U.S. Department of Transportation
Federal Railroad Administration

CSX Transportation

Safety Culture Assessment Report

January 13, 2025

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EXECUTIVE SUMMARY

Purpose

This report documents the results of the 60-day safety culture assessment of CSX Transportation, Inc. (CSX) conducted by the Federal Railroad Administration (FRA). The CSX safety culture assessment (assessment) occurred between January 22 and March 22, 2024. Since this report only covers results found during the 60-day assessment, it does not address any follow-up activities or corrective actions by CSX. FRA will monitor CSX's progress on the recommendations[1] 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. 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 an assessment of Norfolk Southern Railway (NS) between March 15 and May 15, 2023, and conducted a similar assessment on BNSF Railway (BNSF) between October 10 and December 8, 2023. To gain insight into common safety culture issues and to identify best practices for the railroad industry, FRA plans to perform assessments consecutively until all Class I freight railroads are assessed. FRA expects to complete this task in calendar year 2025.[2] FRA's assessment of CSX is the third Class I freight railroad assessment to be completed.

[1] Except when referencing requirements under federal law, 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] FRA's 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 assessment after discovering the railroad engaged in several activities that could adversely impact the integrity of the assessment. FRA expects to resume the UP assessment once FRA effects of UP management interference has dissipated and UP has addressed the issues described in this report to FRA's satisfaction, possibly in calendar year 2025.

Methods

FRA conducted this assessment in three parts:

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

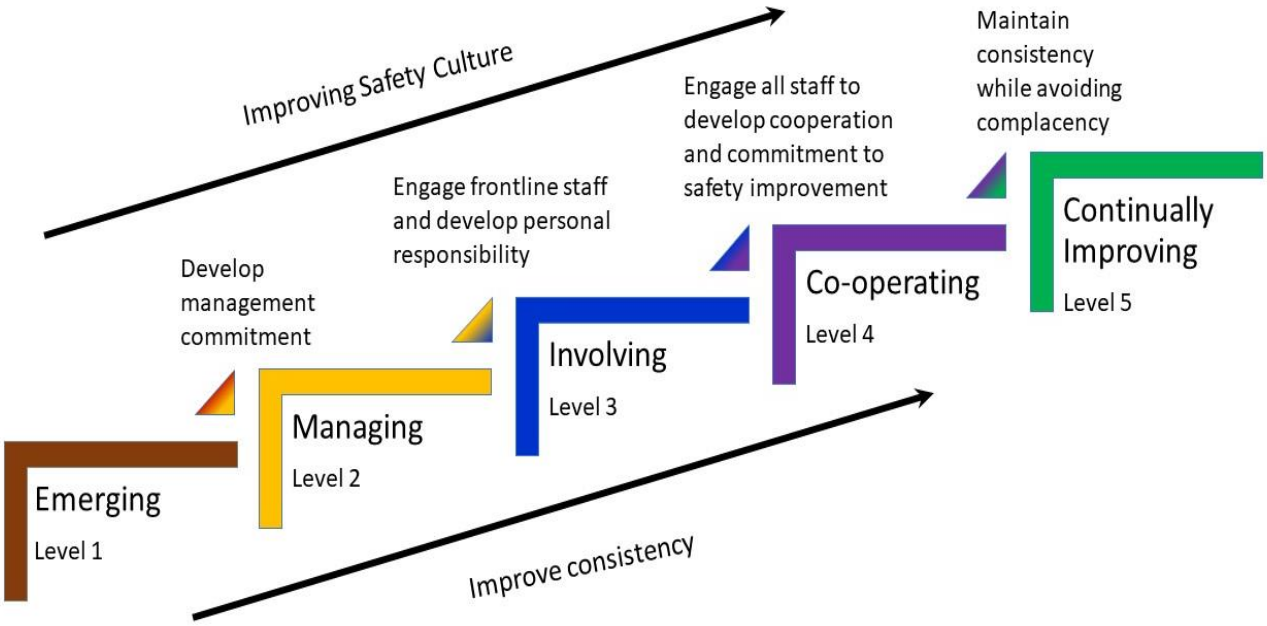
As part of the safety culture review, FRA evaluated the current safety culture at CSX using the Fleming Safety Culture Maturity Model (FSCMM)[3] as a guide. FRA collected baseline information on 10 essential safety culture elements. FRA used information from the field and structured interviews, observations, focused inspections, and the FSCMM to determine the relative maturity, or advancement, of CSX's safety culture. Figure 1 below 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 its 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 CSX, 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.

Figure 1. Fleming Safety Culture Maturity Model



The information FRA collected during this assessment serves as a "snapshot" of the current safety culture at CSX. 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 assessments.

CSX Safety Practices

When reviewing the overall findings of the CSX assessment, there is an indication that safety culture at CSX is currently in a period of transition. Although this assessment found that the safety culture maturity at CSX is currently at the *involving level* of maturity, there is evidence of improvements, as well as a commitment from leadership, indicating that CSX's safety culture is likely moving into more mature stages.

Many CSX employees, managers, craft employees, and labor leaders cited the leadership of CEO Joseph Hinrichs as heralding a new commitment to safety at CSX. Although several

employees spoke of the impact that CSX's CEO has had on safety in general terms, a few provided examples of specific changes that have been made under Mr. Hinrichs's leadership.

For example, employees noted improvements to the CSX discipline policy, stating that the policy is now fairer and more consistent than it was previously. Furthermore, employees indicated that there is a movement away from punishment and towards more coaching and counseling to support safer workplace behaviors. Although not mentioned directly, this shift is consistent with moving towards a "just culture" environment, in which both management and labor share accountability in a way that makes a distinction between mistakes and deliberate acts.[3] In contrast, some employees indicated that discipline at CSX is often inconsistently applied or dependent upon managers. As FRA has observed with other railroad assessments, the fostering of mutual trust is an area where railroads struggle. Moving towards a discipline policy that is fair, consistent, and focused on redirecting behaviors rather than punitive action will help to increase trust within CSX.

Consistently, employees speaking to FRA during the assessment period indicated that there is a renewed focus on safety and that the CEO has worked to make changes within the railroad to demonstrate CSX's prioritization of safety. FRA observed the results of some of these changes during the assessment period. However, the implementation period for some of these positive changes was still in its early days. As such, they were not always reflected in the data collected during the assessment period.

Although data collected by FRA indicates that CSX's safety culture is moving in a positive direction, there are still areas for improvement. Specifically, CSX's safety culture would benefit from changes to address how CSX approaches training and continuous learning opportunities. Data from the assessment reveal that both managers and frontline employees are not aware of continuous learning opportunities available at CSX. Providing opportunities

[3] Reason, James (1997), *Managing the Risks of Organizational Accidents*, Ashgate Publishing.

for continuous learning is one of the key safety culture elements (Element two[4]). CSX has also declined to provide additional training opportunities to employees in response to FRA safety advisories. Offering additional training and continuous learning opportunities gives employees the chance to improve their performance, learn new skills, and continue performing their jobs safely. Continuous learning opportunities also allow the railroad to address any safety concerns or failures raised in FRA safety advisories. Addressing how CSX publicizes training opportunities to its employees and managers and providing additional continuous learning prospects is an area where CSX has the greatest ability to affect positive change in its safety culture.

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

[4] Federal Railroad Administration. (2017). *Safety culture: A significant influence on safety in transportation* (DOT/FRA/ORD-17/09). U.S. Department of Transportation. Retrieved from https://railroads.dot.gov/elibrary/safety-culture-significant-influence-safety-transportation.

