dot.gov\)](#).

⁵⁶ FRA's e-library at [Safety Bulletin 2023-01: Switching Operation Accident | FRA \(dot.gov\)](#).

⁵⁷ FRA's e-library at [Safety Bulletin 2023-02: Highway-Rail Grade Crossing and Shove Movement Accident | FRA \(dot.gov\)](#).

⁵⁸ FRA's e-library at [Safety-Bulletin-2023-03-mis-aligned-switch-dark-territory.pdf \(dot.gov\)](#).

⁵⁹ FRA's e-library at [Safety Bulletin 2023-04: Trainee Switching Fatality Involving a Shove Movement in a Yard | FRA \(dot.gov\)](#).

⁶⁰ FRA's e-library at [Safety Bulletin 2023-05: Shoving Movement Close Clearance Fatality | FRA \(dot.gov\)](#).

⁶¹ FRA's e-library at [Safety Bulletin 2023-06: Employee Amputation – Flat Switching, Kicking Operations and Securement | FRA \(dot.gov\)](#).

⁶² FRA's e-library at [Draft for review 09/25 \(dot.gov\)](#).

Section 3.3 Other Safety Alerts

On June 5, 2023, the Association of American Railroads (AAR) issued a Safety Alert addressing the fatality and serious injury of two railroad employees (See Appendix F). Specifically, in December 2022, a freight train on a main track collided with an angle iron that was protruding from a standing gondola train car on an adjacent track. The protruding angle iron pierced a locomotive cab door window that resulted in a fatality and serious injury. AAR issued the safety alert to bring awareness to danger of unsecured angle irons. BNSF's response to AAR's Safety Alert is also included in Appendix F.

Section 3.4 Correspondence with BNSF

Between May 10, 2021, and May 28, 2022, FRA's Administrator and BNSF's leadership exchanged letters regarding important safety issues. However, in most cases, communication between FRA's Administrator and the Office of Railroad Safety's leadership has not required such formal correspondence. The letters sent and received over the past few years are provided in Appendix G.

CHAPTER 4: OVERALL FINDINGS AND RECOMMENDATIONS

No railroad operation is without risk and risks need to be managed and mitigated through people, processes, and training. Safety must never be degraded as railroad operations change and adapt to meet the demands of their stakeholders and employ new innovations. Safety culture, a commitment to continuous improvement, and a focus on leading indicators of safety are key to this. A strong safety culture must permeate all aspects of a railroad's operations and fill the gaps between rules and regulations to create an organization in which all members are working together towards a common safety goal. In doing so, the railroad prioritizes safety of its operations, employees, communities, while meeting the country's need for robust freight rail transportation.

Several common themes emerged from this safety culture assessment and BNSF's responses to prior FRA recommendations, inspections, and safety culture interviews. In particular, there are three safety culture elements where BNSF has the greatest opportunities to effect change:

- Element 8: Employees and the organization work to foster mutual trust.
- Element 9: The organization responds to safety concerns fairly and consistently.
- Element 10: Safety efforts are supported by training and resources.

The sections below summarize the global safety culture assessment findings and provide recommendations for BNSF to address issues discovered when reviewing all assessment data.

Finding 1: BNSF communications and messaging are inconsistent across the system.

Breakdowns in communication at all levels at BNSF are noted throughout each safety culture element. The ability to communicate clearly, effectively, and in one voice is paramount to ensuring that work is done safely, in compliance with existing rules and regulations, and with a clear understanding of the task at hand. When front-line managers are perceived as filtering safety directives issued by BNSF leadership by diluting, negating, or otherwise changing, it affects the trust between management and craft employees. Furthermore, changes in messaging create doubt among front-line craft employees as to the true goals, priorities, and commitments of the railroad. This doubt

can, in turn, impact the decisions employees make when completing tasks and potentially have a negative impact on safety.

FRA found multiple examples of breakdowns in communications across the BNSF system. The difficulties in communications appear to be primarily the result of messages changing meaning as they are filtered through the organization from BNSF leadership to front-line employees, and inconsistent communication from front-line managers across the BNSF system (from very communicative to taciturn). As a result, craft employees may not have access to the most current and correct information regarding BNSF policies and procedures. This in turn may result in craft employees acting in response to incomplete or incorrect information and increases safety risk.

Recommendations:

1. Review BNSF's communication policy and update it, as appropriate.
2. Develop a new (or refine existing) policy that outlines how information flows throughout the organization.
3. Work with all manager levels at BNSF to ensure that messaging is consistent as it is passed through the organization.
4. Create a policy outlining what employees should do when presented with conflicting information from throughout the organization.
5. Inform all levels of management as well as employees about the communication methods and protocols BNSF will use to disseminate information.
6. Clarify where specific information can be located and what (if any) information is available via more than one method.

Finding 2: BNSF training and resources do not equitably support all railroad crafts and years of experience.

Data collected as part of the safety culture assessment revealed some employees indicate that training and continuing education opportunities are lacking. Specifically, there is a perception that the training for newly hired employees is insufficient. Additionally, MOW craft employees expressed

dissatisfaction with training that was available for their craft. Adequate training is required for all employees to perform their jobs in accordance with existing rules and regulations in a manner that is effective and safe. Lack of training increases risk of error which, in turn, decreases safety.

Recommendations:

1. Review existing training opportunities, especially for MOW and newly hired employees, and identify training gaps and new continuing education opportunities.
2. Create a recurrency training schedule for MOW employees on how to perform work within the approach to a grade crossing.
3. Create recurrency training for locomotive engineers who have not operated a train for an extended period, longer than 12 months, that accounts for technological changes in the locomotive as well as the improvement of train handling skills that may have degraded over time.
4. Explore ways to increase the quality and duration of training for newly hired employees through modifications in existing coursework and/or modifications to the training delivery schedule.
5. Consider reestablishing a mentorship program as a way for newly hired employees to gain additional training and education and for existing employees to share best practices.

Finding 3: BNSF has retired or inactivated some safety and reporting programs creating a perception that safety concerns are not receiving fair and consistent responses.

Data collected consistently identified the Safety Issue Resolution Process (SIRP) system as an effective way for employees to report any safety concerns and most employees interviewed were aware of, and in many cases have used, the SIRP. However, employees indicated that, with the removal of the Safety Summit (a previously existing collaborative safety agreement), SIRP is the only system to report safety concerns. A few employees indicated that although the dissolution of the Safety Summit is well known by employees at BNSF, the systems implemented to replace it have not been as well publicized. There is also concern that follow-up actions taken in response to SIRP reports are not always widely shared. One commenter was specifically concerned that there was not a

mechanism at BNSF that would enable craft employees to report near-misses without fearing discipline or other punitive action. Effective reporting systems improve safety by reducing risks and allow for changes and repairs to be made so safety incidents do not recur. Lack of follow-up with employees who reported a safety concern as well as the lack of a mechanism for employees to report near-misses in a way that does not result in punitive action can lead to complacency and an unwillingness to report small concerns before they grow into larger problems and puts the safety of the railroad and its employees at risk.

Recommendations:

1. Participate in the Confidential Close Call Reporting System (C³RS) to allow all craft employees to confidentially report safety concerns without fear of discipline or de-certification action.⁶³
2. Create a policy regarding safety reporting that ensures that all relevant employees, including those who first reported an issue, are kept apprised of follow-up actions taken following a safety report.
3. Explore ways to publicize throughout the BNSF system the safety reporting programs that are currently in place.
4. Work with employees to create new safety programs to replace those programs that are no longer active.
5. Consider FRA's findings when conducting hazard identification and risk analysis as well as in the implementation of BNSF's Risk Reduction Program and Fatigue Risk Management program.

Finding 4: Trust between BNSF employees, managers, and the organization is inconsistent across the system.

FRA observed that the trust between front-line employees, managers, and the organization is inconsistent across the system. While some responses and observations reflected employees and the

⁶³ On June 11, 2024, both BNSF and the American Train Dispatchers Association (ATDA) announced an agreement to join C3RS.

organization working together to build and maintain mutual trust, others highlighted areas of mistrust and feelings of “us versus them.” A robust safety culture requires an environment where mutual trust is cultivated. Based on available information, lack of trust appears to be primarily the result of perceptions of inconsistent application of disciplinary actions and inconsistent messaging from front-line managers as compared to BNSF leadership about the importance and priority of safety. As a result, craft employees may be less willing to share information about emerging safety risks and may prioritize other competing demands above safety due to inconsistent or contradictory information.

Recommendations:

1. Ensure discipline programs are applied consistently across locations and managers using the existing BNSF PEPA program or another program.
2. Include employees, and their representatives, in as many processes as possible. FRA reminds BNSF that some regulations require such inclusion, such as the requirement for good faith and best efforts to consult with directly affected employees under 49 CFR Part 271: Risk Reduction Program and Fatigue Risk Management Program.
3. Engage with employees across the BNSF system and solicit feedback on their perceptions of the current state of trust. As part of this engagement, determine the root causes for differing feelings of trust between craft employees and the organization and among employees at different BNSF locations. Gather best practices from those crafts and locations where mutual trust appears to be strong and solicit feedback for ways to improve trust throughout the BNSF system.

APPENDIX A: BNSF SAFETY CULTURE ASSESSMENT OUTREACH

Safety Update

Operations

Federal Railroad Administration (FRA) Special Audit Oct. 10, 2023

Beginning October 10, the FRA will conduct a special audit of the safety culture at BNSF Railway. This will involve interviews with approximately 1,000 employees within the next 60 days. All Class 1 railroads will have their special audit completed by the end of 2024, with the final report projected to be published in 2025.

Participation in these interviews is voluntary, the interview should last about 10 minutes, and feedback will be kept anonymous.



PREPARATION

There is no need to prepare for this audit. Just be aware that you might be asked to participate through an interview. This audit will be performed by the regular FRA inspectors for your territory, so you may already be familiar with the personnel conducting the interview.

PARTICIPATION

While employee participation is not mandatory, it is encouraged. If you choose to participate, please be open and honest with the interviewer. There are no right or wrong answers. Your participation is appreciated and, as noted before, will be kept anonymous.

Thank you for your support as we work together to achieve our Safety Vision of operating a railroad free of accidents and injuries.



At BNSF, one of our greatest strengths is our willingness to approach others about safety, and we know our work in safety will not be done until we have eliminated all serious injuries and fatalities.

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



We Choose **Safety**.

APPENDIX B: SAFETY CULTURE QUESTIONNAIRE FOR BNSF

BNSF Safety Culture Field Interview Questions

1. Date questionnaire was completed:
2. Inspector discipline
3. BNSF Division
4. Subdivision
5. Yard name
6. City
7. State
8. Craft of Employee interviewed
9. Years of service
10. Agreed to participate?
11. BNSF leaders empower front-line managers and employees to make safety a priority.
12. Does BNSF review accidents, incidents, near misses, and inspections for "lessons learned" to prevent these from happening again?
13. BNSF regularly shares "lessons learned" with employees and front-line managers.
14. Safety is made a priority over work tasks and production.
15. During job safety briefings, potential hazards are discussed to determine the safest way to perform the work.
16. BNSF has a process to make sure that safety concerns are recorded, and follow-up actions are taken.
17. BNSF follows up with employees about actions taken in response to their safety concerns.
18. BNSF uses and maintains visual clearance aids, signs, and markers for employee safety.
19. BNSF employees feel empowered to stop unsafe actions or refuse to work in an unsafe condition without fear of retaliation.
20. BNSF regularly communicates safety information in a way that is easy to find.
21. BNSF communicates safety information in a way that is easy to understand.

- 22. BNSF notifies employees of their operational testing results, both positive and negative (pass/fail).
- 23. BNSF's discipline policy is clear, fair, and consistent.
- 24. BNSF notifies employees of unacceptable behaviors before taking disciplinary action.
- 25. Any additional comments or feedback?

APPENDIX C: SEMI-STRUCTURED INTERVIEW QUESTIONS (GENERIC)

BNSF Safety Culture Semi-Structured Interview Questions

1. How long have you worked in the railroad industry?
2. Is safety a priority on BNSF Railroad?
 - a. Do you have an example of how safety is or is not prioritized?
 - b. Who is responsible for safety?
 - c. Do you feel employees believe in BNSF's commitment to safety?
3. Are expectations related to work tasks and production requirements realistic?
 - a. Are there consequences (formal/informal) for not delivering within your work unit?
 - b. How do you view your organization's value on production compared to safety?
 - c. (If applicable) How do you view your work unit's value on production compared to safety?
4. Do managers actively listen when safety concerns are raised?
 - a. Do managers take appropriate follow-up actions?
 - b. Do managers update employees on the status of concerns?
5. Describe how front-line managers interact with the workforce.
 - a. Do middle and upper leadership communicate safety related performance expectations for each department?
 - b. How is this communicated? (e.g., email, site visits, bulletin board postings, etc.)
 - c. Does this reach front line employees?
 - d. In your opinion do managers and employees work well together towards common goals?
 - e. In your opinion do departments work well together towards common goals?
6. Do BNSF leadership/managers/employees feel personally responsible for safety?
 - a. Do BNSF leadership/management/employees take pride and ownership in performing safely?
 - b. Do employees prioritize safety policies when it means completion of assigned tasks might be delayed?
7. What tools does BNSF have to assist safety?
 - a. Are visual aids in the field environment to assist safety (clearance markers, track signs, etc.) effective?
 - b. Is there easy access to safety equipment/tools for employees?
 - c. Are these safety aids and tools regularly maintained/replenished?
8. Do employees feel empowered to stop unsafe actions or refuse work in an unsafe condition without retaliation?
 - a. What are the ways to report safety concerns?
 - b. Are employees encouraged to raise safety concerns/stop unsafe action?

BNSF Railway Safety Culture Assessment Report

- c. How does BNSF respond to safety concerns of employees?
 - d. In your opinion does BNSF respond/track these safety concerns and provide feedback to employees in a timely manner?
9. Does BNSF have a discipline policy in place?
- a. In your opinion is the discipline policy fair and consistent?
 - b. Briefly describe.
 - c. Do you have an example?
10. Does BNSF have any recognition programs in place to help build a positive safety culture?
- a. Briefly describe.
 - b. In your opinion do these programs make a difference?
11. Does BNSF communicate current/past incident investigation findings for continuous learning?
- a. (If applicable) In your opinion does this communication reach affected/impacted employees?
 - b. Briefly describe.
12. Other than annual training/testing requirements are there any continuous learning programs in place?
- a. Briefly describe.
 - b. How are these programs available? (e.g., online, mentoring, classroom, OJT training, etc.)
 - c. In your opinion does BNSF allow employees enough time to take advantage of available continuous learning programs?

APPENDIX D: FRA SAFETY ADVISORIES AND BNSF RESPONSES

Safety Advisory 2022-02: Addressing Unintended Train Brake Release

FRA published SA 2022-02 on December 29, 2002, to make the rail industry aware of an issue encountered by a train crew that experienced unintended brake release of a train's automatic air brakes while stopped at a signal, and to recommend steps to address that issue. FRA recommendations and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Train crews should not expect a service rate or emergency brake application to indefinitely maintain application of a train's air brakes.

Recommendation 2.

If a train is stopped with air brakes set, and the train begins moving, the crew should immediately apply the emergency brake. After the train is stopped, the crew should set a sufficient number of handbrakes to secure the train from further unintended movement before releasing the brakes and recharging the train's air brake system.

Recommendation 3.

Each railroad should adopt and implement an air brake procedure consistent with Recommendations 1 and 2 that addresses unintended brake releases.

Recommendation 4.

Each railroad should have an operating manager conduct a face-to-face meeting with each locomotive engineer and conductor to explain and reinforce the contents of this advisory.

Response to Recommendations 1-4:

BNSF issued a message on its Urgent Communication application to employees on April 12, 2023. Employees were provided with details of the incident that occurred on another railroad, and BNSF urged employees to comply with its Air Brake and Train Handling Rules. The message also instructed employees to review their rules for the following: Securing Equipment Against Undesired Movement; Emergency Brake Application Resulting in Train Separation; and Unusual Conditions.