INTRODUCTION

Factual Background

CSX is one of the largest Class I railroads in the United States, with its headquarters located in Jacksonville, Florida. CSX's network covers approximately 20,000 route miles of track throughout 23 states, the District of Columbia, and two Canadian provinces (See Figure 2).[5] CSX serves more than 70 ocean, river, and lake port terminals along the East Coast, Gulf Coast, and Great Lakes.[6] In June 2022, CSX acquired Pan Am Railways, which expanded its reach into new markets in the New England area.

Through CSX's connections with more than 230 short line and regional railroads, it can provide service to thousands of production and distribution facilities across the United States.[7] In 2023, the Journal of Commerce voted CSX as North America's top Class I intermodal service provider.[8] In addition to freight operations, CSX permits shared use of its tracks with Amtrak and other passenger rail operators such as VRE[9] and MARC[10] that operate in the DMV.[11]

Along its routes, CSX and its subsidiaries have over 22,500 employees,[12] 3,500 locomotives, and 51,000 freight cars operating at many facilities, including its largest rail yards and terminals in places such as: Nashville, Tennessee; Waycross, Georgia; Selkirk, New York; Cincinnati, Ohio; Chicago, Illinois; and Avon, Indiana.[13] CSX operates more than 1,800 trains each day on average to transport products such as coal, automobiles, chemicals, military equipment, and consumer products.

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[5] CSX website, accessed Jan. 18, 2024, 10 a.m., https://www.csx.com/index.cfm/about-us/company-overview/.
[6] Ibid.
[7] CSX website, accessed Jan. 18, 2024, 10:15 a.m., https://www.csx.com/index.cfm/about-us/company-overview/organization/.
[8] "Intermodal Service Scoreboard," *Journal of Commerce by S&P Global*, Spring 2023. Available at joc.com.
[9] Virginia Railway Express (VRE) is a commuter rail service that operates between the Northern Virginia suburbs to downtown Washington, D.C.
[10] Maryland Area Rail Commuter (MARC) is a commuter rail service that operates three lines between Union Station in Washington, DC to the Western and Northern parts of Maryland.
[11] District of Columbia, Maryland, and Northern Virginia (DMV). Written Testimony of Andy Daly, Senior Director of Passenger Operations at CSX, before the U.S. House of Representatives Subcommittee on Railroads, Pipelines, and Hazardous Materials Hearing on 11/29/23, Mr. Andy Daly Testimony (house.gov).
[12] Ibid.
[13] CSX website, accessed Jan. 18, 2024, 10:20 a.m., https://www.csx.com/index.cfm/about-us/company-overview/network-and-operations/.

Figure 2: CSX Rail Network (photo taken from CSX's website)

CSX notes that it is committed to safety, and that workplace safety starts with its leadership and carries on to all employees.[14] Specifically, CSX states that it "…foster[s] a culture of safety that encourages everyone to act in a safe manner and consider the welfare of others."[15] For example, CSX notes its commitment to safety is shown through its daily safety briefings, which occur before the start of each shift. These safety briefings provide its employees information regarding the tasks they will perform that day, makes them aware of potential hazards, instructs them on how to appropriately use equipment, and informs them on what personal protective equipment (PPE) is needed for their tasks.[16] In addition to these

[14] CSX website, accessed Jan. 18, 2024, 2:30 p.m., https://www.csx.com/index.cfm/about-us/safety/.
[15] Ibid.
[16] CSX website, accessed Jan. 18, 2024, 3:20 p.m., https://www.csx.com/index.cfm/about-us/safety/operations/.

daily safety briefings, CSX notes several additional initiatives where it focuses on employee safety, such as:

- Peer Safety Programs
  - Full time craft employees can volunteer to provide counsel to fellow coworkers on safety related matters.
- Safety Overlap Processes
  - Systemwide safety meetings for all CSX employees to ensure everyone has the tools and information to resolve issues.
- Job-Based Training
  - Focusing on safety and operating rules.
- Accident Prevention Training
  - Train accident presentation and safety skills training.
- Monthly Training
  - Training sessions led by local supervisors containing updated video tutorials for all employees.

Safety Culture in General

In 2017, FRA and the U.S. Department of Transportation (DOT) published a report on safety culture in the transportation industry, discussing how safety culture exists across various industries, and "is generally described as a set of shared values, actions, and behaviors that demonstrate a commitment to safety by the individual and collective responsibility of everyone at all levels of an organization."[17] More specifically, an organization's safety culture is determined by how its people feel, what its people do, its and its safety policies and procedures.[18] DOT has defined 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 critical elements of a strong safety culture:

[17] Federal Railroad Administration. (2017). *Safety culture: A significant influence on safety in transportation (*DOT/FRA/ORD-17/09). U.S. Department of Transportation. Retrieved from https://railroads.dot.gov/elibrary/safety-culture-significant-influence-safety-transportation
[18] Ibid.

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; and
10) Safety efforts are supported by training and resources.

FRA is using this CSX assessment to measure and document the current state of its safety culture and will compare the results with future assessments to determine whether the railroad is maturing in the safety culture elements.

Organization of the Report

To be consistent and fair during these Class I assessments, FRA has narrowed the focus to the same topic areas in each assessment report. Accordingly, this report covers four main topics, which are:

1) the safety culture assessment;
2) inspections and investigations of critical operational elements;
3) a review of how CSX has responded to recent safety actions; and
4) a summary of FRA's overall findings and recommendations.

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

Chapter 2 discusses the discipline-specific focused inspections and investigations that FRA conducted during the assessment. Five of FRA's Office of Railroad Safety divisions participated in this assessment:

1) Operating Practices;
2) Motive Power and Equipment;
3) Track and Structures;
4) Signal, Train Control, and Crossings; 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 CSX. Chapter 4 synthesizes the conclusions of the preceding chapters and summarizes FRA's overall findings and recommendations. This chapter also highlights the main themes found throughout this assessment and lists recommendations regarding steps CSX can take to make improvements.

Information collected through this assessment went beyond the normal scope FRA compliance audits.[19] The data collected was voluntarily provided by all levels of CSX employees, which permitted FRA to obtain a "snapshot" of CSX's overall safety culture and operations today. FRA hopes this assessment will allow CSX to identify potential safety risks not easily addressed by federal regulations but may be effectively mitigated using other processes.

[19] FRA's compliance audits generally focus on a railroad's compliance with Federal regulations. However, these assessments go beyond FRA's regulations. These assessments evaluate a railroad's culture, by examining things like actions and behaviors that demonstrate a commitment to safety, and how safety is prioritized over competing organizational priorities.

CHAPTER 1: SAFETY CULTURE ASSESSMENT

Section 1.1 Safety Culture Elements and Maturity Model

DOT defines safety culture as the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands.[20] 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. The organization will consistently choose safety over performance.

4) The reporting systems and accountability are clearly defined.

[20] Federal Railroad Administration. (2017). *Safety culture: A significant influence on safety in transportation (*DOT/FRA/ORD-17/09). U.S. Department of Transportation. Retrieved from https://railroads.dot.gov/elibrary/safety-culture-significant-influence-safety-transportation

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.

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

Safety Culture Maturity Models are tools that help us 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)[21] for all safety culture assessments. The FSCMM identifies five levels of organizational safety culture:

1) Level 1: Emerging;
2) Level 2: Managing;
3) Level 3: Involving;
4) Level 4: Cooperating; and
5) Level 5: Continuously Improving.

As an organization's safety culture becomes stronger and more robust, practices that reinforce safety become more ingrained in the organization's operations, and safety culture

[21] Fleming, M. (2001). *Safety culture maturity model* (pp. 4–6). Retrieved from https://www.researchgate.net/figure/Safety-culture-maturity-model-Fleming-2001_fig1_348115374

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.