Safety Advisory 2023-01 and Safety Advisory 2023-01.02 (Supplement): Evaluation of Policies and Procedures Related to the Use and Maintenance of Hot Bearing Wayside Detectors

On March 3, 2023, after several accidents in which burnt journal bearings were likely causal or contributing factors, FRA published SA 2023-01, to make recommendations to enhance the mechanical reliability of rolling stock and the safety of railroad operations. This SA contained four recommendations for evaluation, analysis, inspection of hot bearing detectors (HBD), as well as training and qualification of certain personnel. FRA published a supplement to this SA on June 14, 2023, adding a recommendation that railroads evaluate the resiliency and accuracy of the overall process used to monitor and measure bearing health. FRA's recommendations and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Review existing HBD system inspection and maintenance policies and procedures for compliance with existing industry standards and manufacturer recommendations for HBDs.

Response to Recommendation 1:

BNSF reported that it reviewed its inspection and maintenance procedures to ensure alignment with industry and manufacturer recommendations. BNSF also reported that its Signal department meets or exceeds manufacturers' recommended maintenance practices. Specifically, the Signal department performs scheduled (30, 90, 180, annual) inspections maintenance, which includes inspection, testing, and calibration as needed.

Recommendation 2.

Review existing procedures to train and qualify personnel responsible for installing, inspecting, and maintaining HBDs to ensure they have the appropriate knowledge and skills. Railroads should also develop and implement appropriate training on the inspection and maintenance requirements for HBDs and provide that training at appropriate intervals, to ensure the required knowledge and skills

of inspection and maintenance personnel. Further, railroads should evaluate their training content and training frequency to ensure any employee who may be called upon to evaluate a suspect bearing has the necessary training, experience, and qualifications. FRA also encourages railroads to ensure these individuals are available at all hours of operations across the railroad's network.

Response to Recommendation 2:

BNSF reported that it has a Signal Apprentice Training Program (SATP) that is required for all signal maintenance personnel, which includes detector training. The signal craft employees are classified into different categories such as maintainers, inspectors, and electronic technicians. BNSF inspection and maintenance procedures identify which employee classification can complete inspection procedures. In addition, BNSF does offer journeyman-level detector training through the BNSF TTC. BNSF stated that this training is available for craft employees to sign up as needed.

Additionally, BNSF reports it has maintained a training and qualification program that includes the following: Process Manual familiarization; a Qualification Guide/Checklist; and OJT - shadowing. In the spirit of continuous improvement, BNSF reports it is in the process of enhancing its training/certification process leveraging BNSF TTC resources. In 2024, BNSF expects program improvements to include the following: improved familiarization; scenario-based situational exercises conducted within the Equipment Quality Monitoring System (EQMS) application; and robust qualification tracking system including recurring training needs.

Further, BNSF reports that its Mechanical Detector desk is staffed 24/7 with an operator (manager equipment operations (MEO)) who is supplemented by three locomotive support desks. The Locomotive Operations desks are staffed by cross-trained MEOs who use the same EQMS application. This organizational structure enables the Mechanical Detector desk to enlist support from the Locomotive Operations desk(s) whenever necessary (e.g., to support periods of high workload, second opinion (alarm) counsel, and/or needed breaks).

Recommendation 3.

Review current HBD detector thresholds in light of recent derailments, and all other relevant available data (including data from any close calls or near misses), to determine the adequacy of the railroad's current thresholds. Thresholds should be established for single measurement, as well as multiple measurements of individual bearings to enable temperature trend analysis.

Response to Recommendation 3:

BNSF reported that for many years it has maintained a Post Incident investigation process intended to re-evaluate its detector alarm criteria (rules) and handling instructions, to determine if improvements are needed based on incidents and near-misses. As a result of recent incidents in the industry, BNSF joined with AAR and other Class I freight railroads to benchmark each other's processes (alarm thresholds and trending analysis) and procedures (handling instructions). AAR and other Class Is agreed to implement a specific rule offered by BNSF, with proposed aggressive handling (setout/interchange prohibited status) appropriate of the alarmed condition. Since the Safety Advisory, BNSF has improved visibility of Key trains and hazmat loads within trains, via the EQMS application used by BNSF's Mechanical Detector desk.

Recommendation 4.

Review current procedures governing actions responding to HBD alerts to ensure required actions are commensurate with the risk of the operation involved. With regard to trains transporting any quantity of hazardous material, FRA recommends railroads adopt the procedure outlined in AAR's (Association of American Railroads) OT-55 (Operating Transportation Circular) for key trains as an initial measure.

Response to Recommendation 4:

Prior to this Safety Advisory, BNSF reported that for years it has administered detector rules (thresholds) and procedures (handling instructions including Mechanical Detector Desk and System Special Instructions), specific to hazardous materials, to act more aggressively and consistently on issues involving shipment of hazardous materials. As a result of the Safety

Advisory, BNSF has included lower alarm thresholds and more aggressive handling instructions for cars adjacent to hazardous materials (i.e., one car ahead and/or one car behind of hazmat).

Recommendation 5.

Rigorously evaluate the resiliency and accuracy of the overall process used to monitor and act upon information from wayside detectors, with specific focus on steps and tasks that, if not performed or performed incorrectly, could mislead decision makers. The process of monitoring, reporting, inspecting, analyzing, and acting on information from detectors includes tasks that, if incorrectly executed, could introduce risk. Railroads should also evaluate each step and task performed by railroad personnel to pinpoint any HBD reporting failures and implementing appropriate safeguards to minimize the impact of those failures when monitoring, analyzing, and responding to detector information.

Response to Recommendation 5:

BNSF stated it uses an HBD health monitoring process that identifies poorly performing detectors (e.g., false stops and excessive; alarms profiles; warnings and integrity failures). BNSF reports it led the industries development of the Data Quality Monitoring (DQM) application. Additionally, BNSF said it recently performed an internal audit of the Mechanical Detector desk's compliance with BNSF's processes (alarm application and thresholds) and procedures (Handling Instructions). As a result, BNSF is following up on recommended action items identified in that audit.

Safety Advisory 2023-02: Train Makeup and Operational Safety Concerns

FRA published SA 2023-02 on April 11, 2023, to emphasize significant concerns related to train makeup, and to ensure that all railroads exercise due diligence and recognize the importance of taking proactive measures, to address the potential safety risks related to operating train builds with: varying configurations, load and empty placement, distributed power arrangements, and other factors. FRA recommendations and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Review and update train makeup policies, procedures, and guidelines to ensure they are comprehensive, effective, and current.

Recommendation 2.

Ensure that all personnel involved in train makeup decisions and operations receive appropriate training, guidance, and supervision to effectively execute train makeup policies, procedures, and guidelines to ensure safe operations.

Recommendation 3.

Establish a system to regularly monitor and assess train makeup practices, with a focus on identifying and addressing potential safety risks.

Recommendation 4.

Encourage open communication and collaboration among all stakeholders, including train crews, dispatchers, yardmasters, and maintenance personnel, to ensure a comprehensive understanding of train makeup factors and their potential impact on safety. Personnel should be encouraged and empowered to adhere to train makeup policies, procedures, and guidelines, even if it delays a train.

Recommendation 5.

Develop and implement strategies to mitigate the risks associated with train build factors, such as the proper use of distributed power, train length limitations, and other operational train handling practices.

Recommendation 6.

Enhance incident investigation procedures to specifically address train makeup factors and their potential contribution to the cause of the incident.

Response to Recommendations 1-6:

BNSF provided FRA with copies of some of its training materials, including training on the following: air brakes and handling; unintended train brake release; train makeup; accident mitigation; operations safety; as well as initial and refresher training for yardmasters. BNSF also provided FRA with an example of a tool that it has to assist train crews. BNSF provides train crews with a Mobile Train Reporting Application designed to assist them with staying in compliance with train rules and train speed based on a train's makeup.

Safety Advisory 2023-03: Accident Mitigation and Train Length

On May 2, 2023, FRA published SA 2023-03, to ensure that railroads and railroad employees are aware of the potential complexities associated with operating longer trains, and to ensure they take appropriate measures to address those complexities, in order to safely operate such trains. The recommendations made in this SA and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Review Air Brake and Train Handling (ABTH) rules, or supplements, to ensure those rules adequately address the complexities associated with the railroad's operation of longer trains.

Recommendation 2.

Implement technologies, policies, procedures, and/or any necessary hardware enhancements to ensure two-way EOT (end-of-train) devices maintain uninterrupted communications to and from the head-end and rear-end units. Develop, implement, and maintain clear policies, procedures, and rules that address instances of the loss of communications between EOT devices.

Recommendation 3.

Adopt enhanced technologies and/or procedures for maintaining radio voice communications with a contingency plan if voice communications are lost between operating employees.

Recommendation 4.

Identify changes to crew training, train handling procedures, train makeup, DPU requirements, limitations to length or tonnage, speed restrictions, track, mechanical, and brake inspection and maintenance requirements necessary to ensure safe operations of longer trains.

Recommendation 5.

Review, and update as necessary, each railroad's current 49 CFR Part 240 locomotive engineer certification program to ensure the program addresses all levels of operations, including the operation of longer trains.

Recommendation 6.

Review and evaluate existing operational testing data as required by 49 CFR Part 217.9(e) relevant to the operation of longer trains. If longer train operations are conducted, or if any potential training or compliance issues are identified, consider increasing the frequency of operational testing and/or modifying the types of operational testing performed to address those deficiencies.

Recommendation 7.

Identify geographic areas that could be impacted by longer trains at highway-rail grade crossings, take action to minimize blocked crossings by considering train length when taking any action that causes any part of a train to occupy a crossing, and work with local communities and emergency responders to prevent or at least mitigate the impacts of blocked crossings should they occur.

Recommendation 8.

Conduct post-accident simulator evaluations and assign accurate primary and contributing cause codes for reportable and accountable accidents and incidents. A detailed narrative is basic to an understanding of the factors leading to, and the consequences arising from, an accident.

Response to Recommendations 1-8:

BNSF provided FRA with some of its safety-related procedures such as radio procedures. BNSF also provided copies of some recent communications to employees or training materials that cover topics such as the following: distributed power; trackside warning devices; and yardmaster training.

Safety Topic

Transportation

Radio Procedures



Transportation employees transmit crucial information via radio every day. Proper radio procedures help to facilitate effective communications and are integral to safe and successful railroad operations.

These procedures also assist BNSF in ensuring the railroad radio transmission system is always an effective means of communication in emergency situations as well as during daily operations. Ensuring you follow proper radio procedures plays a key role in helping everyone return home safely at the end of the workday.

Each task should begin with a Job Safety Briefing (JSB) to help identify exposures present while performing work activities, discuss the best ways to minimize risks that may affect safety, and pause the work to rebrief when conditions change.

Questions and Answers For Discussion

- ❑ **What should a worker do if he or she does not understand a radio communication or receives an incomplete communication?**
 - Do not act upon the communication. Treat it as if it was not sent.
 - Take the safe course. If it affects the safety of anyone or could cause damage to property, STOP the movement until the communication is understood.
- ❑ **What is the appropriate radio procedure for reporting an emergency?**

An emergency call will begin with the words "Emergency, Emergency, Emergency" and must contain as much complete information on the incident as possible. Emergency calls must be used to report serious events such as derailments, collisions, storms, washouts, fires, track obstructions or emergency brake application.
- ❑ **What other instances require emergency calls?**

Emergency calls are also required in instances of overrunning limits of authority or overrunning stop indications.
- ❑ **What kinds of transmissions are prohibited via radio?**

The following types of communication are prohibited:

 - False emergencies
 - Unnecessary communication
 - Unidentified communication
 - Indecent language
- ❑ **Is it OK for members of different crews to give information over the radio about the name, position, aspect or indication displayed by a fixed signal?**

Workers may only give information over the radio about the name, position, aspect or indication displayed by a fixed signal to members of the same crew unless it is necessary to warn others of an emergency.
- ❑ **What action should be taken if a radio fails on a controlling locomotive en route?**

If a radio fails on the controlling locomotive en route, the train may continue until the next calendar day inspection or the nearest forward point where the radio can be repaired or replaced, whichever comes first.
- ❑ **What should crews consider before communicating and performing a switching move?**
 - Take the opportunity during the JSB to identify risk to exposure and discuss other means of communication such as hand signals when applicable.
 - Crews should consider the amount of traffic on a radio channel before beginning a switching move, especially one where a shove move or in-between protection request will take place.
 - If radio traffic suddenly increases while using the radio to make a switch move, recognize this as a cue to pause the work until the radio traffic subsides.
 - Regard any break in radio communication as a stop signal.
 - Before using radio channels other than those assigned, crews should brief with the appropriate authorities (yardmaster/ trainmaster, dispatcher, etc.) and ensure all understand and agree to their use.

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.
06/05/2020



We Choose Safety.

Operating Practices Transportation

Use of Distributed Power Set Out Mode to Prevent Unintended Movement



Distributed power (DP) is a long-standing, proven technology widely in use by railroads around the globe. More importantly, DP is recognized as a safe technology enabling numerous benefits when properly utilized.

It is important that Engineers ensure **Remote Mode Set Out (S/O)** is used properly to prevent DP remote(s) from unintended movement when separated from the front portion of the train. The train crew is responsible for securing the equipment left standing before cutting away to mitigate the risk of exposures from undesired movement.

Properly using **S/O** mode will allow the units to remain linked but will not respond to commands from the lead unit. This ensures that the DP remotes remain stopped when the lead consist is moving to make a set out or cut a crossing.

When properly used, **S/O** mode does the following:

- Independent brakes on remote(s) are set when **S/O** mode is initiated.
- Remote throttle remains in idle and dynamic brake functions are not enabled.
- Emergency brake application is enabled for control.
- All other functions are disabled, and brake valve is cut out. **Exception:** If lead and remote unit(s) are equipped with LXA the brake valve will remain Cut-in on the DP remote unit.



Take time to review applicable rule references in their entirety, including ABTH 102.1.2 and 105.6.5.

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We Choose Safety.

Safety Advisory 2023-04: High-Impact Wheels Causing Damage to Rails and Track Structures

On September 12, 2023, FRA published SA 2023-04, to ensure that railroads are aware of the potential damage to rails and supporting track structures when high-impact railcar wheels are not identified or replaced. The recommendations made in this SA and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Continue to use Wheel Impact Load Detectors (WILDs) to help identify and replace high-impact wheels according to railroad current industry practices. Specifically, wheels with a WILD measurement greater than 80 KIPs should be replaced when in a repair shop, and wheels with a WILD measurement greater than 90 KIPs should be replaced when found in any other location in service.

Recommendation 2.

Railroads should review procedures for identifying dynamic ratios to help predict high-impact wheels when cars are loaded. A dynamic ratio is the ratio of a WILD measurement of a loaded railcar compared to when it is empty. The peak impact is the highest WILD measurement recorded. The impact measurement varies during operation due to the changing operating environment, including changes in speed. Wheels should be replaced when an empty railcar with a dynamic ratio of five or higher has a preceding peak impact greater than 100 KIPs. Replacement at such time will reduce or eliminate further damage to the freight car's wheels, rails, and track structures.

Response to Recommendations 1-2:

BNSF reports it performed a review of operating practices regarding high-impact wheels. The review found the handling to be consistent with the SA recommendations relating to KIPS greater than 80, 90, and 100. BNSF says it is using and will continue to use WILD detectors to help identify and replace high-impact wheels. However, BNSF does not use the threshold

*of a dynamic ratio of 5 or higher with a preceding peak impact greater than 100 KPIs.
Instead, it removes cars with KPIs of greater than 90.*

Safety Advisory 2023-05: King Pin Assemblies in Highway-Rail Grade Crossing Warning Systems

On September 29, 2023, FRA published SA 2023-05 to heighten awareness within the railroad industry of the potential failure of king pin assemblies in highway-rail grade crossing warning systems equipped with breakaway gates. The recommendations made in this Safety Advisory and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Inspect king pin assemblies in highway-rail grade crossing warning systems and replace all worn components.

Recommendation 2.

Develop inspection and maintenance programs for king pin assemblies that incorporate maintenance procedures recommended by the manufacturer (if applicable), including lubrication of king pin assemblies, to reduce wear and tear on the components. These inspections and maintenance programs should include periodic inspections of the king pin assembly with the crossing gate removed, as well as inspection of the king pin assembly each time the crossing gate is re-hung or replaced. These inspection and maintenance programs should also address the replacement of worn components and give special consideration to highway-rail grade crossing warning systems that are exposed to high levels of salt, which can cause corrosion.

Recommendation 3.

Issue instructions requiring employees to stay clear of descending crossing gates until fully lowered and to discuss potential failure of the king pin assembly in job safety briefings, when applicable. Railroads should also issue instructions requiring employees to warn others to stay clear of descending crossing gates until fully lowered.

Response to Recommendations 1-3:

BNSF held job safety briefings with appropriate staff to ensure personnel understood proper inspection and testing procedures when working on or around Highway-Rail Grade Crossing Gate Mechanisms/Assemblies.

Safety Advisory 2023-06: Roadway Maintenance Machines – Importance of Clear Communications and Compliance With Applicable Rules and Procedures

On September 29, 2023, FRA published SA 2023-06 to emphasize the importance of rules and procedures regarding the safety of roadway workers who operate or work near roadway maintenance machines (RMM). The recommendations made in this SA and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Review, update, and communicate applicable rules and procedures related to the operation of RMMs to ensure the safety of roadway workers who operate and work with or around the machines.

Recommendation 2.

Increase monitoring of roadway workers, railroad employees, and contractors for compliance with all existing applicable rules and procedures (and any updated rules and procedures to result from paragraph (1)), particularly those involving the operation of RMMs and roadway workers working on and in the vicinity of RMMs.

Response to Recommendations 1-2:

BNSF provided FRA with materials indicating it held face-to-face safety briefings with employees to discuss this Safety Advisory and associated rules. During these safety briefings, BNSF discussed in detail the incident that precipitated the Safety Advisory, as well as a fatal incident that occurred on another railroad.

Safety Advisory 2023-07: Review and Implement New Predictive Weather Modeling and Proactive Safety Processes Across the National Rail Network to Prevent Weather-Related Accidents and Incidents

On November 24, 2023, FRA published Safety Advisory 2023-07 in the Federal Register. The intent of Safety Advisory 2023-07 is to reduce weather-related accidents/incidents and improve the efficiency of the national rail network during severe weather events. The recommendations made in this Safety Advisory and BNSF's responses are summarized below.

Recommendations and Responses

Recommendation 1.

Railroads should evaluate their communication and training programs, rules, policies, and procedures related to severe weather and ensure those programs are adequate to ensure weather-related action plans can be promptly implemented.

Recommendation 2.

Railroads should evaluate their weather forecasting policies and procedures.

Recommendation 3.

Railroads should evaluate their operating infrastructure to identify critical and geographical elements susceptible to severe weather events.

Recommendation 4.

Railroads should evaluate existing weather-related action plans and ensure that those plans detail the necessary proactive planning, maintenance, communication, and other actions necessary to address the risks presented by severe weather conditions.

Recommendation 5.

Railroads should establish standard operating thresholds to ensure their weather-related action plans adequately prepare for severe weather events.

Recommendation 6.

Railroads should work together to develop best practices for utilizing weather forecasting technologies, predictive weather models, and weather-related action plans throughout the industry.

Response to Recommendations 1-6:

Immediately after the Safety Advisory was issued, BNSF issued written job safety briefings to the train dispatchers, highlighting important actions that should be taken when delivering a notification of adverse weather conditions. BNSF also reviewed its safety briefings and training materials such as the following: (1) instructions for dispatchers to provide train crews during flooding, excessive winds, tornados, cold weather, and earthquakes; (2) flash flood warning inspections; (3) operating in cold weather; (4) high-temperature speed restrictions; (5) new hire training for train dispatchers discussing weather monitoring, warnings, and emergencies; and (6) winter action plan.

APPENDIX E: FRA SAFETY BULLETINS AND BNSF RESPONSES

Safety Bulletin 2022-01: Pre-Departure Inspections – Appendix D to 49 CFR Part 215

FRA issued Safety Bulletin 2022-01 on December 20, 2022, after a fatal accident involving a train operating on a mainline that struck a piece of angle iron protruding from an adjacent freight car on the main track. FRA's purpose in issuing the Safety Bulletin was to (1) provide immediate awareness to the industry, and (2) provide the industry with information to brief or (re)train their employees. A summary of the recommendations and BNSF's responses to those recommendations are below.

Recommendations and Responses

Recommendation 1.

Review the Safety Bulletin with employees to increase awareness of this hazardous condition that led to a fatal injury.

Recommendation 2.

Train crew members are reminded that when at locations where a person designated under Part 215.11 is not on duty for the purpose of inspecting cars, prior to pulling cars and only when it is safe to do so, to perform a proper visual inspection of freight cars for any protruding objects that may foul an adjacent track from a railcar, and if observing such a condition to report it immediately.

Response to Recommendations 1-2:

BNSF disseminated this Safety Bulletin via its Urgent Communication application to all Transportation employees on the day it was issued, December 22, 2022. BNSF urged employees to (1) consider how the bulletin applies to their specific job/territory, (2) discuss this fatal incident during Safety Briefings and discussions, and (3) understand the requirements outlined in the General Code of Operating Rules (GCOR) rules. Later, in September 2023, BNSF provided a Safety Topic reminder and a short video to its

employees to refamiliarize them with that week's safety focus on standing equipment clearance.

Safety Topic

Transportation

Standing Equipment Clearance



Leaving on-track equipment, railcars and/or engines clear of adjacent track is vital for the safety of workers who may be riding the side of equipment to perform their duties.

In most cases, railroads require equipment intentionally left standing on track to be left beyond a **clearance point**. This is the location closest to a switch where it is safe for equipment and a person riding the side of equipment (unless prohibited) to pass equipment on an adjacent track. Not all tracks have a clearance point; some adjacent tracks are positioned so that a person **should not** ride the side of equipment in

those tracks. [Click here to see BNSF's Deadly Decisions Standing Equipment Clearance video.](#)

Clearance points are either marked on rail or can be determined by standing outside the rail of adjacent track and extending an arm toward the equipment to be left on track until unable to touch the equipment.

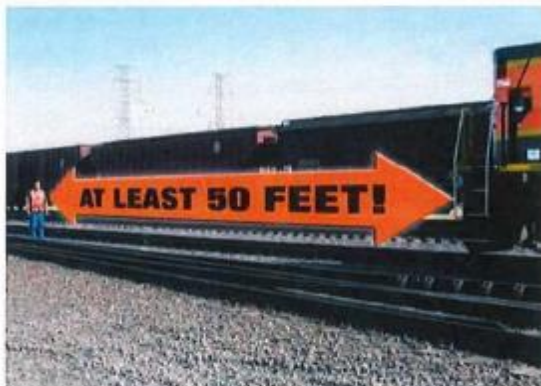
Marked Clearance Points

In most cases, railroads require equipment intentionally left standing on track to be left beyond the **clearance point**.

In many locations, clearance points are painted on the rail to help workers recognize them. (See illustration at right.)

The clearance point is the location closest to a switch where it is safe for equipment and a person riding the side of equipment (unless prohibited) to pass equipment on an adjacent track.

Not all tracks have a clearance point; some adjacent tracks are positioned so that a person **should not** ride the side of equipment in those tracks.



Unmarked Clearance Points

- If the clearance point is not **indicated** or **visible**, stand outside the rail of adjacent track and extend an arm toward the equipment to be left on track until unable to touch the equipment.
- When unable to touch the equipment, leave the equipment **at least an additional 50 feet** beyond the clearance point or more if handling cars greater than 50 feet, due to swing out of longer cars while moving through turnouts.
- **DO NOT** guess or estimate whether or not equipment is in the clear of adjacent track. Misjudgment could lead to a serious outcome.

Please note that rules and policies that are in effect at the date of issuance of this publication are subject to change. Contact SafetyRules to determine validity before you use the information in this document at a later date. 08/06/2023



We Choose **Safety.**

Safety Bulletin 2023-01: Switching Operation Accident

FRA issued Safety Bulletin 2023-01 on March 6, 2023, after a switching accident that resulted in a crew member's leg being amputated. FRA's purpose in issuing the Safety Bulletin was to (1) ensure the railroad industry was aware of the serious injury to an employee that occurred as results of the accident, and (2) recommend railroads brief their employees about the circumstances of the accident. A summary of the recommendations, and BNSF's responses to those recommendations, are below.

Recommendations and Responses

Recommendation 1.

Review the Safety Bulletin with employees to increase awareness of the hazards relating to switching cars and the role that operating rules, job briefings, communications and situational awareness plays when fouling equipment.

Response to Recommendation 1:

Prior to the issuance of Safety Bulletin 2023-01, BNSF provided its employees with a Safety Briefing, which outlined the details of the accident. The Safety Briefing also encouraged teams to discuss the incident and preventative measures.

Recommendation 2.

Ensure all individuals involved in switching operations are properly trained and qualified on how to conduct those operations safety.

Response to Recommendation 2:

Effective December 1, 2022, prior to the issuance of Safety Bulletin 2023-01, BNSF amended its Safety Rule addressing employees going between cars or locomotives. The amendment ensures that crew members: (1) are effectively communicating, (2) have a clear understanding of the work to be performed, and (3) establish protection before going between cars while multiple crews are switching or working on both end of a track. After the Safety Bulletin was issued, BNSF also provided its employees with several Safety Briefings related to fouling track.

Safety Briefing

Transportation

Employee Seriously Injured on the Northwest Division

SB-2022-09T
Oct. 21, 2022

On Oct. 19, a BNSF employee was seriously injured while conducting switching operations in Vancouver Yard (Northwest Division) in Vancouver, WA., sustaining an amputation injury.

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 2:49 a.m. Pacific Time (PT) a crew was in the process of gathering cars on the north end of yard track 7 in Vancouver, WA. Although both crews that were working on opposite ends in the same track had been communicating with each other concerning the moves they were making during the shift, the helper on the north lead job was in between a standing cut of cars while additional cars that were previously kicked into track 7 from the south end made contact with the cars that he was working on.

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 we have in front of us is more important than your safety and the safety of your co-workers.**

Ask yourself the following questions when going between equipment.

- Did I complete a thorough Job Safety Briefing (JSB) before beginning this task?
- What do I need to do before going between or beginning work on the end of rail equipment on any track?
- Have I waited until all movement has stopped before going between or beginning work on the end of rail equipment on any track?
- Have I ensured that all crew members—including myself, as well as other crews working in the same tracks—have a clear understanding of the work to be performed?
- Have I identified myself when using a radio before going between or beginning work on the end of rail equipment on any track?
- Am I making sure to not go between uncoupled locomotives or cars when clearance between them is less than 50 feet except when permitted by rule?
- **Am I expecting the movement of trains, locomotives, cars or other equipment at any time, on any track and in either direction?**

S-13.1.1 Going Between Cars or Locomotives (in part)

Where engines may be working at both ends of a track or tracks, crews switching must have a clear understanding of movements to be made.

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.



We Choose **Safety.**

Rule Change Briefing

Transportation

TY&E Safety Rule S-13.1.1: Going Between Cars or Locomotives

Nov. 23, 2022

Written rules and procedures cannot protect us; they are merely words. To protect ourselves, we must individually commit to and comply with our rules and procedures. All employees participate in Job Safety Briefings at the beginning of their shifts, before starting new tasks and as conditions change. Completing a task safely is always more important than speed or convenience.

Employees may go between rail equipment to perform various tasks, such as opening knuckles, adjusting drawbars, and/or coupling air hoses many times throughout their shift. Employees must ensure protection is in place before placing any part of their body where it could be struck by equipment if the equipment were to move.

Effective December 1, 2022, S-13.1.1 Going Between Cars or Locomotives is amended to ensure that crew members are effectively communicating, have a clear understanding of the work to be performed and establishing protection before going between while multiple crews are switching/working on both ends of a track.

Rule Change Effective December 1, 2022

S-13.1.1: Going Between Cars or Locomotives (in part)

Multiple Crews Switching/Working on Both Ends of a Track:

When there is more than one crew in a track and switching or other work is being performed, both crews must have a clear understanding of the movements to be made and:

- Crew members are not allowed to request going between protection while multiple crews are actively switching in the same track from either end.
- Going between protection can only be requested once all switching has been completed in the track and all cars are verified to have come to a complete stop and/or if kicking cars from either end, the last cut of car(s) kicked have been verified to have made a coupling and/or have stopped. If unsure previous cut of car(s) have made a coupling or stopped, further communication with the other crew is required to verify.

Questions for Discussion

☐ What is required while more than one crew is working in the same track?

When there is more than one crew in a track and switching or other work is being performed, both crews must have a clear understanding of the movements to be made.

☐ Is a crew member allowed to request going between protection while another crew is switching in the same track?

No. Crew members are not allowed to request going between protection while multiple crews are actively switching in the same track from either end.

☐ How must a crew member establish going between protection when there is more than one crew working in the same track?

Going between protection can only be requested once switching or kicking has been completed in the track and all cars are verified to have come to a complete stop.

Rule Change Briefing: Please note that rules and policies that are in effect at the date of issuance of this publication are subject to change. Contact SafetyRules to determine validity before you use the information in this document at a later date.



We Choose **Safety.**

Safety Briefing

Transportation

Employees and Equipment Fouling Track

SB-2023-08T
Aug. 28, 2023


Workers are prohibited from walking between rails and/or fouling track, except when duties require and the necessary safeguards are taken.

When approaching a non-public crossing in a vehicle or off-track equipment, do so at a right angle for optimal viewing of potential approaching movements, stop before crossing unless foul of a previously crossed track, and yield to traffic before crossing, except when within mechanical servicing/repair buildings or within an intermodal facility, unless designated by signage.

Whether walking or driving, expect the movement of trains, locomotives, cars or other equipment at any time, on any track and in either direction.

ASK 3 Critical Questions

Fouling Track



1. Do my duties **require** me to foul track?
2. Have I looked and listened for movement in all directions?
3. Do I have **proper protection** for the task and are appropriate **safeguards** in place to foul track?

If anything changes, pause the work and rebrief.

BNSF

Employees Fouling Track

- Remain alert and attentive at all times.
- Look in both directions, watch for moving equipment on adjacent tracks, and cross in front of approaching equipment only when sufficiently ahead of the movement to do so.
- Don't lose focus of movement on adjacent tracks.



Fouling Track When Operating Vehicles

- Do not park so that the vehicle is fouling a track or roadway.
- If fouling is necessary to perform duties, do so only if proper protection has been established.
- When at non-public crossings, stop before crossing the track(s), unless the vehicle is foul of a previously crossed track. Yield to trains, engines, railcars, and on-track equipment and ensure the way is clear before proceeding across the track(s).



Nothing is more important than everyone going home safely at the end of the workday.

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



We Choose Safety.

Safety Topic

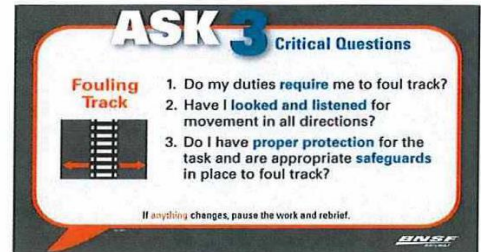
Transportation

When Duties Require Fouling Track

Workers are prohibited from walking between rails and/or fouling track, except when duties require and the necessary safeguards are taken. When approaching a non-public crossing in a vehicle or off-track equipment, do so at a right angle for optimal viewing of potential approaching movements, stop before crossing unless foul of a previously crossed track, and yield to traffic before crossing, except when within mechanical servicing/repair buildings or within an intermodal facility, unless designated by signage.

Whether walking or driving, expect the movement of trains, locomotives, cars or other equipment at any time, on any track and in either direction.

Below are some potential scenarios outlining when duties may require you to foul the track.