Section 1.2 Objectives, Scope, and Methodology

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

This information helps to provide a baseline "snapshot" of the CSX 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 assessments.

To obtain the data needed to develop an initial benchmark of CSX's current safety culture, FRA's Office of Railroad Safety's Audit Management Division (AMD) developed assessment materials. AMD reviewed the materials used in the assessments for Norfolk Southern Railway (NS) and BNSF Railway (BNSF) 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 and BNSF leadership, management, and frontline employees. The safety culture materials used during the CSX assessment have since been modified based on this review and feedback.

As with the previous assessments, FRA developed open-ended interview questions for FRA to address with CSX leadership and labor leaders in a semi-structured interview format.

FRA's SMT personnel provided AMD personnel names and contact information for CSX leaders, as well as several union officials across the CSX system and territories. AMD staff conducted one-on-one interviews virtually with identified CSX leaders and union officials.

AMD developed structured, forced choice interview questions for Office of Railroad Safety personnel to ask in the field. FRA deployed inspectors and other FRA personnel to rail yards in every state in which CSX operates and asked various craft employees, frontline managers, and mid-level managers if they would volunteer to participate in a one-on-one survey interview. FRA 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, creating a "convenience" sample reflecting interviews conducted at locations FRA visited for inspection purposes.

CSX independently released a notice to employees alerting them of the FRA assessment and encouraging employees to participate (see Appendix A). As with previous assessments, 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. Additionally, FRA worked with union leaders for CSX's represented employees to provide information about the assessment, provide information on how to reach FRA with questions, and to encourage participation. As was first done with the BNSF assessment form, the interview forms for CSX captured 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 during the assessment. 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, including railroad leadership, who was contacted in relation to the data collection effort. 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.

FRA personnel completed a total of 923 survey interviews of various railroad craft employees and frontline managers across CSX railroad division locations. Appendix E reflects aggregated demographic information of the employees who responded to the survey interviews including a breakdown of crafts surveyed, years of experience, and yard locations. A copy of the field interview questions is in Appendix B.

FRA also conducted semi-structured interviews of 12 labor leaders and 51 members of the CSX leadership team. 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.

In addition to the closed-ended field interviews and semi-structured interviews with CSX leadership and labor representatives, FRA completed a series of focused regulatory compliance inspections across the CSX system.

FRA's assessment is not based solely on the numerical scores derived from the short form field interviews; FRA applied expert judgment to combine the disparate data sources from all interviews, inspection activities, and responses to prior safety recommendations and communications, 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 CSX, 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 CSX Safety Culture

FRA reviewed information from the semi-structured interviews, survey interviews, focused inspections, and responses to prior safety recommendations and communications, to form an image of the CSX 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 CSX 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 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.

CSX 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 provided voluntarily and could be related to a specific safety culture element or CSX safety culture in general. In the following results, free-form comments are paraphrased, rather than quoted directly, in an effort to preserve the confidentiality of those employees providing the comments. A summary of results for each safety culture element for management employees and all craft employees is shown in Figure 3. This shows a consistent difference between the perceptions of employees and those of managers.

Instances where FRA believes specific information would be useful to CSX 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.

Overall CSX Safety Culture

Information collected as part of this assessment indicates that, overall, the CSX safety culture is currently at the *involving* level of safety culture maturity and trending towards the *cooperating* level. In both the "free form" comments from field interviews as well as in the long form interviews there were several themes that consistently emerged. First, managers and craft employees both cited a renewed focus on safety since CEO Joseph Hinrichs has been with CSX. However, approximately one quarter of labor leaders interviewed indicated

that although there is a safety focus at the highest levels of CSX, the commitment to safety varies at the local level, depending upon individual managers. Second, several craft employees (both in field and long form interviews) expressed concern with the ability to maintain safety because of reduced staffing levels. Third, some employees expressed concern with the training received by new hires. This comment most frequently was in reference to new conductors, but overall, the feeling was that new hires are not given enough time in training before they are asked to independently perform safety sensitive activities.

Results related to the 10 safety culture elements are presented in Figure 3. 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.".

Figure 3. Differences in CSX Safety Culture Perceptions between Mangers and Craft Employees

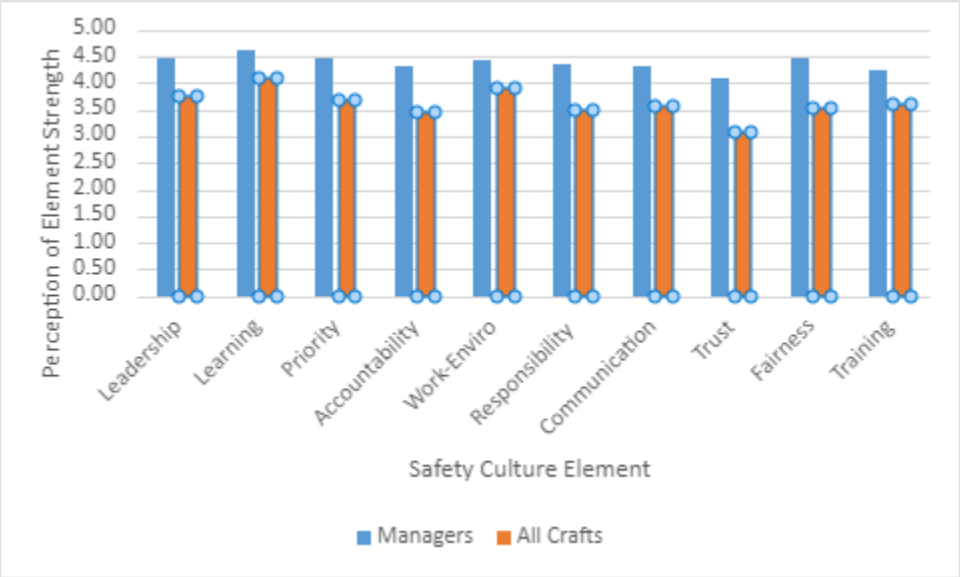
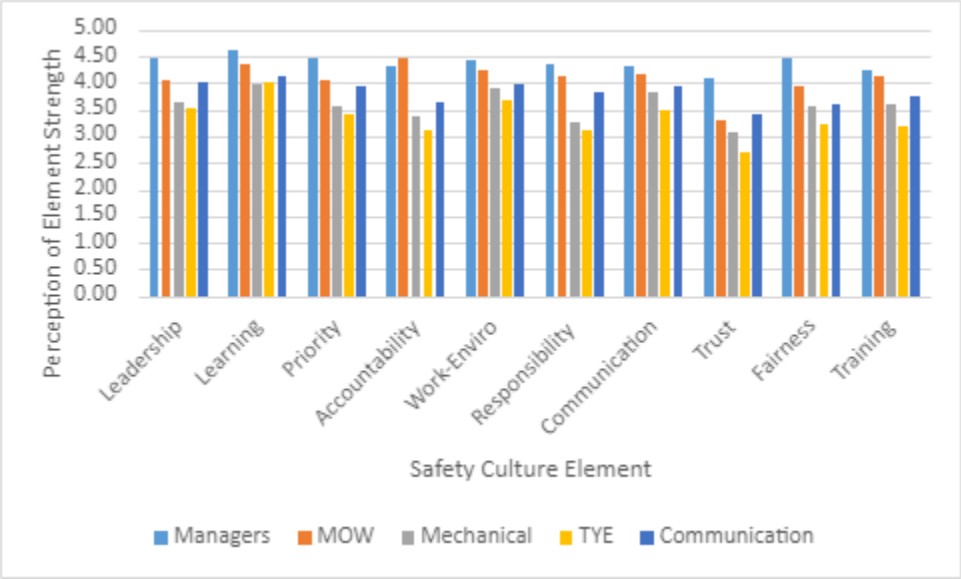


Figure 4 shows the summary results for each safety culture element by employee craft. The majority of the safety culture elements were rated lowest by operating craft employees (TY&E). The one exception is element 2 (railroad practices continuous learning) which was rated lowest by mechanical craft employees. Maintenance-of-Way (MOW) craft employees had the highest non-manager rating for 9 of the 10 safety culture elements. Communications

craft employees (signal and dispatch) had the highest non-manger rating for trust. Consistently, craft employees with more than 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 trend. However, the trends are consistent with what has been observed in assessments at other Class I railroads.