When Duties Require Fouling Track	On-Track Safety Requirements
Going Between Cars or Locomotives <ul style="list-style-type: none"> Operating an angle cock Adjusting/changing out a knuckle Connecting an air hose Re-positioning a drawbar by hand Operating handbrakes on the end of a car 	<ul style="list-style-type: none"> Going Between Protection is required in order to minimize the risks associated with line-of-fire and life-saving process exposure. Blue Signal Protection required for: <ul style="list-style-type: none"> A utility employee not attached to train or yard crew.
Operating Switches/Derails <ul style="list-style-type: none"> Operating a flop-over derail Operating a switch 	Stop Short of Switches and Derails: Stop the car, locomotive, or other on-track equipment at least 50 feet from the switch stand to be lined and 100 feet from the derail. Look in both directions and watch for moving equipment on adjacent tracks.
Crossing or Fouling Tracks Crossing tracks/walking near tracks (may include moving from one location to another to perform work or while performing work)	When crossing or fouling tracks: <ul style="list-style-type: none"> Do not walk between rails or foul the track, except when duties require and proper protection is provided. Use caution during bad weather and when visibility is impaired.
Installing/Removing ETD/Marker	Before a crew member installs or removes a marker, Going Between Protection must be established: <ul style="list-style-type: none"> Before a Utility employee installs or removes a marker, they must establish Going Between Protection or Blue Signal Protection if not attached to crew. Separation: Ensuring that at least 50 feet of separation exists between the point of installation or removal and the nearest other standing equipment.
Always ask yourself: <ul style="list-style-type: none"> Do I need to foul the track? Is it safe to foul the track? 	

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07/19/2023



We Choose Safety.

Safety Briefing

Transportation

Fouling Track

SB-2023-05T
July 1, 2023

Nothing is more important than everyone going home safely at the end of the workday.

Since Burlington Northern and Santa Fe merged in 1995, we have had 41 co-workers who were seriously injured (26) or sustained fatal injuries (15) while fouling track.

As we continue to work toward eliminating Serious Injuries and Fatalities (SIF), we must continually remain on alert to assess and minimize risk in our changing environment.

Reviewing training focused on our operating and safety rules is one way we—regardless of years of service—can respond to protect each other going forward.

No matter how busy we are or how many countless times we have performed a task, it is imperative to keep the following top of mind when working on or near tracks:



Always expect the movement of trains, locomotives, cars or other equipment at any time, on any track and in either direction.

In order to minimize risk when fouling track, follow these guidelines:

- **Be aware of your surroundings at all times** (including movement on adjacent tracks) to ensure you are not in the line of fire from unexpected movement.
- **Maintain Situational Awareness**—all crew members should look for movement on adjacent track prior to anyone dismounting locomotives.
- Before fouling any track, determine whether it is safe to do so.
- Use caution and look both directions when stepping off equipment to avoid stepping into the foul of an adjacent track.
- Look in both directions, watch for moving equipment on adjacent tracks, and cross in front of approaching equipment only when sufficiently ahead of the movement to do so.
- Never lose focus on movement on adjacent tracks.
- Utilize best method of body positioning (what side to dismount) and communication (hand vs. radio) for circumstances. Give consideration to curvature, track speed, sight distance and clearance, the need to avoid unnecessary radio traffic and the potential for confusion from multiple crews using the same channel.
- Avoid complacencies and “this is the way we have always done it” tendencies. Remember that extra precaution must be taken when extra clothing is worn that degrades our senses.

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We Choose **Safety**.

Safety Bulletin 2023-02: Highway-Rail Grade Crossing and Shove Movement Accident

FRA issued Safety Bulletin 2023-02 on March 16, 2023, after a fatal switching accident involving a crew member. FRA's purpose in issuing the Safety Bulletin was to ensure awareness within the railroad industry of the fatal accident. A summary of the recommendations, and BNSF's responses to those recommendations, are below.

Recommendations and Responses

Recommendation 1.

Review the Safety Bulletin with employees to increase awareness of the dangers of pushing and shoving movements at highway-rail grade crossings.

Response to Recommendation 1:

BNSF disseminated the Safety Bulletin via its Urgent Communication application to employees on March 29, 2023. The message also included a reminder for employees to always remain vigilant of their surroundings.

Recommendation 2.

Ensure all individuals involved in pushing or shoving movements are: (1) properly trained and qualified on how to conduct those operations safely, and (2) understand what "track is clear" means related to a highway-rail grade crossing.

Response to Recommendation 2:

Effective May 5, 2023, BNSF amended its Safety Rule regarding riding in or on certain types of moving equipment. The amendment does not allow employees to ride the exterior of the leading end of cars or locomotives over grade crossings that are not equipped with gates, except in yards.

Rule Change Briefing

Transportation

TY&E Safety Rules S-13.1.5: Riding In or On Moving Equipment May 2, 2023

Safety is more important than speed or convenience. The decision to ride on rail equipment must only occur after all options have been explored and you have determined it can be done safely.

Choosing Safety means we are taking the time to explore all options and choosing the safest course of action—such as walking, using a vehicle, repositioning the locomotive to pull instead of shove freight cars, or working with other employees to safely complete the task—to help eliminate the exposures related to riding on rail equipment.

TY&E S-13.1.5, Riding In or On Moving Equipment has been amended to not allow employees to ride the exterior of the leading end of cars or locomotives over crossings not equipped with gates, except within yards. However, the amendment does not apply to certain types of equipment as outlined under Determining Whether to Ride.

Rule Change Effective May 5, 2023

S-13.1.5 Riding In or On Moving Equipment (in part)

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.

Questions for Discussion

- ☐ **Can I ride the exterior of the leading end of a car or locomotive over a public crossing that is not equipped with gates?**

No. Except within yards, do not ride the exterior of the leading end of cars or locomotives over crossings not equipped with gates.

- ☐ **While there are different options to complete most tasks, what considerations must be made by employees riding the exterior of a car or locomotive when encountering a crossing not in a yard and not equipped with gates?**

Stop the movement and dismount equipment before occupying the crossing. A crew member must be on the ground at the crossing as to warn traffic and then may proceed over the crossing until it is fully occupied. When it is safe to do so, walk across the fully occupied crossing to resume the movement or ride the equipment if required.

- ☐ **Can I ride the locomotive steps on the leading end over a crossing not equipped with gates, regardless if the move is a single locomotive or locomotive consist?**

No. Except within yards, do not ride the exterior of the leading end of cars or locomotives over crossings not equipped with gates.

- ☐ **Can I ride a shove platform over a crossing not equipped with gates if I am positioned at the designated riding location and not on the steps?**

Yes. Shove cars/platforms may be ridden at the designated riding location of the car, not including steps.

Rule Change Briefing: 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.



We Choose Safety.

Safety Bulletin 2023-03: Train Collision Involving a Misaligned Switch – Dark Territory

FRA issued Safety Bulletin 2023-03 on May 9, 2023, after a train collision in dark territory with no Positive Train Control overlay. The collision resulted in the derailment of three locomotives and 12 grain cars and both members of the crew were seriously injured. FRA’s purpose in issuing this Safety Bulletin was to (1) ensure awareness of this incident within the industry, and (2) recommend that railroads brief their employees and contractors about the circumstances of this incident. A summary of the recommendations, and BNSF’s responses to those recommendations, are below.

Recommendations and Responses

Recommendation 1.

Review the Safety Bulletin with employees and contractors to increase awareness of hand-operated main track switches in non-signaled territory.

Recommendation 2.

Ensure all individuals involved in operating hand-operated, main track switches are properly trained and qualified on how to conduct those operations safely.

Response to Recommendations 1-2:

BNSF disseminated the Safety Bulletin via its Urgent Communication application to employees on May 19, 2023. The communication noted the importance of ensuring safe operation of hand-operated main track switches.

Safety Bulletin 2023-04: Trainee Switching Fatality Involving a Shove Movement in a Yard

FRA issued Safety Bulletin 2023-04 on July 6, 2023, after a fatality involving a conductor trainee during a shove movement. FRA's purpose in issuing this Safety Bulletin was to (1) provide awareness to the industry regarding this fatal accident, and (2) encourage railroads to identify location-specific safety issues to cover during safety briefings and (re)train employees. A summary of the recommendations, and BNSF's responses to those recommendations, are below.

Recommendations and Response

Recommendation 1.

Review the Safety Bulletin with employees to increase awareness of the dangers of riding moving equipment and ensure employees who ride moving equipment do so safely, to include:

1. Railroads should review their training programs to ensure the programs are adequate to prepare employees to safely and properly ride moving equipment, including the handling of unexpected or unusual forces experienced while riding equipment. Training programs should ensure that both employees that oversee trainees and trainees are familiar with their duties, have received proper instruction, and are continuously monitored for compliance and safety.
2. Employees should only ride equipment when necessary for job duties, and only after the process for doing so is discussed in a job briefing. Further, employees should only ride equipment after determining it is safe to do so.
3. Employees should always face the equipment and maintain at least three-point contact to brace for changes in speed and slack action, ensuring the positioning of their feet and hands achieve optimal stability when riding rolling equipment.
4. Railroads should review with their employees Switching Operations Fatality Analysis (SOFA) Recommendation No. 5 – Mentor less experienced employees to perform services safely. The SOFA Working Group is voluntary, non-regulatory, workplace safety partnership formed to identify commonalities among fatalities that occur during switching operations.

Response to Recommendation 1:

BNSF disseminated the Safety Bulletin via its Urgent Communication application to employees on July 27, 2023. The communication discussed the details of the accident and reminded employees of the Safety Rule that does not allow, riding or knowingly allow others to ride on the end platform of other than tank cars or end ladders of any freight car.

Safety Bulletin 2023-05: Shoving Movement Close Clearance Fatality

FRA issued Safety Bulletin 2023-05 on August 16, 2023, after a fatal accident involving a conductor trainee performing a shoving move. FRA's purpose in issuing the Safety Bulletin was to (1) provide awareness of this fatal accident to the industry, (2) encourage railroads to identify locations where clearance specific safety issues could occur and cover these serious safety issues during safety-briefings, and (3) (re)train employees as needed. A summary of the recommendations, and BNSF's responses to those recommendations, are below.

Recommendations and Response

Recommendation 1.

Review the Safety Bulletin with employees to increase awareness of the dangers of close clearances when riding moving equipment and ensure employees who ride moving equipment do so safely, to include:

1. Railroads should review their training programs to ensure the programs are adequate to prepare employees to identify close clearance and equipment fouling situations while riding equipment. Training programs should ensure that employees overseeing trainees possess sufficient experience and understanding of their duties to adequately impart a safety-first mindset and proper instruction to trainees they oversee.
2. Railroads should identify yard and main line close clearance tracks where employees should not ride equipment and post those findings in the railroads operating rules, special instructions, and timetables. Additionally, railroads should consider marking all permanent close/no clearances with highly visible signs.
3. Employees should only ride equipment when necessary for job duties, and only after the process for doing so is discussed in a job briefing. Further, employees should only ride equipment after determining it is safe to do so.
4. Railroads should review with their employees Switching Operations Fatality Analysis (SOFA) Safety Alert – August 2023.

Response to Recommendation 1:

BNSF disseminated the Safety Bulletin via their Urgent Communication application to employees the day it was issued, on August 16, 2023. In that communication, BNSF reminded employees of their Safety Rule regarding riding in or on moving equipment. In early September 2023, BNSF's leadership team instructed its managers to elevate the focus and awareness of the importance of railroading skills with employees. Additionally, senior level members were instructed to brief and re-brief on the topic of leaving equipment in the clear before making moves.

Proactive Safety

Shoving Movements
Getting On or Off Moving Equipment
Riding Equipment
Standing Equipment Clearance
Employee Fouling Track
Going Between
Securement Expectations

Deadly Decisions Series: Standing Equipment Clearance

Leaving on-track equipment, railcars and/or engines clear of adjacent track is vital for the safety of workers who may be riding the side of equipment to perform their duties. In most cases, railroads require equipment intentionally left standing on track to be left beyond a clearance point. This is the location closest to a switch where it is safe for equipment and a person riding the side of equipment (unless prohibited) to pass equipment on an adjacent track. Not all tracks have a clearance point; some adjacent tracks are positioned so that a person **should not** ride the side of equipment in those tracks.

Clearance points are either marked on rail or can be determined by standing outside the rail of adjacent track and extending an arm toward the equipment to be left on track until unable to touch the equipment. When unable to touch the equipment, leave equipment **at least an additional 50 feet** beyond the clearance point or more if handling cars greater than 50 ft., due to swing out of longer cars while moving through turnouts. **DO NOT** guess or estimate whether or not equipment is in the clear of adjacent track. Misjudgment could lead to a serious outcome.

Even when leaving equipment foul of adjacent track is permitted, always consider whether there are alternative ways to accomplish the task to minimize risk to exposure and the potential exposures before choosing to do so. For example, if one track is not long enough to hold all the cars, could more than one track be used to provide sufficient clearance?

Questions and Answers For Discussion

❑ At what point on the track can equipment safely be left standing?

In most cases, railroads require equipment intentionally left standing on track to be left beyond the clearance point.

Note: Clearance points are painted on the rail to help workers recognize them in many locations. (See photo on front.)

❑ What is the "clearance point" and does every track have one?

This is the location closest to a switch where it is safe for equipment and a person riding the side of equipment (unless prohibited) to pass equipment on an adjacent track. Not all tracks have a clearance point; some adjacent tracks are positioned so that a person **should not** ride the side of equipment in those tracks.

❑ What is the proper way to determine the correct clearance point if it is not indicated or visible?

- If the clearance point is **not indicated** or **visible**, stand outside the rail of adjacent track and extend an arm toward the equipment to be left on track until unable to touch the equipment.
- When unable to touch the equipment, leave equipment **at least an additional 50 feet** beyond the clearance point or more if handling cars greater than 50 ft., due to swing out of longer cars while moving through turnouts.
- **DO NOT** guess or estimate whether or not equipment is in the clear of adjacent track. Misjudgment could lead to a serious outcome.



BNSF Railway Safety Culture Assessment Report

Questions and Answers For Discussion (continued)

❑ What are some questions to consider when leaving equipment clear of adjacent track?

- Is the clearance point indicated?
- If so, is the end of the equipment (not just the wheel) behind the mark?
- If there is no mark, was the proper procedure followed to ensure the end of the equipment is left in the clear?

❑ At what locations and under what circumstances may workers leave equipment fouling specific tracks when equipment cannot be left clear of adjacent tracks?

Equipment may be left on a:

- **Main track**, fouling a siding switch, when the switch is lined for the main track,
- **Siding**, fouling a main track switch, when the switch is lined for the siding,
- **Yard-switching lead**, fouling a yard track switch when the switch is lined for the yard-switching lead, and/or
- **Industry track** beyond the clearance point of the switch leading to the industry.

❑ Why does the exception for leaving equipment fouling adjacent tracks on industry track seem less restrictive?

The corresponding regulations do not govern industry track and it is challenging for railroads to impose these requirements on customers who may move the equipment once left by BNSF workers. BNSF workers should still consider these exposures when determining where to leave equipment on industry track.

❑ What can be done to minimize risk when working on industry track?

- Conduct a thorough job safety briefing before working on industry track to identify exposures that may be present and discuss the best ways to minimize these exposures.
- Discuss conditions such as weather, time of day, visibility, whether the tracks are straight or have curves that are difficult to see around and the appropriate speed to move under those conditions.
- Visually verify that there are NO cars and/or equipment left foul of any track within the industry and there are no close clearance issues.
- BNSF workers must not ride the side of equipment unless safe and necessary to do so. This includes ensuring there is sufficient clearance to ride the side of equipment, even on industry track.
- Never assume and always verify that equipment, switches, etc. are positioned as desired for safe handling/movement.

Always

Ask 3 Critical Questions

before

leaving equipment standing

on track.

ASK 3 Critical Questions

Standing Equipment Clearance

1. Is equipment **in the clear** on both ends of the track?

2. Will equipment fit **behind the clearance point**? If not, what do I need to do?

3. If I leave equipment on a yard switching lead is the lead switch **lined towards the equipment**?

If **anything** changes, pause the work and rebrief.

March 2021

BNSF RAILWAY

We Choose Safety.

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07/09/2021

Safety Topics

Intermodal/Automotive

Working On and Around Railcars: Walking/Path of Travel

Accidental falls are one of the most common causes of serious injury and death — both at work and at home. Inclement weather conditions and debris can create additional challenges you must consider.

Before starting any task, focus your attention on how you will navigate to, from and around the area where work will be performed. Each task should begin with a Job Safety Briefing (JSB) to help identify exposures present while performing a task and discuss the best ways to minimize risks that may affect the safety of yourself and your co-workers.



Questions and Answers For Discussion

☐ Am I taking the safest route?

- Designated pathways provide a safe, stable surface to walk on. Using these pathways will help mitigate the risk of Walking/Path of Travel incidents.
- When considering your task, identify the most level, stable route available throughout the entire task before starting any work.
- Avoid the temptation to use short cuts. A path that appears to be shorter may conceal conditions such as slick surfaces or objects hidden by snow or vegetation.

☐ What are the potential exposures in my path?

- Look at your path of travel before moving. **Do not put your feet where your eyes have not been.** Each location and task may present different challenges.
- Identify potential risks or obstacles present along the identified path of travel before beginning work, especially when you have multiple paths to choose from.
- Take precautions when walking in wet conditions, areas of limited visibility and/or on a sloping surface.

☐ Have I checked my surroundings and considered how walking conditions could change?

- Consider potential cues to pause the work that could occur while walking.
- When circumstances change and a task is no longer routine, stop to rebrief and consider how we can safely address any changes.

☐ What are some best practices for safely walking on or around railcars?

- **Don't rush.** Take the time to establish sure footing with each step.
- Keep your eyes moving, scanning the path or slick surfaces, obstructions, objects hidden by snow or hazards when walking. Avoid doing other tasks, such as talking on a radio, while walking.
- Slow down. Falls often occur when people are rushing. Take sufficient time to perform duties safely and perform one task at a time.
- Always move in a forward motion. Never walk backward, either on the ground or on equipment.
- When weather conditions require, wear enhanced traction footwear that is in good condition.
- Pause the work when conditions or circumstances change to re-brief.

Remember to slow down when walking. Falls often occur when people are rushing.

No deadline or production goal is worth the risk of injury or incident. **Choose safety when walking.**

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. 03/20/2020



We Choose Safety.

Safety Bulletin 2023-06: Employee Amputation – Flat Switching, Kicking Operations, and Securement

FRA issued Safety Bulletin 2023-06 on September 11, 2023, after a switching accident that resulted in one leg of a crew member being amputated, and the other leg severely injured. FRA’s purpose in issuing the Safety Bulletin was to ensure the railroad industry was aware of the accident. A summary of the recommendations, and BNSF’s responses to those recommendations, are below.

Recommendations and Responses

Recommendation 1.

Ensure switching operations are conducted safely, including ensuring:

1. Operating rules and protocols adequately address hazards associated with “kicking” cars;
2. Employees receive adequate field training to enable them to recognize risks associated with improperly secured “kicked” cars and understand proper procedures for responding to a rolling car, mounting equipment, and applying handbrakes safely; and
3. All employees are reminded of the importance of proper securement protocols for unattended equipment, highlighting the risks linked to unintended movements of unsecured equipment.

Response to Recommendation 1:

BNSF disseminated the information in the Safety Bulletin via its Urgent Communication application to all Transportation employees on September 13, 2023. Prior to FRA’s Safety Bulletin 2023-06, BNSF’s leadership stressed to its employees how important it is to keep safety in mind while working. For instance, for the Safety Focus Items of the weeks starting on August 7 and September 11, 2023, BNSF focused on Rules covering topics, such as: standing equipment clearance, securement expectations, fouling track, safely setting handbrakes, vehicle operations: preventing collisions, and guarding against complacency.

Safety Topic

Transportation

Safely Setting Handbrakes

Transportation employees use handbrakes on a daily basis. Crew members are responsible for securing standing equipment with handbrakes to prevent undesired movement. The air brake system must not be depended upon to prevent an undesired movement (ABTH 102.1).

Understanding how handbrakes operate and how best to set them is essential to your safety and the safety of others.

Questions and Answers for Discussion

❑ When securing cars and/or locomotives, what must be done to prevent undesired movement?

- A sufficient number of handbrakes must be applied to prevent undesired movement.
- Employees must ensure they know how to operate the type of brakes they are using. When handbrakes must control or prevent car movement, test the brakes to ensure they are operating properly before using them to secure a car or locomotive.

❑ How can employees avoid injury while they are setting handbrakes?

- Use brake stick appropriately (if available) to apply and/or release the handbrake to avoid going in between equipment. If all or part of the body is placed where it could be struck by rail equipment if the equipment were to move, employees must comply with the requirements of Safety Rule S-13.1.1.
- Some handbrakes may be properly operated from the ground, while many require an employee to ascend/descend equipment. When ascending/descending equipment, be sure to face the equipment and maintain good three-point contact.
- With some handbrakes, the brake wheels will spin when brakes are applied. Keep fingers/hands clear.
- Always use a lantern, flashlight or head lamp when walking in the dark, particularly in area with ballast, uneven terrain, or others with footing issues. Do not step where your eyes have not been.

❑ How do you determine the number of handbrakes that must be applied to prevent undesired movement?

To determine the number of handbrakes to be applied in order to prevent undesired movement, the crew must consider the grade and adhesion, number of loaded and empty cars, and weather conditions (including precipitation, temperature and wind.) To verify handbrake(s) applied will prevent movement, release all air brakes, **when practical**.

Note: All retainer valves MUST be in EXHAUST position.

❑ Are tools available to help determine the appropriate number of handbrakes to apply when leaving cars and/or locomotives in a track?

ABTH 104.14 provides guidelines in a chart based on tonnage and grade to help determine the minimum number of handbrakes to apply when leaving cars unattended. Use this chart when the number of handbrakes is unknown and/or when testing of the handbrakes by releasing the air brakes is not practical.

❑ What are the best practice steps to safely tighten handbrakes?

1. Take up the slack in the system.
2. Tighten up the brake to secure against movement.
3. Snug brakes up to the wheel **without overexertion**.

❑ How can you help prevent overexertion injury when operating handbrakes?

- Before beginning a task, gently stretch the muscle groups that will be involved in the work to be performed.
- Proper body mechanics and position are important. When a handbrake may be operated from the ground, place both feet flat on the ground outside the rail.

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. 08/01/2022



We Choose Safety.

Proactive Safety

Shoving Movements
Getting On or Off Moving Equipment
Riding Equipment
Standing Equipment Clearance
Employee Fouling Track
Going Between
Securement Expectations

Deadly Decisions Series: Securement Expectations

Crew members are responsible for securing standing equipment with handbrakes to prevent undesired movement. The air brake system must not be depended upon to prevent an undesired movement (ABTH 102.1). Transportation employees use handbrakes on a daily basis.

Understanding how handbrakes operate and using proper body positioning/mechanics to operate handbrakes (TYSR 13.6.3) is essential to your safety and the safety of others.



Identify the Exposures Present and Discuss Best Ways to Minimize Risk

Exposures may exist in every task we perform. To help identify what exposures are present in a given task and understand their potential impacts, we should begin each task with a Job Safety Briefing (JSB). This allows opportunity to review and discuss applicable life-saving processes that may mitigate some of the risks associated with the identified exposures. Pause the work to re-brief when conditions change and debrief at the end of every task and shift. This series of briefings is part of our commitment to approach each other about safety, ensuring we all return home safely at the end of each day. Consider briefing on the following exposures:

Line of Fire/Release of Energy

- Upon release, handbrake wheels may spin, chains can slip or bind, and rail cars can move unexpectedly. A line-of-fire exposure may result with the potential for a worker to be struck by equipment.
- Use a brake stick appropriately (if available) to apply and/or release the handbrake to avoid going in between equipment. If all or part of the body is placed where it could be struck by rail equipment if the equipment were to move, employee must comply with the requirements of Safety Rule S-13.1.1.
- Understanding proper body positioning to operate handbrakes is essential to your safety.

Life-Saving Processes

- Crew members are responsible to apply a sufficient number of handbrakes to unattended equipment to mitigate the risk of exposure from undesired movement.

Ascending/Descending

- Some handbrakes may be properly operated from the ground, while many require an employee to ascend/descend equipment. When ascending/descending equipment be sure to face the equipment and maintain good three-point contact.
- When a handbrake may be operated from the ground, place both feet flat on the ground outside the rail.
- Look before stepping to avoid any obstructions or debris, and adjust footing appropriately during icy/snowy conditions to prevent slips, trips and falls (STF) while operating handbrakes.

Pinch Point

- Do not place your feet/toes on any movable part of the car, such as the uncoupling lever or sliding sill, when operating handbrakes.
- With some handbrakes, the brake wheels will spin when brakes are applied/released. Keep fingers/hands clear.

Questions and Answers For Discussion

❑ When securing cars and/or locomotives, what must be done to prevent undesired movement?

A sufficient number of handbrakes must be applied to prevent undesired movement.

❑ What factors help determine the number of handbrakes that must be applied to prevent undesired movement?

To determine the number of handbrakes to be applied in order to prevent undesired movement the crew must consider the grade and adhesion, number of loaded and empty cars, and weather conditions (including precipitation, temperature and wind). To verify handbrake(s) applied will prevent movement, release all air brakes, **when practical**.

Note: All retainer valves **MUST** be in EXHAUST position.

❑ Are tools available to help determine the appropriate number of handbrakes to apply when leaving cars and/or locomotives in a track?

ABTH 104.14 provides guidelines in a chart based on tonnage and grade to help determine the minimum number of handbrakes to apply when leaving cars. Use this chart when the number of handbrakes is unknown and/or when testing of the handbrakes by releasing the air brakes is not practical.

❑ Can the air brakes be depended upon to prevent undesired movement of cars and/or locomotives unattended?

Do not depend on air brakes to hold cars and/or locomotives in place when left unattended. The engineer and conductor are jointly responsible to ensure equipment left unattended is properly secured and a sufficient number of handbrakes are applied to prevent movement. Even if only one member of the crew actually applies the handbrake(s), a Job Safety Briefing between the engineer and conductor must confirm all securement requirements have been met.

❑ What is the difference between “attended” and “unattended” cars and/or locomotives, in regard to handbrakes?

- **Unattended** means cars and/or locomotives left standing and unmanned in such a manner that the brake system of the cars and/or locomotives cannot be readily controlled. The handbrake is considered to be part of the brake system of a car/locomotive.
- **Attended** means a worker is near enough to the cars and/or locomotive to readily control the brake system, which includes the handbrake.

❑ What are best practice steps to safely tighten handbrakes, including wheel and ratchet-style brakes?

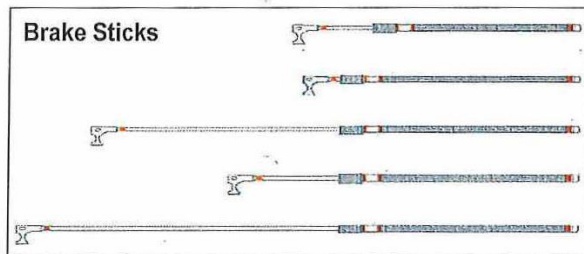
1. Take up the slack in the system.
2. Tighten up the brake to secure against movement.
3. Snug brakes up to the wheel without overexertion.

❑ What should be done if a handbrake is difficult to release?

- Charge the air brake system and make a full service application of the car and/or locomotive brakes before attempting to release the handbrakes again. If handbrake is still difficult to release, place the car and/or locomotive brake system into emergency.
- If the handbrake cannot be released using this method, stop using the handbrake and report the defect to the Mechanical desk and your supervisor.

❑ What are some ways to mitigate/lower the risk of exposure when using a brake stick?

- Inspect the brake stick for defects before and after each use.
- Do not use a brake stick that is defective or has an unreadable serial number. Notify your supervisor.
- Do not walk backward while carrying a brake stick to avoid a slip, trip and fall exposure.
- Remain alert/attentive while carrying a brake stick and keep the long handle clear of adjacent tracks/out of the foul and away from striking another person.
- Wear gloves while operating a brake stick.



❑ What other materials are available for review?

Take time to review applicable rule references in their entirety, including GCOR 7.6, ABTH 102.1, 102.1.1, 102.1.2, 102.1.4, 102.1.5, 102.3, 104.14, CROR 112, SSI 37, and Division Securement Supplemental Instructions.

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.
01/04/2022



We Choose Safety.

Safety Bulletin 2023-07: Employee Fatality – Crossing Tracks

FRA issued Safety Bulletin 2023-07 on September 29, 2023, after a fatal accident involving a railroad employee with 19 years of experience. The employee had walked perpendicular to an active remote control zone switching lead and stepped into the path of a two-unit remote control locomotive (RCL) consist, when the RCL struck and killed the employee. FRA’s purpose in issuing the Safety Bulletin was to ensure the railroad industry was aware of the accident. A summary of the recommendations, and BNSF’s responses to those recommendations, are below.

Recommendations and Responses

Recommendation 1.

Be alert to train movements at all times and always expect the movement of trains, engines, cars, or other movable equipment at any time, on any track, and in either direction.

Recommendation 2.

Stop and look in both directions before fouling or crossing a track or set of tracks.

Response to Recommendations 1-2:

BNSF issued an “Engineering Flash Briefing” that discussed making critical decisions regarding on-track equipment. The briefing also went over some Maintenance-Of-Way operating rules, such as, moving on-track equipment, maintaining a safe braking distance, and the spacing of equipment. Additionally, the Mechanical Department’s leadership also sent an email to all mechanical employees informing them of the Safety Bulletin and reminded them to have conversations with fellow team members about BNSF’s processes, expectations, and commitment regarding fouling track.

APPENDIX F: OTHER SAFETY ALERTS

Ron Hynes

Assistant Vice President, Technical Services



ASSOCIATION OF
AMERICAN RAILROADS

June 5, 2023

[C-14172]

Circular Letter

Subject: AAR Safety Alert Regarding Unsecured Angle Iron on Top Cord of High Side Gondolas Resulting in an Employee Fatality

To: ALL SUBSCRIBERS

File Number: SA-02-2023

A student conductor was fatally injured, and a conductor was seriously injured, in December of 2022 when a freight train operating at speed on a main track encountered a section of angle iron that was protruding from the top cord of a high-side gondola in a standing train on an adjacent track. The angle iron was protruding into the foul of the main track and pierced a locomotive cab door window causing the fatality and other injury.

This safety alert is being issued to increase awareness of an unsafe condition involving maintenance to the top cord of high-side gondolas typically used in scrap service. In this accident, angle iron with dimensions 5" x 5" x ½" was placed on the top cord of both sides of a high-side gondola. The angle iron had been welded to the top edge of the car but had broken and became dislodged from its intended orientation along the top cord.

Other instances of angle iron becoming dislodged in a manner comparable to what occurred in the fatal accident have been reported. When this condition occurs, the angle iron can swing out, away from the car, and foul an adjacent track, causing a risk to employees on passing trains.

This safety Alert is intended to provide awareness and guidance to rail employees, including switching crews and carmen, to be on the lookout for high-side gondolas used in scrap recycling services that may have unsecured material extending from the top cord as explained above. Employees should be alert to the possibility of this condition and take action to safeguard all employees until the condition can be corrected.

Sincerely,

Ron Hynes

Assistant Vice President, Technical Services

Safety and Operations

Association of American Railroads

425 Third Street, SW, Suite 1000, Washington D.C. 20024

BNSFs Response to AAR's Safety Alert:

On July 3, 2023, BNSFs Vice President of Safety provided a response to FRA's Chief Safety Officer regarding the AAR Safety Alert. BNSF noted that they assessed all their gondola train cars that had gone through their vision portals within the last 6-months, as well as examined all images of similar defects. During their assessment, BNSF did not find any train cars with defects that were similar to the train car involved in the accident noted in the AAR Safety Alert. In this area, BNSF found their risk to be minimal. However, they stated that they will ensure their carmen and crews are aware of risk noted in AAR's Safety Alert and would add this to their list of technology driven train inspection (TDTI) development.