Figure 4. CSX 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 prioritizing safety over other demands. Free-form comments provided by craft employees during the survey interviews revealed some employees believed safety was prioritized only to the point where it interfered with meeting production demands. Others reported that the safety culture of their work environment was supervisor dependent. Some reported a strong safety culture that permeated all aspects of operations while others reported a disconnect between the safety prioritization at the highest levels of CSX leadership and the production focus at the local level.

When discussing fairness and trust, several interviewed labor leaders, as well as some frontline employees providing free-form comments during their field interviews, indicated that discipline is not consistent throughout CSX. Again, given that data collected were taken

from a convenience sample, an inferential analysis was not conducted. However, consistent throughout comments was that employees felt that they (or others in their work unit) were frequently subjected to disciplinary action without being counseled by a manager as to why their action was wrong or what corrective actions need to be made. Employees frequently cited, and most objected to, this lack of disciplinary context.

The subsequent sections discuss rating and general findings for each safety culture element. For each finding, the numerical value reported represents the average rating out of 5 for that element, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture. Unless otherwise specified in the text, "employees" refers to craft employees of the railroad and does not include personnel in management or other leadership positions at CSX.

Safety Culture Elements

Element 1. Leadership is Clearly Committed to Safety

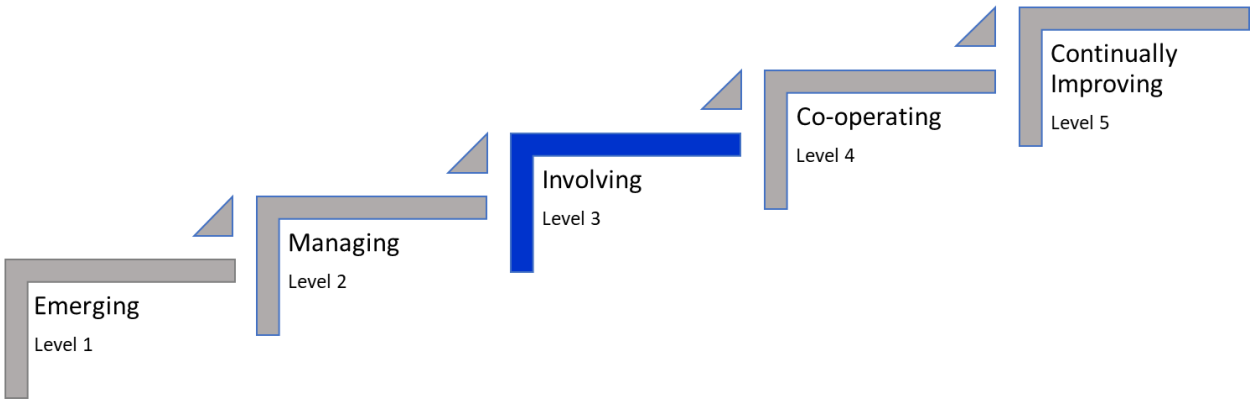
Across all crafts, CSX employees provided a rating of 3.85 regarding leadership's commitment to safety. The highest rating at 4.46 came from managers, followed by MOW employees at 4.06. The lowest rating came from TY&E employees at 3.51. Employees with less than one year of experience had the highest rating of 4, while those with more than 31 years of experience had the lowest at 3.42. All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Comments provided during the field interviews showed that many employees feel that the overall safety culture at CSX has improved under the current CEO. Several of the comments indicated that although communication and the focus on safety is currently improving, in some instances it has not reached down to the local management level. Conversely, there were also several comments that mentioned how leadership puts an emphasis on production over safety.

Findings from the semi-structured interviews with labor leaders indicate CSX says safety is a priority but at times the focus is more on production. Comments from labor leaders were almost evenly split between those who indicated that there is a clear commitment to safety from leadership and those who indicated that leadership's commitment often varies based on location or task demands.

Considering all available information, the maturity of this element is at the *involving* level of maturity, as shown in Figure 5.

Figure 5. CSX Maturity Level for Safety Culture Element 1



Element 2. The Railroad Practices Continuous Learning

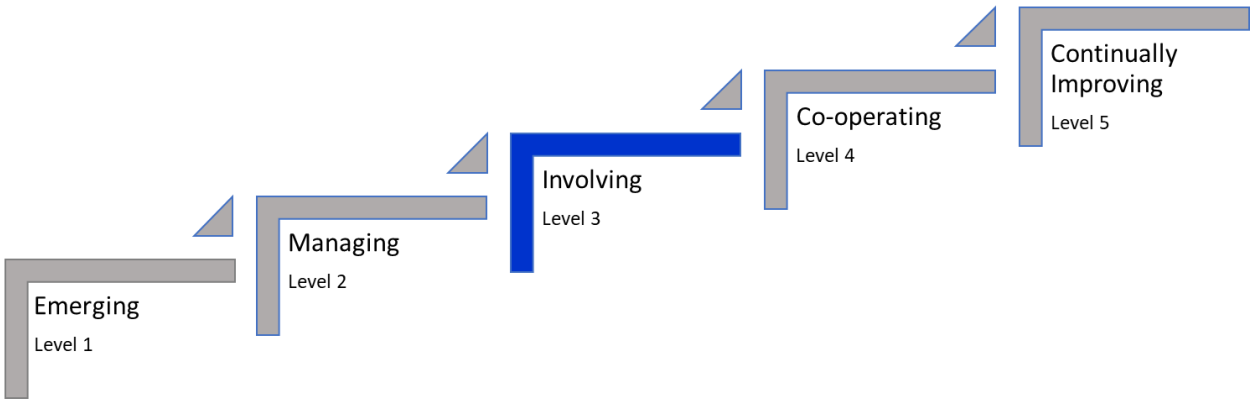
When asked if CSX reviews incidents, accidents, near misses, and inspections for "lessons learned," most employees responded "yes." Only 7.87% of respondents said that CSX did not review incidents and 7.15% reported they were unsure. The survey results revealed a rating of 4.21 across all participating CSX employees. This question received the highest rating of all the survey interview questions. Managers had the highest rating of 4.62, followed by MOW employees at 3.98. Mechanical employees had the lowest rating of 3.42. Craft employees with less than one year of experience had the highest rating of 4.37, while those with more than 31 years of experience had the lowest at 3.59. All values are reported

out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Field interview comments indicate a need for more training. A few employees made specific mention of a need for more training for new hires. They also suggested creating a mentoring program.

Considering all available information, the maturity of this element is at the *involving* level of maturity, as shown in Figure 6.

Figure 6. CSX Maturity Level for Safety Culture Element 2



Element 3. Decisions Demonstrate Safety is Prioritized Over Other Competing Demands

Across all crafts CSX employees provided a rating of 3.48 when asked if safety was prioritized over other competing demands. Managers had the highest rating (4.36) while TY&E employees had the lowest (3.11). MOW employees rated this the highest of all non-manager employees with a 3.8. Employees with less than one year of experience had the highest rating (4.32) and those reporting more than 31 years of experience had the lowest (2.95).