APPENDIX G: LETTERS BETWEEN FRA AND BNSF



U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 18, 2024

Mr. Matthew Igoe
Executive Vice President &
Chief Operating Officer
BNSF Railway Company
2650 Lou Menk Drive
Fort Worth, TX 76131

Re: Docket No. FRA-2006-24812

Dear Mr. Igoe:

This letter is in response to your March 13, 2024, letter (March 2024 letter) to the Federal Railroad Administration (FRA), regarding BNSF Railway Company's (BNSF) petition for renewal of FRA's October 23, 2018, waiver (October Waiver). The October Waiver granted BNSF relief from certain provisions of Title 49 Code of Federal Regulations (CFR) Section 232.213, *Extended haul trains*, to operate extended haul trains for distances of up to 1,702 miles.¹

Per the terms of the October Waiver, the regulatory relief in Docket No. FRA-2006-24812 expired on October 22, 2023. While BNSF filed for an extension of the relief in this docket,² FRA has not issued a decision letter on that petition. Filing a request for an extension of regulatory relief does not affect the expiration of the relief.

In the March 2024 letter, you state that BNSF has continued to operate under the terms of an expired waiver in violation of FRA's regulations.³ On March 6, 2024, FRA communicated to BNSF that the October Waiver had expired, and that BNSF was required to operate pursuant to the applicable FRA regulations. If BNSF continues to operate in violation of the regulations, FRA will consider all available enforcement options.

Accordingly, while BNSF's petition for extension remains pending under FRA review, BNSF must fully comply with all applicable Federal rail safety regulations, including those previously waived in this docket.

¹ See <https://www.regulations.gov/document/FRA-2006-24812-0049>.

² See <https://www.regulations.gov/document/FRA-2006-24812-0052>.

³ "...BNSF has continued to operate in compliance with the terms of our existing waiver, including continuing our weekly and monthly reporting obligations and other routine communications regarding the ongoing operation of trains pursuant to the waiver." March 2024 Letter at 3.

BNSF Railway Safety Culture Assessment Report

If you have any questions regarding this letter, please contact Mr. Steven Zuiderveen, Senior Safety Specialist, Motive Power and Equipment Division, at (202) 493-6337 or Steven.Zuiderveen@dot.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Karl Alexy', with a stylized flourish at the end.

Karl Alexy
Associate Administrator for Railroad Safety
Chief Safety Officer

BNSF Railway Safety Culture Assessment Report



Matt Igoe
EVP & COO

BNSF Railway Company
2600 Lou Menk Dr.
Fort Worth, TX 76131

Telephone: 817-352-1550
Email Address: matthew.igoe@bnsf.com

Via Email

March 20, 2024

Karl Alexy
Associate Administrator for
Railroad Safety & Chief Safety Officer
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590
Karl.Alexy@dot.gov

**RE: Status of BNSF Railway Extended Haul Waiver Extension Request
(Docket No. FRA-2006-24812)**

Dear Karl:

I write in response to your March 18 letter formally ordering for the first time that BNSF's continued operation of our extended haul waiver program will be considered in possible violation of FRA regulations. As a preliminary matter, your letter references a March 6, 2024 communication from FRA to BNSF indicating that BNSF was required to cease operating our extended haul waiver program. We have been unable to locate any such communication and would appreciate any further detail you can provide, including a copy of any such communication. As set forth in more detail below, we have already begun the process of winding down our waiver program that has been in place for 17 years, and hereby ask FRA to formally approve a thirty (30) day period for us to complete that wind-down process so that near-term service impacts to our customers can be minimized.

I want to first provide context that is necessary to understand our continued operation of our extended haul waiver program beyond its nominal expiration date and why we strongly disagree with your characterization that we have been operating in violation of FRA regulations. As set forth in my March 13 letter, BNSF filed a request for clarification regarding our extended haul waiver on March 24, 2023 and a request for extension of that waiver on May 4, 2023, neither of which have been answered yet. In the nearly one year since our clarification request was filed and the nearly 11 months since the extension request was filed, BNSF continued to operate the Extended Haul waiver program safely and consistent with the conditions of the waiver. As demonstrated by BNSF's routine reporting to the FRA, the continued operation of the program has been in full compliance with the conditions of the waiver and has continued to produce the same safety benefits the FRA has observed throughout the program's existence.

Critically, the operation of our waiver program since October 2023 has been done with the full knowledge of the FRA. In addition to continuing to file the weekly and monthly reports required by the conditions of the waiver—without receiving any objection or comment—we have maintained consistent informal communication with FRA staff over the past several months. Since the waiver's nominal expiration, we have filed more than 20 different weekly reports identifying those trains that BNSF intended to operate

under the waiver during the ensuing week. At no time did FRA indicate to BNSF that we should not operate any of the trains identified in those weekly reports, or otherwise cease our extended haul program while our waiver extension request was pending. Moreover, the continued operation of our waiver program past its nominal expiration date was consistent with prior practice for this program, including FRA informally permitting BNSF to continue operating beyond nominal expiration dates in 2006-2007 and in 2018 while requests for extensions were awaiting FRA decision.

Two days after my March 13 letter to you, BNSF became aware that an FRA inspector in Mandan, North Dakota began writing defects for trains that were operated pursuant to the extended haul waiver on the basis that the waiver had expired. This was the first time since the waiver's nominal expiration that such defects had been written and stood in stark contrast to the informal communication BNSF had otherwise consistently received from FRA staff, including those directly responsible for the ongoing supervision of our program. When we inquired with FRA staff about this change in approach, we were informed for the first time that we would shortly receive a written communication formally instructing us to cease operation of our extended haul waiver program. While this unexplained change in approach caused significant confusion, BNSF—as always—nevertheless followed the direction given by FRA staff responsible for the supervision of the waiver program and began a process of winding down.

To be clear, shuttering this longstanding, successful program will cause immediate negative impacts to the fluidity of BNSF's network and our long-term ability to continue providing the service that our customers have grown to expect over the past 17 years. While our coal and grain customers will be disproportionately impacted, the near-term service impacts will be felt by customers across our network as we adjust our service plans to accommodate the approximately 300 additional brake inspections that must now be performed every week. Longer term, BNSF will need to redesign our entire network to identify new inspection points, routes, and schedules for the approximately 18% of our active trains that were moving under the waiver on a daily basis, while hopefully minimizing the cycle time degradation that will occur as our network re-absorbs the thousands of hours of idle time that the waiver program allowed us to avoid.

Because this waiver program has been in place for 17 years, it cannot be immediately terminated without causing undue harm to our customers. As such, over the weekend we began implementing a plan to shut down the program over the next 30 days (ending April 16), which we believe gives us time to minimize the most onerous near-term potential harm to our customers that might otherwise arise from an immediate cessation of the waiver. During that time, we will remain in communication with FRA staff and continue to follow the conditions of the waiver, including the filing of weekly and monthly reports. We hereby ask that the FRA formally approve this 30-day plan and acknowledge that our continued operation of the waiver program during that time will not be subject to enforcement action.

Despite this unexpected development, BNSF continues to believe that our extended haul waiver program is an excellent example of how BNSF's longstanding partnership with FRA can overcome barriers that existing regulations present to modern railroading practices that maximize the safety and efficiency of our operations. For clarity, while we are working to unwind our waiver program per your direction, we reiterate our request for prompt FRA action on our two outstanding requests in this docket. We also reiterate our request for prompt action on BNSF's other waiver-related requests that are awaiting FRA

BNSF Railway Safety Culture Assessment Report

decision,¹ all of which have been pending well past the relevant deadlines for FRA action under its own regulations and are currently acting as de facto denials of those requests.

Sincerely,



Matt Igoe

Cc: Mr. Mark Schulze

¹ Those requests include: Brake Health Effectiveness (Dkt. No. FRA-2018-0049, pending since June 2023); 120 CFM (Dkt. No. 2022-0082, pending since August 2022); Combination Train Inspections (Dkt. No. FRA-2020-0033, pending since March 2023); & Houston Transfer Train (Dkt. No. FRA-2019-0107, pending since May 2022).

BNSF Railway Safety Culture Assessment Report



U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March XX, 2024

Mr. Matthew Igoe
Executive Vice President &
Chief Operating Officer
BNSF Railway Company
2650 Lou Menk Drive
Fort Worth, TX 76131

Re: Docket No. FRA-2006-24812

Dear Mr. Igoe:

This letter is in response to your March 20, 2024, letter to the Federal Railroad Administration (FRA), regarding the expiration of BNSF Railway Company's (BNSF) October 23, 2018, waiver (2018 Waiver). The 2018 Waiver granted BNSF relief from certain provisions of Title 49 Code of Federal Regulations (CFR) Section 232.213, *Extended haul trains*, to operate extended haul trains for distances of up to 1,702 miles.¹

As stated in my March 18, 2024, letter to you, per the terms of the 2018 Waiver, the regulatory relief in Docket No. FRA-2006-24812 expired on October 22, 2023. While BNSF filed for an extension of the relief in this docket,² filing a request for an extension of regulatory relief does not affect the expiration of the relief. Accordingly, once a waiver expires, existing FRA regulations apply.

BNSF's petition for extension remains pending under FRA review. FRA is actively considering recent comments to the docket. FRA will accommodate BNSF's request, and, until April 22, 2024, will not assess civil penalties for non-compliance with the provisions of 49 CFR § 232.213 related to the 2018 Waiver. During that time, FRA will continue to conduct inspections.

On April 22, FRA expects BNSF to conform with applicable regulations if the agency has not denied or approved BNSF's petition for extension of the applicable waiver.

¹ See <https://www.regulations.gov/document/FRA-2006-24812-0049>.

² See <https://www.regulations.gov/document/FRA-2006-24812-0052>.

BNSF Railway Safety Culture Assessment Report

If you have any questions regarding this letter, please contact Mr. Steven Zuiderveen, Senior Safety Specialist, Motive Power and Equipment Division, at (202) 493-6337 or Steven.Zuiderveen@dot.gov.

Sincerely,

Karl Alexy
Associate Administrator for Railroad Safety
Chief Safety Officer

- NOTE: This letter was mistakenly sent without the day of the month it was sent. The letter was sent via email from Karl Alexy to Matthew Igoe on March 25, 2024, at 5:11pm.



U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 28, 2022

Ms. Katie Farmer
President & Chief Executive Officer
BNSF Railway
2650 Lou Menk Drive
Fort Worth, TX 76131

Re: Hours of Service and Fatigue Implications from Railroad Attendance Policies

Dear Ms. Farmer:

America's railroads and their employees play a vital role in the supply chain and the overall economic strength of the United States. A safe and efficient rail operation relies on many factors, including well-maintained equipment and infrastructure, through both human interaction and the use of new technology. Over the last two years, the freight and passenger rail industry has overcome external challenges posed by the COVID-19 pandemic, global supply chain disruptions, and the recent increase in fuel prices. Railroad employees worked tirelessly during the COVID-19 pandemic, moving freight and passengers to keep our economy strong, and to overcome the supply chain disruptions in all modes of transportation. Over the past five years (Jan 2017 – Jan 2022), Class I railroad employment has fallen from 148,427 to 111,754, a reduction of about 25 percent. This reduction in employee numbers can be attributed to many factors: increased use of technology, effects of the COVID-19 pandemic, and the implementation of Precision Scheduled Railroading, which focuses on scheduling, equipment utilization, and minimizing costs to improve earnings and operating ratio.

All industries, and especially railroads, are faced with staffing shortages, and issues with ensuring employees reliably show up for work at the scheduled location and time. Compounding this challenge, railroad schedules and "line-ups" can change unexpectedly due to weather, service interruptions, increases or decreases in traffic volumes, and employee availability. For decades, railroads have developed various attendance policies designed to ensure employee accountability to operate trains on time. Balancing employee attendance, ensuring compliance with Federal Hours of Service (HOS) laws and regulations, and preventing fatigue should all be part of a well-reasoned and scientifically-validated attendance policy. FRA recently distributed a fatigue survey we hope will provide valuable information concerning fatigue and work-rest cycles. FRA is also finalizing a rule on the management of fatigue risk.

BNSF Railway Safety Culture Assessment Report

As you know, FRA enforces the Federal HOS laws under 49 U.S.C. chapter 211. These statutory requirements include maximum time on duty, minimum periods of undisturbed rest, and cumulative limitations for freight transportation employees regarding consecutive on-duty days and maximum hours in a calendar month. FRA takes seriously all HOS violations, and FRA closely monitors railroad compliance with the statutory requirements, taking enforcement action as appropriate.

Recognizing that fatigue is a longstanding concern as a contributing cause to human factor accidents in the railroad industry, we are reviewing railroad attendance policies, each policy's compliance with Federal law and regulations, and the potential impacts of these policies on rail safety and employee fatigue. Given my concerns over the potential for attendance policies to have a negative effect on employee rest, and thus safe railroad operations, I have directed FRA to study the impacts of a recent freight railroad practice of holding employees off-duty at an Away From Home Terminal (AFHT) for more than 24 hours. This off-duty period generates a break in consecutive days initiating an on-duty period.

FRA is investigating whether freight railroads are intentionally resetting consecutive on duty periods at AFHT to prevent freight transportation employees from initiating on-duty periods on six or seven consecutive days, which would trigger a requirement under the HOS laws, for extended rest at the employee's home terminal. FRA is reviewing work histories of freight transportation employees working in pool turn service for the months of January and February of this year. The goal of the study is to understand the prevalence of restarting an individuals' consecutive on duty periods, at AFHT. FRA will use these work histories to evaluate the potential for crew member fatigue as a result of these practices. FRA investigates railroad accidents and injuries to determine root causes and make recommendations to prevent further occurrences. For accidents suspected of being human factor caused, FRA routinely performs fatigue analyses using tools such as the Fatigue Audit InterDyne (FAID) program. The FAID program is an analytical tool, used to identify, quantify, and predict the likelihood of fatigue exposure associated with different work hours. In addition to this type of scientific analysis, during FRA's future accident and incident investigations, FRA will collect and analyze information related to the involved railroads' attendance policies and train lineup procedures as applied to the involved railroad employees.

Using all the information detailed above, FRA will partner with railroad leadership and labor to discuss the means to identify potential methods of addressing fatigue in the railroad industry.

Sincerely,



Amit Bose
Administrator

cc:

Mr. Ian Jeffries, President & Chief Executive Officer, Association of American Railroads

BNSF Railway Safety Culture Assessment Report



Katie Farmer
President and
Chief Executive Officer

BNSF Railway Company
P.O. Box 961052
Fort Worth, TX 76161-0052

2650 Lou Menk Drive
Fort Worth, TX 76131-2830
(817) 352-1215
(817) 352-7488 fax
katie.farmer@bnsf.com

April 6, 2022

Mr. Amit Bose
Administrator
Federal Railroad Administration
United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Administrator Bose:

I write in response to your March 28 letter regarding Hours of Service (HOS) and fatigue implications from attendance policies in the rail industry.

At the outset, I want to second your comment about railroad employees working tirelessly throughout the pandemic. I speak often about my immense pride in the unwavering dedication of BNSF employees throughout this challenging period to provide safe and efficient freight service to our customers. Thank you for recognizing the hard work and dedication of these men and women who have kept our trains running and our nation supplied with essential goods.

BNSF Safety Culture

As you and your team are aware, BNSF remains unwaveringly committed to our safety vision that every accident and injury is preventable. Our commitment to that vision is demonstrated by the continual reduction in employee injury and rail equipment incident rates that we've experienced at BNSF over a long period of time. That improvement recently resulted in BNSF having the lowest 2021 injury and rail equipment incident rates in the industry.

To be successful in driving this consistent safety improvement, we promote strong alignment throughout our culture, systems, and processes. Our foundational safety alignment is enhanced with layers of risk mitigation to reduce the likelihood of incidents. Included in that risk reduction strategy are a multitude of fatigue mitigation programs, policies, and procedures that additionally ensure compliance with Federal HOS laws. Like you, we take all HOS requirements seriously, and we closely monitor our compliance with those statutory requirements and take appropriate action when necessary.

BNSF also shares your concerns over the impact that staffing shortages would have on a railroad, as any freight not moved has negative impact to our customers and the nation's economy as a whole. BNSF continues to monitor staffing levels and implement programs, such as an aggressive hiring plan, to ensure we are properly staffed to handle the nation's traffic well into the future.



April 6, 2022
Mr. Amit Bose
Federal Railroad Administration

Page 2

Attendance Policies

As you are aware, BNSF implemented a new attendance program in February, commonly known as HiViz. While there has been much public discussion and debate about our HiViz program, I would like to explain the goals and context behind this new policy and to dispel some of the misconceptions about the impact of HiViz.

At the outset it is important to note that, as with any business, staffing shortages and absenteeism impact the service product a railroad can provide its customers. In railroad operations, there is the additional negative employee consequence related to unpredictability around an employee's rest. When an individual employee's initial idea about their rest time is disrupted by other employees' unplanned layoffs, the negative chain reaction of that layoff can adversely impact an employee's rest and work plans. Importantly, improving the predictability of work to reduce fatigue is part of the foundation of the new attendance program.

Turning to our HiViz program, we believe the simplification and resulting improved understanding of the point-based program, with additional tracking and visibility tools made available to employees, is a benefit of the program. Thus, this simplified HiViz BNSF attendance program addresses the needs of both improving the employee's schedule predictability and enhancing the employee's visibility to their attendance standing.

While change can be difficult, the determinate benefits of the updated attendance program have been clearly demonstrated since it began. As we have previously shared with members of your team leading up to implementation of HiViz, our transportation management team spent considerable time across the system working alongside and listening to employee ideas and thoughts about the program. Based on that feedback, we announced several adjustments to the program that benefitted our employees and BNSF alike. Since its implementation, we have experienced a substantial increase in crew availability across our network, which helps keep our customers' freight and the nation's supply chain moving. Additionally, union concerns that few employees will be able to earn points for good attendance under HiViz have also proved unfounded.

Importantly, this new attendance program in no way interferes with or contradicts the intent of the RSIA. BNSF is committed to working with our union partners on fatigue mitigation over and above what is federally mandated. In fact, we have successfully negotiated fatigue mitigation for many of our pools which otherwise would be unassigned and not have access to rest outside of the RSIA. In addition, we are striving to convert more of our unassigned pools to include some sort of work/rest and/or fatigue mitigation provisions.



April 6, 2022
Mr. Amit Bose
Federal Railroad Administration

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Programs and policies such as this go beyond just complying with Federal HOS laws. BNSF is actively working with unions to implement work/rest agreements to drive additional employee fatigue mitigation benefits. While many of our employees already have these types of agreements available, we will continue to work through the confines of collective bargaining to develop these additional programs. In the meantime, BNSF will monitor implementation of this program to ensure we fairly address railroad operational needs while also providing better visibility and predictability for employees through a reduction in unscheduled and disruptive layoffs. These policy changes, coupled with our ongoing and relentless efforts on train lineups, will provide significant fatigue mitigation benefits to our employees.

As you are aware, we have had many productive updates with your team on BNSF's attendance policy in order to enhance the FRA's understanding of it in relation to intent, structure, and impact. We look forward to the opportunity to brief you in person on this program and the facts surrounding its implementation and impact. Our outstanding invitation remains, and we look forward to answering any other questions you might have.

Restarting Consecutive On-Duty Periods

I'd also like to address your concern that "freight railroads are intentionally resetting consecutive on duty periods" at away-from-home terminals (AFHT). To be clear, BNSF does not engage in the intentional resetting practice that you have outlined in your letter. As you are aware, FRA staff has already been at BNSF's headquarters in Fort Worth, Texas to review various pools and employee work schedules, and they found no basis for the "resetting" claim. While we are disappointed that this baseless assertion remains, we welcome the FRA's additional review of BNSF's regulatory compliance in this area. As such, we will continue to work with you and your team to better understand BNSF's activities in this area.

In summary, I want to emphasize that BNSF is focused on implementing effective and safe employee programs, policies, and actions for moving our customers' freight. We appreciate your desire to partner with railroad leadership in addressing fatigue, and we look forward to continuing our collaborative work with you and your team to discuss the facts around the programs that are in place.

Sincerely,

A handwritten signature in cursive script that reads "Katie Farmer".

Katie Farmer
President and Chief Executive Officer

cc: Karl Alexy, Associate Administrator for Railroad Safety and Chief Safety Officer, FRA
Mark A. Schulze, Vice President Safety, Training and Operations Support, BNSF Railway

BNSF Railway Safety Culture Assessment Report



U.S. Department of Transportation
Federal Railroad Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

May 10, 2021

Mr. Dan Smith
Chief Executive Officer
Watco Companies LLC
315 West 3rd Street
Pittsburg, KS 66762

Dear Mr. Smith:

The Federal Railroad Administration's (FRA) mission is "to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future." In furtherance of this mission, one railroad safety concern that FRA has identified for immediate action is the recent increase in both the number and severity of railroad accidents related to switching operations, including those regulated under 49 CFR Part 218, Subpart F (Handling Equipment, Switches, and Derails), also referred to as Human Factor (HF) accidents. In addition, the National Transportation Safety Board (NTSB) added improving rail worker safety to its 2021-2022 Most Wanted List. Through inspection and enforcement efforts, FRA is aiming to reverse the trend and raise the awareness of all stakeholders about these types of accidents, their causes, and the safety measures that must be taken to avoid them. All stakeholders must do more to prevent these types of accidents.

The most common causes of HF accidents for all railroads are improper switch alignment and failure to control shoving movements. FRA notes that the accident rate for shoving movements alone increased twenty-one percent for the period between October 2020 through February 2021, over the rate between October 2019 and February 2020. Further, since just the beginning of 2020, seven railroad employees have died during switching operations, the causes of which are still under investigation.

This recent increase in the number and severity of HF accidents led FRA's Office of Railroad Safety to conduct a series of focused inspections, with specific emphasis on switching activities regulated under Subpart F and railroad's own operating rules. These inspections are ongoing nationwide and are designed to address activities that could result in the catastrophic injury or death of a railroad employee. FRA will continue to emphasize and focus resources on enforcement of FRA safety regulations related to switching operations, including Subpart F, but the increase in the number and severity of HF accidents indicates that more action is needed by all stakeholders.

I ask the railroad industry to consider its current staffing levels, as well as its compliance disposition and commitment to adhering to FRA's critical rail safety regulations. Further, I request a response to this letter as soon as possible and in no event later than 10 business days.

In that letter, please outline the actions you are taking to reverse this trend, and the timeframes in which these actions will be completed. We look forward to your prompt response.

Sincerely,

Amit Bose
Deputy Administrator

BNSF Railway Safety Culture Assessment Report



Katie Farmer
President and
Chief Executive Officer

BNSF Railway Company
P.O. Box 961052
Fort Worth, TX 76161-0052

2650 Lou Menk Drive
Fort Worth, TX 76131-2830
(817) 352-1215
(817) 352-7488 fax
katie.farmer@bnsf.com

May 19, 2021

Mr. Amit Bose
Deputy Administrator, Federal Railroad Administration
United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Deputy Administrator Bose:

I write in response to your May 10 letter regarding switching operations accidents in the rail industry, and your request for BNSF Railway (BNSF) to outline ongoing risk mitigation efforts and actions being taken to reinforce the critical importance of identifying exposures on the railroad.

As you and your team are aware, BNSF remains strongly committed to its safety vision that every accident or injury is preventable. Our belief in that vision is strengthened when we observe large workgroups at BNSF working for extended periods of time without incident or injury. Our safety results demonstrate how the collective efforts we at BNSF have undertaken with our employees has positively impacted our safety performance. To achieve those results, we have devoted significant energy and resources to developing a culture where every BNSF employee shares in the common goal of safely performing tasks, and most importantly returning home to our loved ones at the end of our work.

To be successful in driving consistent safety improvement, at BNSF we continually promote strong alignment throughout our culture, systems, and processes. Our safety foundation is further enhanced with various layers of risk mitigation to reduce the likelihood of incidents. Below are some specific layers of risk mitigation actions related to switching operations at BNSF.

Identification

Like the FRA, at BNSF we believe that our safety programs should be driven by what we experience and learn from operational results and the accompanying data. This data-driven approach relies on robust information systems and analytics that identify important indicators and drive specific safety programs. A review of incidents related to switching accidents at BNSF shows that we have achieved a nearly 50% improvement between the two time periods referenced in your letter. This result compares to an approximately 30% improvement in the industry during that same time period.

Notwithstanding that accidents at BNSF have decreased recently and over time, recent tragic incidents that have occurred during switching operations remind us of the important work ahead to achieve our vision of an accident-free workplace. While the two recent switching-related BNSF fatalities are currently under active NTSB investigations, we will plan to thoroughly review and appropriately integrate any applicable findings and recommendations once they become available.



May 19, 2021
Mr. Amit Bose
Deputy Administrator, Federal Railroad Administration
United States Department of Transportation

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Processes

Throughout our operations, BNSF processes related to safe switching operations are outlined in rule books and instructions. Employee knowledge of and adherence to these rules is critical to ensure safe operations in a variety of scenarios, yard layouts, and conditions. As a learning organization, we have continued to improve switching operations processes and requirements, including making recent changes in the General Code of Operating Rules (GCOR) rule for Shoving (GCOR 6.5). In addition to that update, the remote-control movement rule (GCOR 6.5.1) was updated to ensure the employee protecting the shoving movement is also the controlling operator.

Other more recent switching operations process and rule updates include our riding-in, or riding-on, equipment rule. Like other rule changes, this update re-emphasizes our foundational belief that safety is more important than speed or convenience. Specific changes to the riding equipment rule include an amendment in determining whether to ride equipment. Other updates to this rule include additional considerations and expectations related to when riding equipment is determined to be the safest course of action. As with all of BNSF's safety rules, we continue to emphasize that our employees should take the time to explore all options and choose the safest course of action.

Communication and Training

Once the higher frequency and severity human factor accidents have been identified and effective processes are put into place to prevent them from occurring, we ensure that these key focus areas are accompanied by robust employee communication and training plans.

In the area of switching operations communication, we have developed coordinated monthly supervisor and employee briefings to identify rules and processes designed to prevent incidents from occurring. Additional internal communication posts have been distributed in order to enhance employee rules knowledge and application. Layered into that ongoing communication plan has been a recent 72-hour safety stand-down and associated briefings. Following that stand-down, we instituted an intense three-week period of job safety briefings and re-briefings that included new safety videos which were distributed to employees across a variety of communication platforms.

Employee training on processes and operating activities is delivered in semi-annual rules and safety training. These extensive training modules have switching operations focus areas including working in-between, riding equipment, fouling track, shoving, and securement. These robust training modules leverage on-demand electronic delivery, scenario-based examples, and specific local and division-specific training.



May 19, 2021
Mr. Amit Bose
Deputy Administrator, Federal Railroad Administration
United States Department of Transportation

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Auditing and Testing

While many of the above actions focus on identifying exposures and applying operational best practices, we also believe that an effective closed-loop safety program requires addressing the at-risk behaviors. BNSF has robust auditing and testing programs in place that meet and/or exceed regulatory requirements. This program has been greatly enhanced by leveraging technology, including the use of Unmanned Aerial Vehicles (UAV) and fixed facility cameras located at many of our switching facilities. To support the application and safety culture related to auditing, supervisors undergo advanced operations testing (AOT) training to ensure testing rules are applied correctly. A critical focus of that training is in positive employee interactions to ensure successful understanding.

In summary, I want to emphasize that BNSF is focused on implementing effective safety actions for switching operations, but we realize our work is not yet done. We look forward to continuing our collaborative work with you and your team to identify additional innovative solutions to address safety in this area.

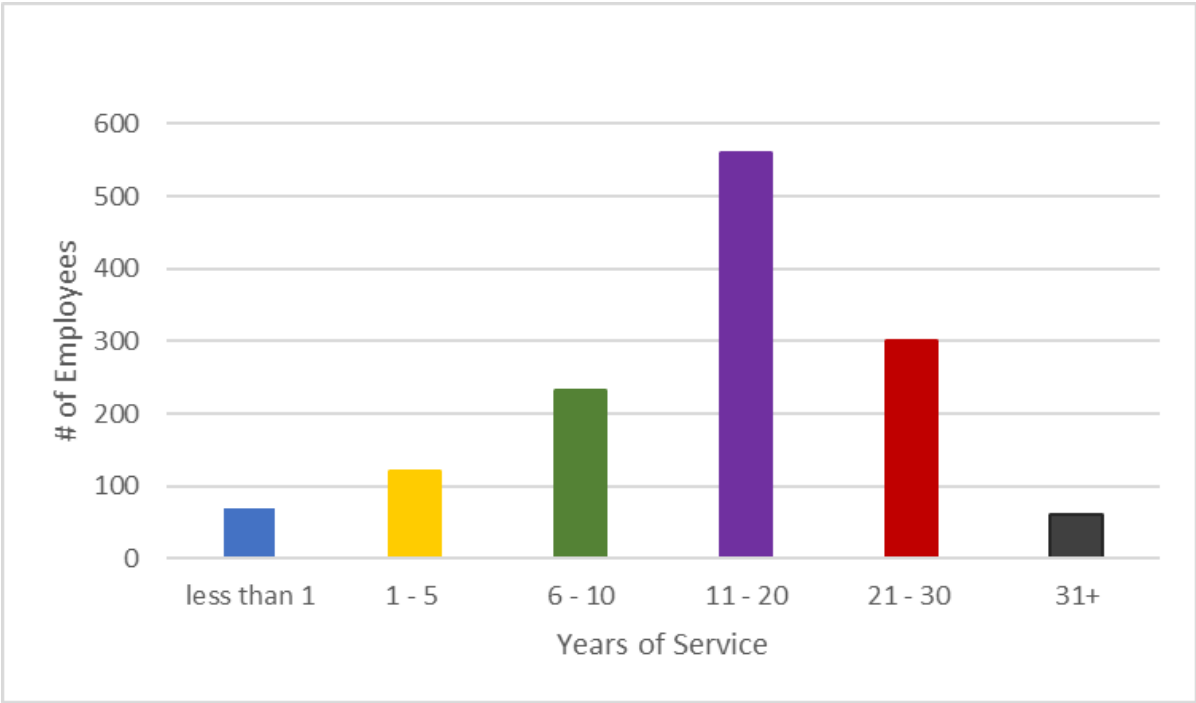
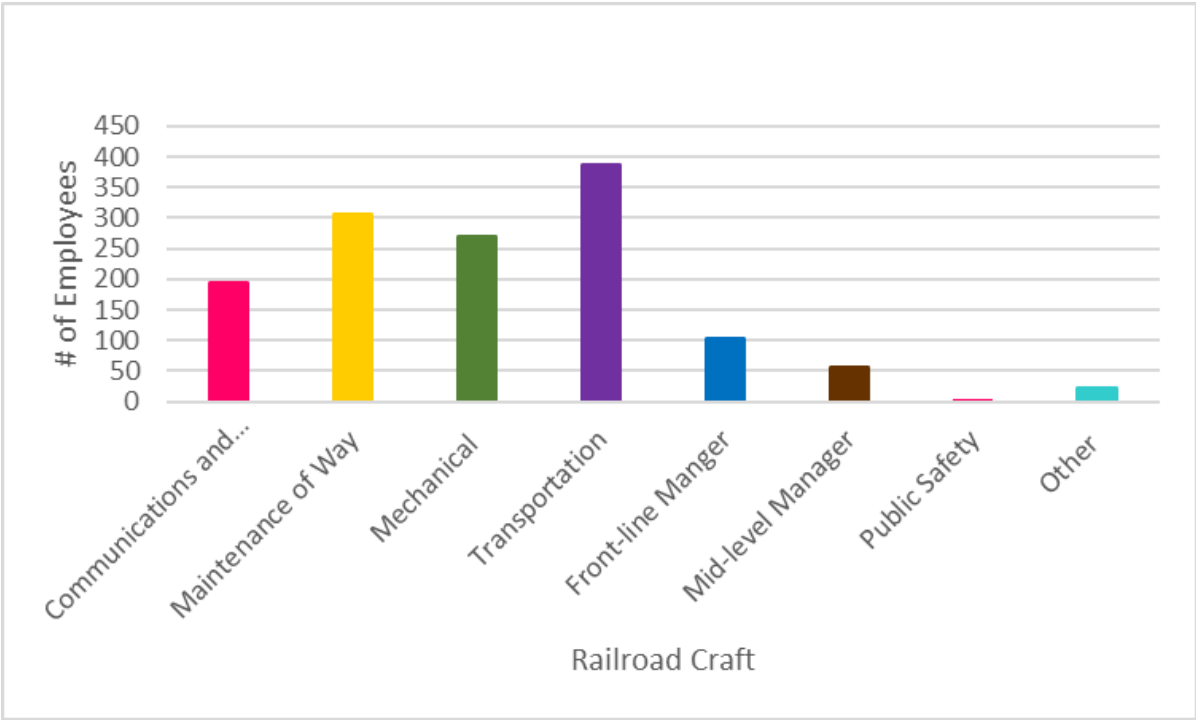
Sincerely,

A handwritten signature in cursive script that reads "Katie Farmer".