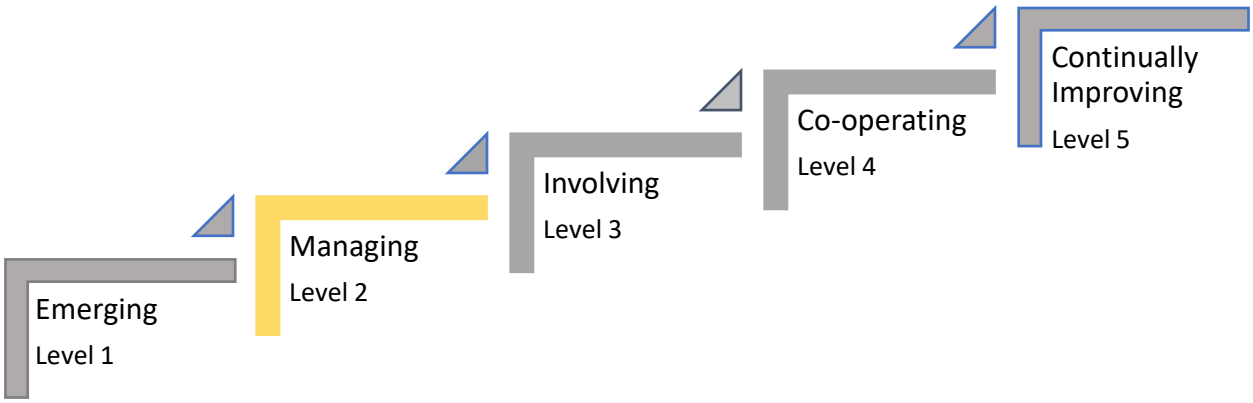
When asked if potential hazards were discussed to determine the safest way to perform a task during job safety briefings, employees gave a rating of 4.10. This was the second

highest rated item across the survey interview questions. Managers had the highest rating (4.53), while communication employees had the highest rating (4.31), and TY&E had the lowest (3.75) of non-managerial employees. Employees with 1-5 years of experience had the highest rating (4.32) and those with more than 31 years of experience had the lowest (3.91). All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Approximately 50% of labor leaders indicated work expectations are unrealistic. Others noted that whether the expectations were realistic was dependent on the supervisor. A few labor leaders mentioned a need for more training.

Considering all available information, the maturity of this element is at the *managing* level of maturity, as shown in Figure 7.

Figure 7. CSX Maturity Level for Safety Culture Element 3



Element 4. Reporting Systems and Accountability are Clearly Defined

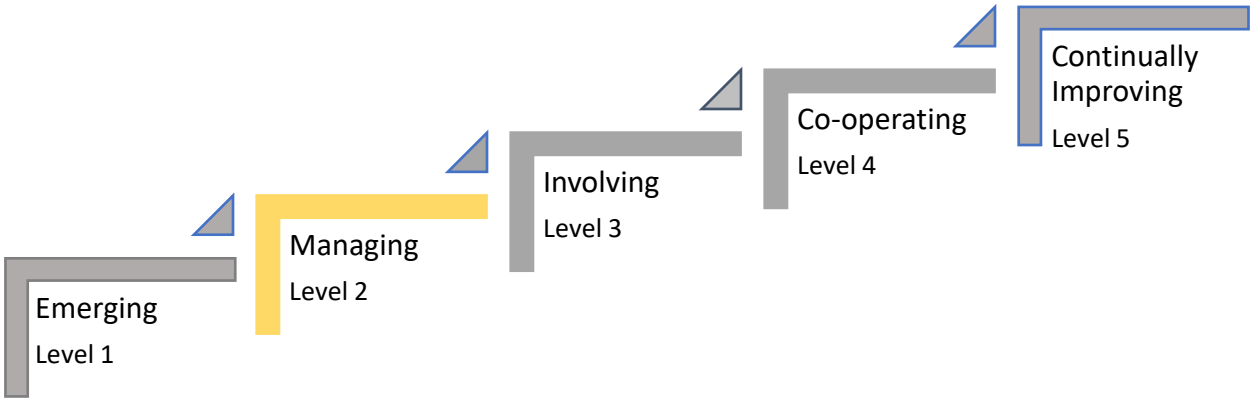
Field survey results indicated a rating of 3.64 when asked if reporting systems and accountability are clearly defined. The highest rating came from managers with a 4.4 while TY&E had the lowest with a 3.17. Employees with 1-5 years of experience had the highest rating (4.18) and those reporting more than 31 years of experience had the lowest (3.32).

When asked about follow-up actions, managers gave the highest rating of 4.22 and TY&E gave the lowest ranking of 3.03. The overall employee rating was 3.46 when asked if follow-up actions are taken when employees make a safety report. When asked about follow-up actions, employees with less than one year of experience gave the highest ranking (4.09) and those employees with more than 31 years of experience gave the lowest (3.68). MOW employees gave these questions the highest ratings of non-managerial employees with 3.95 and 3.82 respectively. This element received the second lowest rating across the survey. All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

During the field interviews, a few craft employees mentioned that the discipline policy is not very clear and rule compliance is inconsistent across locations. There were also a handful of comments that indicated that although there is a process to record safety concerns, CSX does not record the concerns and there is no response. There is a feeling that additional systems should be put in place to improve tracking of safety concerns.

Most labor leaders indicated supervisors do listen to safety concerns and follow-up with employees in most cases. Considering all available information, the maturity of this element is at the *managing* level of maturity, as shown in Figure 8.

Figure 8. CSX Maturity Level for Safety Culture Element 4



Element 5. There is a Safety Conscious Work Environment

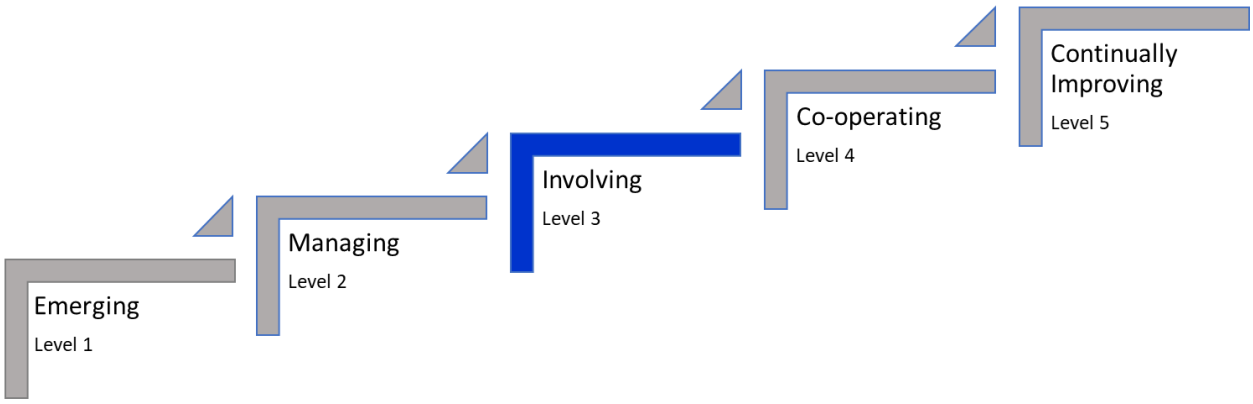
When asked if there is a safety conscious work environment at CSX, employees across all crafts provided a rating of 3.96. Managers had the highest rating (4.41) while TY&E employees had the lowest (3.66). Of the non-managerial employees, MOW employees had the highest rating (4.25). Employees with less than one year of experience had the highest rating (4.38) and those reporting more than 31 years of experience had the lowest (2.68). 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 the feedback, approximately 15% of employees who provided "free form" comments stated that CSX used to have a safety committee which was abolished 4-5 years ago, and it needs to be re-formed.

Information obtained from labor leaders indicates CSX has many tools to assist with safety. Approximately 90% of those interviewed indicated the tools are accessible and effective. Examples of these tools range from iPads and visual aids to safety bulletins and videos.

Considering all available information, the maturity of this element is at the *involving* level of maturity, as shown in Figure 9.

Figure 9. CSX Maturity Level for Safety Culture Element 5



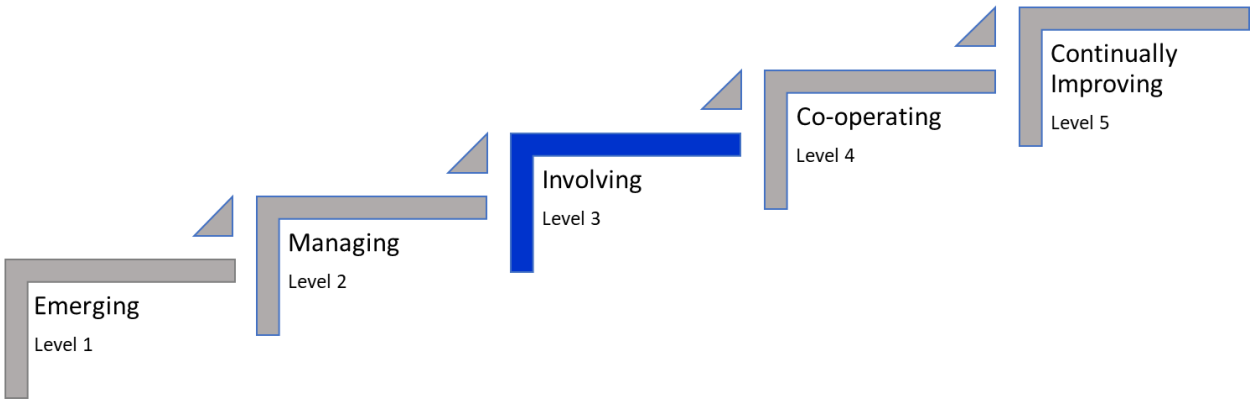
Element 6. Employees Feel Personally Responsible for Safety

Across all crafts, CSX employees provided a rating of 3.61 when asked if CSX employees feel personally responsible for safety. Managers had the highest rating (4.36) while TY&E employees had the lowest (3.11). Of the non-manager employees, MOW employees had the highest rating at 4.13. Employees with less than one year of experience had the highest rating (4.35) and those reporting 21-30 years of experience had the lowest (3.4). All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Based on interviews, there is a consensus amongst the labor leaders that everyone is personally responsible for their own safety. Approximately one-third of the labor leaders surveyed believe employees feel empowered to stop and report unsafe actions. Several of them noted there is some fear of reporting unsafe actions due to the possibility of retaliation.

Considering all available information, the maturity of this element is moving from the *managing* level to the *involving* level of maturity, as shown in Figure 10.

Figure 10. CSX Maturity Level for Safety Culture Element 6



Element 7. There is Open and Effective Communication Across the Railroad

Results from the field survey revealed that CSX employees provided a rating of 3.82 regarding information being provided to employees in a way that is easy to find. Managers rated this highest (4.27). The highest non-manager rating was provided by MOW employees (4.10), while TY&E employees provided the lowest rating (3.49). Employees with less than one year of experience had the highest rating (4.40) and those reporting more than 31 years of experience had the lowest (3.41).

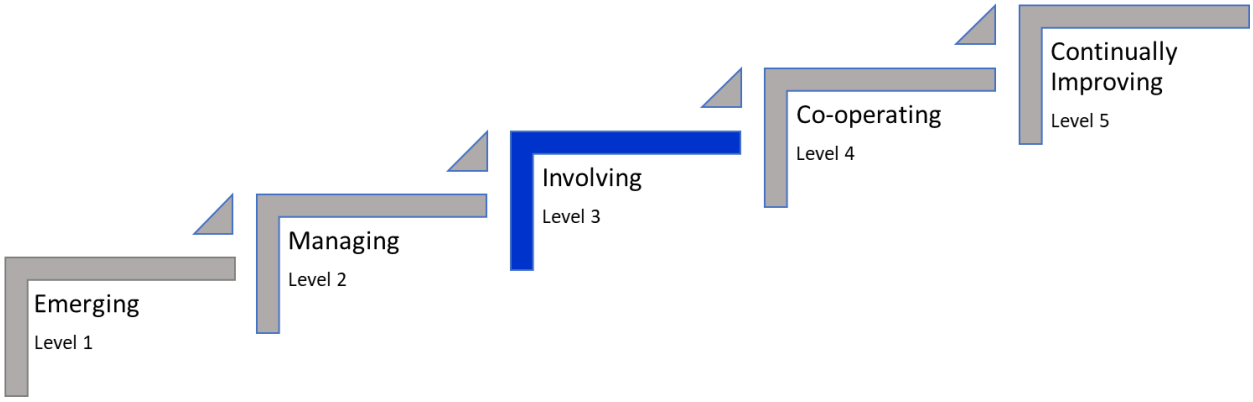
When asked if CSX presents information in a way that is easy to understand, CSX employees provided an overall rating of 3.90. Managers gave this the highest rating (4.36). The highest non-manager rating was provided by MOW employees (4.24). The lowest rating was provided by TY&E employees (3.49). Employees with less than one year of experience had the highest rating (4.29) and those reporting more than 31 years of experience had experience had the lowest (3.50). All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Many of the additional comments provided during the field survey interviews mentioned the importance of communication and that it has improved under the new regime. There were several employees who mentioned the need for additional briefings to keep them notified of things going on throughout the railroad industry. There were also indications that communication needs to be improved in some yards.

Short-form interviews with labor leaders indicate frontline managers communicate effectively with labor. Although most of those interviewed mentioned a positive relationship between managers and employees, there were a few who mentioned challenges with the departments working together.

Considering all available information, the maturity of this element is at the *involving* level of maturity, as shown in Figure 11.

Figure 11. CSX Maturity Level for Safety Culture Element 7



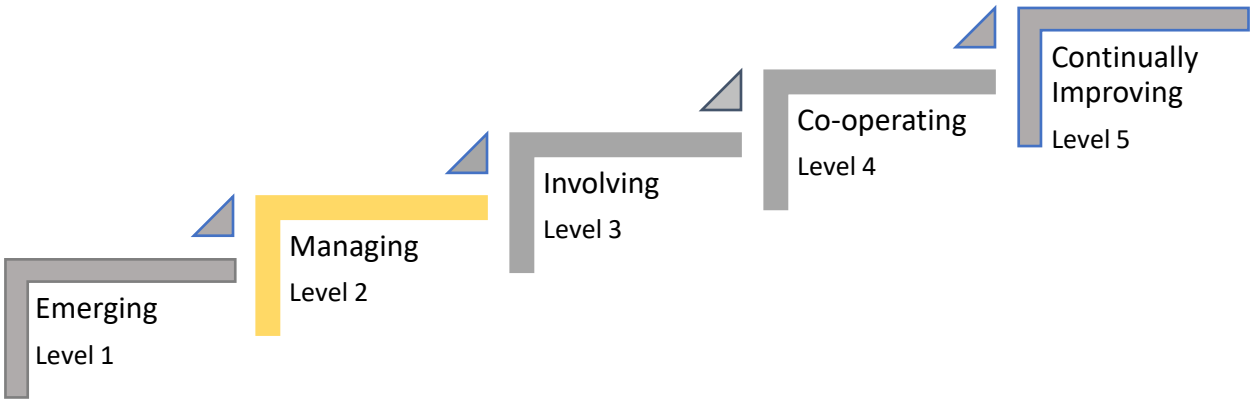
Element 8. Mutual Trust is Fostered Between Employees and the Railroad

Mutual trust between employees and the railroad is the lowest rated element across the CSX system. CSX employees provided an overall rating of 3.21 for this element. Managers rated this highest (4.24), and the highest non-manager craft was the MOW craft (4.13). The lowest rating was provided by TY&E employees (3.20). Employees with less than one year of experience had the highest rating (4.13) and those reporting more than 31 years of experience had the lowest (3.36). All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Approximately 10% of CSX employees who were asked to participate in the field survey interviews declined. Of those that declined, some of them stated they were fearful of repercussions and retaliation.