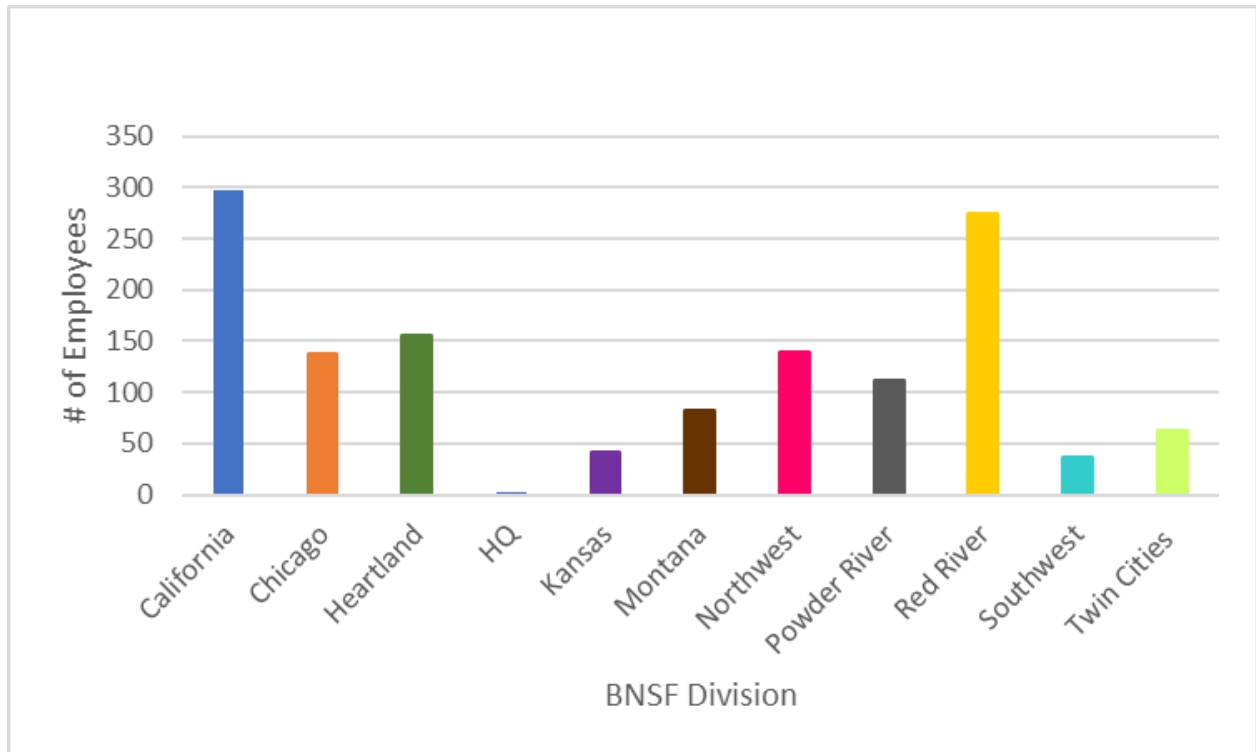
Katie Farmer
President and Chief Executive Officer

cc: Karl Alexy, Associate Administrator for Railroad Safety and Chief Safety Officer, FRA
Mark A. Schulze, Vice President Safety, Training and Operations Support, BNSF Railway

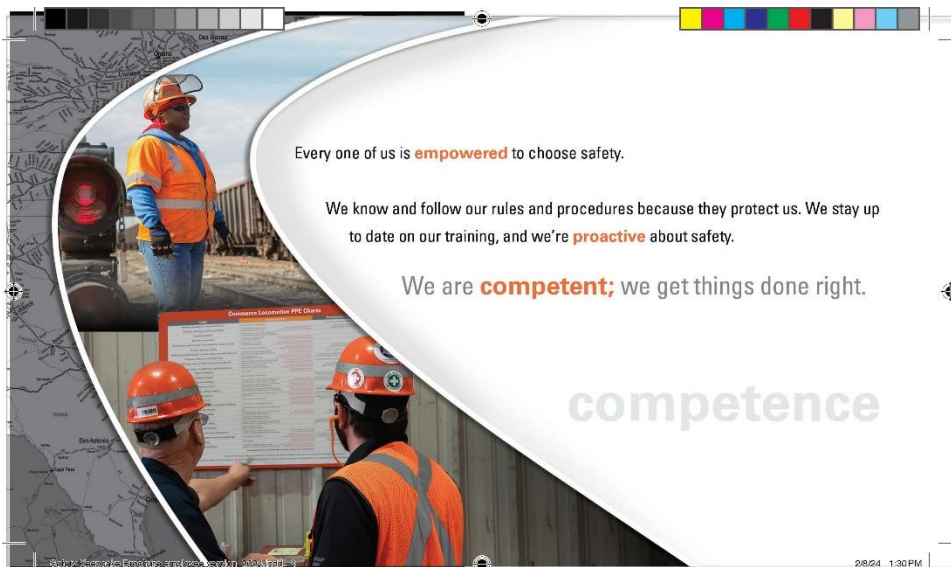
APPENDIX H: AGGREGATED DEMOGRAPHIC INFORMATION FROM BNSF RESPONDENTS



BNSF Railway Safety Culture Assessment Report



APPENDIX I: BNSF SAFETY CULTURE PLAYBOOK



BNSF Railway Safety Culture Assessment Report

We speak up in Job Safety Briefings and safety meetings. We respectfully give and receive **feedback** and have conversations about safety.

We work together and **communicate**; that's how we learn from each other.

communication

Safety Keepsafe Brochure employee version_2024.indd 1

Choosing safety is also **listening**...listening to understand, empathizing and recognizing each other for making safe choices.

We know that the more we **connect**, the more we trust and respect each other.

connection

Safety Keepsafe Brochure employee version_2024.indd 2

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BNSF Railway Safety Culture Assessment Report




We are BNSF.

Since 1849, the people of BNSF have kept the wheels of the American economy moving by delivering the goods that feed, fuel, and foster our way of life across this land we love.

We are committed to building strong communities, being good stewards of the environment, honoring our heritage, delivering reliable service, and ensuring the safe operation of our 32,500-mile network.

One of BNSF's greatest strengths is our willingness to **approach one another** when we see someone putting themselves or others at risk. We know that **every employee is a safety leader** who helps create our safety culture. This culture then determines our behaviors, which ultimately drives our excellence in safety.

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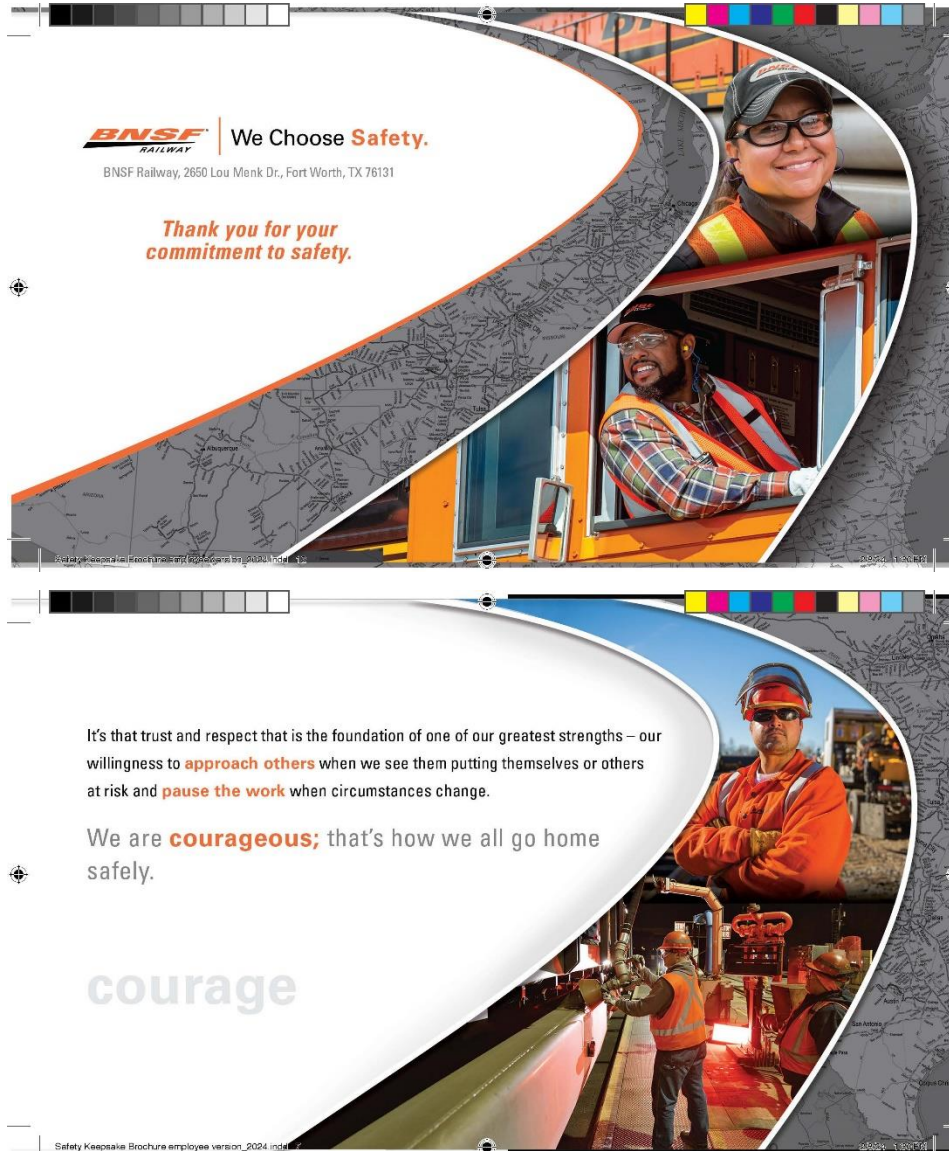
At BNSF, **we all own safety**. Each of us bears the responsibility of operating free of accidents and injuries. We proactively work toward our common goals, build trust through teamwork, and consistently choose safety to make this a safer place for everyone.

We are all **committed**; that's how we achieve safe production.

commitment

2/8/24 1:30 PM

BNSF Railway Safety Culture Assessment Report



BNSF Railway Safety Culture Assessment Report

How We Win

OUR BELIEFS	OUR ACTIONS	OUR OUTCOMES
We are competent . "We follow rules and procedures."	<ul style="list-style-type: none">• We know and follow rules and procedures.• We use our Proactive Safety Skills to make safe choices.• We meet our training and certification requirements.	We get it done right.
We communicate . "We work together."	<ul style="list-style-type: none">• We choose to actively participate in JSBs and safety meetings.• We respectfully give and receive feedback.• We talk with others about safety.	We understand our task.
We connect . "We listen to each other."	<ul style="list-style-type: none">• We listen to understand others.• We empathize with others.• We recognize others for making safe choices.	We trust and respect each other.
We are courageous . "We approach others about safety."	<ul style="list-style-type: none">• We approach others when they are at risk.• We pause the work when conditions change.• We report safety concerns.	We all go home safely.
We are committed . "We all own safety."	<ul style="list-style-type: none">• We believe in our safety vision.• We build trust through teamwork.• We consistently choose safety.	We achieve safe production.



Safety is at the core of everything we do and imperative to realizing our tremendous potential.

It's threaded through every process and woven into every plan. It's on the mind of every employee and the heart of every conversation. It's how we create the conditions for **safe production** and move toward our Safety Vision of **operating free of accidents and injuries**. It drives the choices we make and the actions we take.

safe production



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BNSF Railway Safety Culture Assessment Report



Proactive Safety Skills

EXPOSURES

- Walking/ Path of Travel
- Line of Fire/ Release of Energy
- Pinch Point
- Ascending/ Descending

JOB SAFETY BRIEFINGS

A series of safety conversations at the start/end of each task/shift and as conditions change, to identify exposures and discuss how to mitigate risk.

PAUSE THE WORK

- Pause the work.
- Assess the conditions.
- Understand the risk.
- Strategize a safer plan.
- Execute the plan.

DEBRIEFING

- Review Task Completion
- Address the Unexpected
- Takeaways for Next Time

ACT MODEL

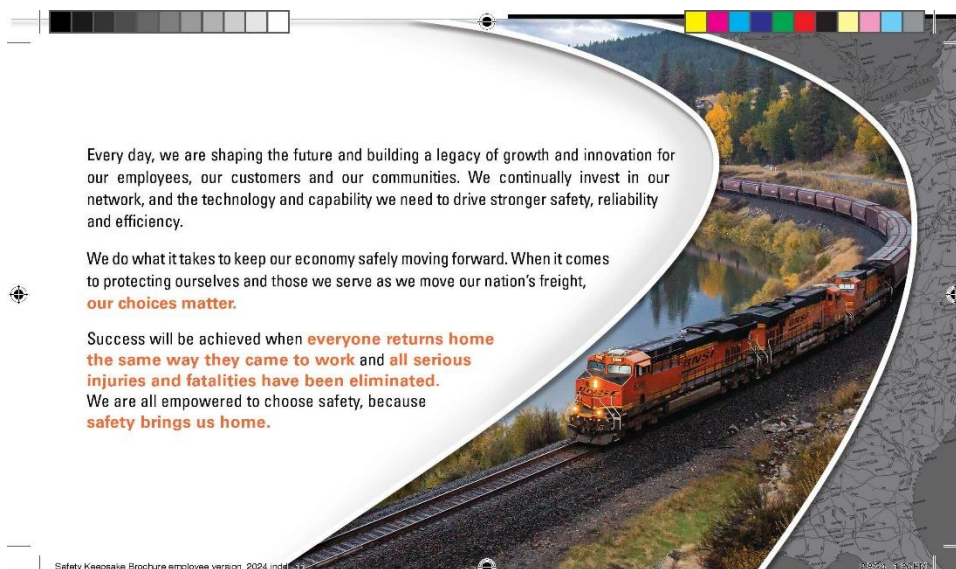
- Approach the individual.
- Consider the exposure and discuss the specific behavior.
- Thank them for listening.

FEEDBACK

- Guidance** to help others make the safest choice.
- Success** to acknowledge safe choices.

Use these skills to make safe decisions.

BNSF | We Choose **Safety**.



Every day, we are shaping the future and building a legacy of growth and innovation for our employees, our customers and our communities. We continually invest in our network, and the technology and capability we need to drive stronger safety, reliability and efficiency.

We do what it takes to keep our economy safely moving forward. When it comes to protecting ourselves and those we serve as we move our nation's freight, **our choices matter.**

Success will be achieved when **everyone returns home the same way they came to work and all serious injuries and fatalities have been eliminated.**

We are all empowered to choose safety, because **safety brings us home.**