Considering all available information, the maturity of this element is at the *managing* level of maturity, as shown in Figure 12.

Figure 12. CSX Maturity Level for Safety Culture Element 8



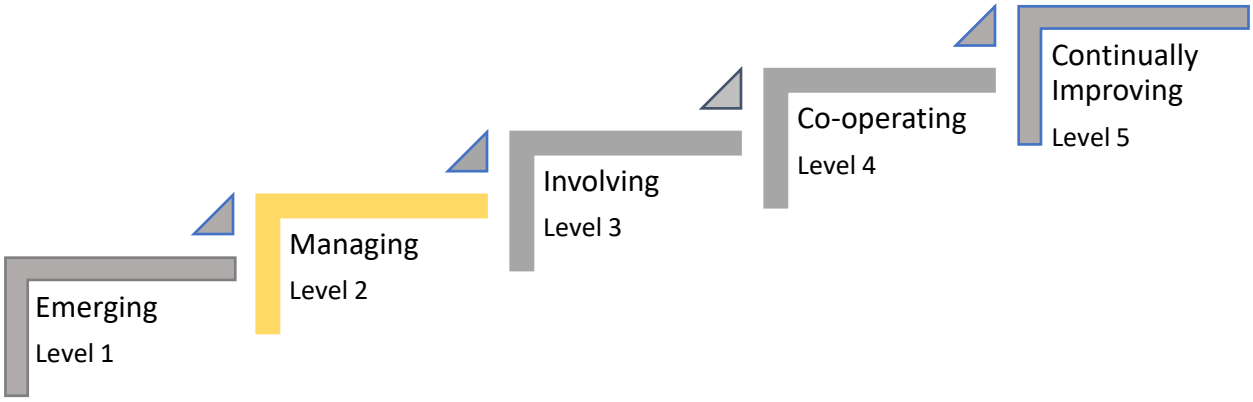
Element 9. The Railroad is Fair and Consistent when Responding to Safety Concerns

Across all crafts, CSX employees provided a rating of 3.64 for this element. Managers provided the highest rating (4.08), and TY&E employees provided the lowest (3.22). Of the non-manager employees, MOW employees provided the highest rating (3.92). Employees with less than one year of experience had the highest rating (4.25). Employees reporting more than 31 years of experience had the lowest (3.0). 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 obtained during field survey interview indicated that there is some inconsistency when responding to concerns and it depends on the manager and location. Some employees mentioned that they receive no follow-up when reporting safety concerns. When interviewed, several labor leaders mentioned the new discipline policy being improved because it now involves coaching and counseling. Most labor leaders feel the discipline policy is not fair and consistent due to decisions being made on a case-by-case basis with managerial discretion. Although the new discipline policy includes coaching and counseling, some employees reported they are still not seeing this happening in the field.

Considering all available information, the maturity of this element is at the *managing* level of maturity, as shown in Figure 13.

Figure 13. CSX Maturity Level for Safety Culture Element 9



Element 10. Training and Resources are Available to Support Safety

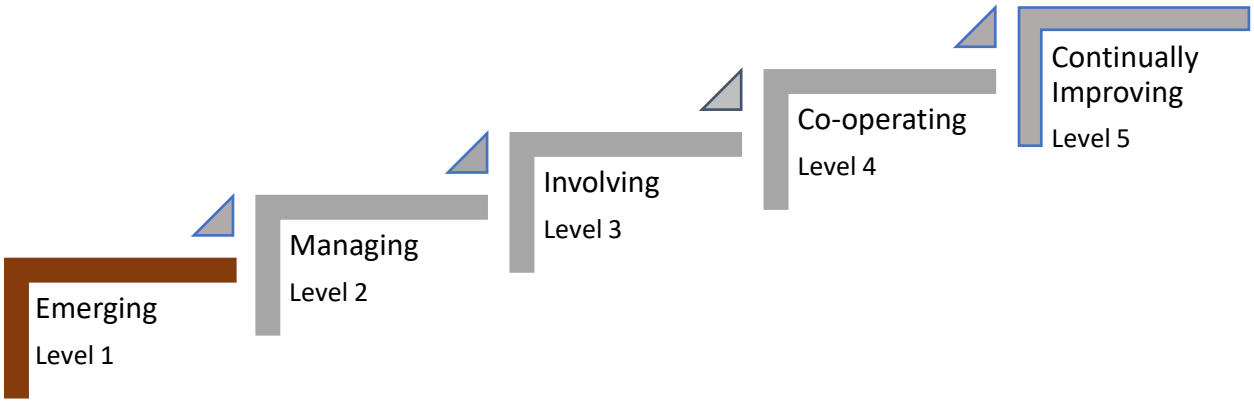
Across all crafts, CSX employees provided a rating of 3.78 when asked if there were training and other resources available to support safety. Managers had the highest rating (4.24) while TY&E employees had the lowest (3.18). MOW employees rated this the highest of all non-manager employees at 4.13. All values are reported out of 5, where 5 is strongly agree and 1 is strongly disagree. Higher values reflect a stronger safety culture.

Based on information obtained from labor leaders, CSX does not have any continuous learning programs in place. CSX managers' responses were more varied. A few managers mentioned new training by DEKRA[22] on understanding human factors-related hazards, and on effective safety communication as being available this year (2024). Some indicated additional training was available but that this was primarily focused on new hires. Some managers reported that there is an online training portal, but of the few who mentioned this, most also indicated that either they didn't have much information on what was available or that they believed CSX could do a better job of publicizing this training.

Considering all available information, the maturity of this element is at the *emerging* level of maturity, as shown in Figure 14.

[22] DEKRA website, accessed Jan. 18, 2024, https://www.dekra.us/en/who-we-are/.

Figure 14. CSX Maturity Level for Safety Culture Element 10



Anecdotal Findings

As mentioned previously in this report, several employees and managers specifically mentioned a shift towards a more safety-focused environment since Joseph Hinrichs became CEO. In both labor and management interviews, as well as in free form comments in field interviews, CSX employees made an effort to highlight the positive safety changes made under the direction of Mr. Hinrichs. Although this is promising, many of the programs and policies that were cited are still relatively new at CSX. As a result, if CSX continues with these programs, it is likely that the safety culture maturity observed at the time of this assessment is lower than it would likely be if FRA was to conduct a follow up assessment in six to 12 months.

Training was frequently mentioned as one deficient area of CSX's safety culture. Many managers were unaware of training opportunities available beyond required trainings. The managers who were aware of additional training opportunities were not well-versed in the specifics of those opportunities. Craft employees are unlikely to take advantage of trainings available if their own managers are unable to direct them to training programs that may be worthwhile for them. Since these are convenience data, FRA cannot determine if this lack of

training, or at the very least lack of awareness, is limited to specific locations or crafts but encourages CSX to examine employee access to training more closely.

Section 1.4 Conclusions

Creating and maintaining a positive safety culture is an ongoing activity that is evidenced by slow and incremental change. A commitment to continuous improvement and the investment of leaders, managers, and frontline employees are all required for the existence of a mature and robust safety culture.

FRA found the overall safety culture at CSX to be at the *involving* level of maturity. Although employees cited changes made by CSX CEO Joseph Hinrichs, these programs and policies were still too new to be reflected in the data collected at the time of the CSX assessment.

Perceived lack of training, and/or lack of awareness about available training, was a consistent finding during this assessment. Continuous learning is a core element in the establishment and maintenance of a robust safety culture.

Employees also cited the lack of feedback from managers when receiving discipline as a major area of concern. Some employees even mentioned that they were not sure what even precipitated a disciplinary action. However, there were a few employees (both managers and craft employees) who indicated that they now are receiving feedback. It is therefore possible that this is one of the positive changes recently made by CSX leadership that has not yet had the chance to infiltrate all levels of the organization.

As mentioned above, FRA evaluated 10 essential elements of CSX's safety culture using the Fleming Safety Culture Maturity Model. Results are shown in Table 1.

Table 1. Maturity of each Safety Culture Element at CSX

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

CHAPTER 2: FOCUSED INSPECTIONS AND INVESTIGATIONS OF OPERATIONAL ELEMENTS

Section 2.1 Critical Operational Elements Overview

After the derailment in East Palestine, Ohio, U.S. Department of Transportation (DOT) Secretary Pete Buttigieg issued a press release on March 7, 2023.[23] 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 to date (NS, BNSF). For instance, FRA opted to perform focused inspections and investigations for this CSX 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, Train Control and Crossings; Motive Power and Equipment; and Hazardous Materials.

The operational elements FRA evaluated[24] during the assessment of CSX 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;

[23] U.S. Department of Transportation, "USDOT's Federal Railroad Administration Announces a Supplemental Safety Assessment of Norfolk Southern Railway's Operations," press release, March 7, 2023, FRA 02-23, available at dot.gov.

[24] 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 CSX's RRP during this assessment because a separate audit of CSX's RRP was already scheduled for early 2024.

- Maintenance, inspection, and calibration policies and procedures for wayside defect detectors; and
- Procedures related to all wayside defect detector alerts.

The following sections will discuss the specific operational elements FRA disciplines evaluated and their findings of CSX's performance.

Section 2.2 Operating Practices Findings

CSX Train Makeup-Handling Safety Assessment

FRA's Operating Practices team conducted their assessment focusing on train makeup, train handling, and related rules and training at CSX Headquarters in Jacksonville, Florida. During the assessment, FRA met with Senior Train Handling & Practices managers and Dispatching Center managers to gather insights into CSX's operational practices.

The assessment identified that CSX employs various rulebooks and simulations to ensure the validation of train makeup and distributed power (DP) changes before implementation. Notably, streamlined rules govern train makeup and DP placement, including restrictions on car placement based on tonnage and length. Furthermore, CSX uses enhanced pre-trip analysis tools such as Precision Train Builder (PTB) to assess in-train forces.

The assessment also noted the use of consist validation tools and alternative train handling methods to mitigate in-train forces and human factor derailments. CSX does not allow exemptions for energy management systems (EMS) to operate trains outside existing train handling rules. Simplified tonnage rating and simulator training are used for crew training, ensuring adherence to operational guidelines.

One notable observation was the absence of a centralized Road Foreman of Engines (RFE) desk within the dispatching center. RFEs are located throughout the CSX system. The ratio of RFEs to engineers was found to be high in certain territories. Some RFE's were responsible for 200 engineers and a territory over 400 square miles. The number of engineers and size of territory to oversee has the potential to impact the oversight of

operating crews. However, CSX employs a robust engineer train handling operating rules (THOR) exception follow-up process to address operational concerns.

Overall, the assessment provided valuable insights into CSX's train makeup and handling practices, highlighting areas of strength and areas for improvement in ensuring operational safety and efficiency.

CSX Training Center Safety Assessment

FRA conducted a safety assessment at the CSX training center in Atlanta, Georgia, spanning from March 5 - 7, 2024. Over the three-day assessment period, FRA carried out observations and discussions with three groups: new hire conductor trainees in the final week of classroom instruction (Phase I), 18 trainees in Phase II attending a bi-monthly meeting, and 13 training/field managers. CSX gave FRA inspectors a comprehensive tour of the campus upon arrival, allowing for detailed observations in both physical and instructional settings.

During the tour and classroom observations, FRA noted several safety measures, including yellow-painted curbs at entrances for elevation change visibility, recessed doors to prevent obstruction in walkways, and instructions for trainees to refrain from walking and talking on cell phones. Additionally, FRA observed safety protocols such as the use of handrails on stairs, caution signs on doors, fire escape plans, properly maintained fire extinguishers, and strategically placed Automated External Defibrillator (AED) machines throughout the training center.

Observations during morning job briefings revealed that CSX goes beyond customary safety topics, discussing recent incidents to raise awareness among trainees. FRA engaged in discussions with multiple students, focusing on CSX's safety culture and the students' understanding of their role. Students reported active involvement in presenting job briefings and receiving instruction on classroom safety basics.

CSX provides all classroom training before sending trainees to the On-the-Job (OJT) portion of the training. The classroom training incorporates hands-on training with various types of equipment such as switches and derails. This hands-on training during Phase 1 standardizes

practices before they continue to their OJT portion of training. CSX's comprehensive training includes assigned mentors to the students. The communication between mentors and students began before training was over. Some managers even reached out to the students who will be assigned to their yards. One student who completed another Class I's training program provided positive feedback of the CSX training.

Overall, the safety assessment did not raise major concerns for FRA inspectors. However, we did identify some areas for improvement, as noted below in our findings and recommendations.

Finding 1: Road Foreman of Engines (RFE) to engineer ratio is notably high at 200 to 1, with some RFE territories spanning over 400 square miles.

CSX has an RFE-to-engineer ratio of 200 to 1, with some territories extending over 400 square miles, which does not meet recommended industry standards for effective oversight as outlined in 49 Code of Federal Regulations (CFR) Part 240, requiring reasonable supervisory coverage to maintain safety and compliance. This high ratio and large territory size compromises RFEs' ability to provide adequate mentoring, timely support, and supervision, potentially compromising safety standards and increasing the risk of incidents. The primary cause of this condition is a shortage of RFEs relative to the engineer workforce size and geographic demands, leaving RFEs unable to meet oversight expectations across the railroad network.

Recommendation:

- CSX should increase their number of RFEs to lower the RFE-to-engineers ratio and reevaluate RFE territory boundaries in order to ensure effective oversight, safety, and training for their assigned engineers.[25]

[25] With the current high ratio of 1 RFE per 200 engineers, and some RFE territories extending over 400 square miles, the capacity for RFEs to adequately mentor, supervise, and address safety concerns across such vast areas is compromised. A lower RFE-to-engineer ratio, coupled with a reevaluation of territory boundaries,

Finding 2: New hire conductor training does not adequately address train makeup comprehension or competency in applying CSX train makeup rules.

CSX's new hire conductor training does not fully align with industry standards and federal regulations, such as 49 CFR Part 242, which require conductors to demonstrate a thorough understanding of train make-up rules to ensure safe and efficient train operations. Currently, the training program lacks sufficient emphasis on train make-up comprehension and practical application, leaving new conductors underprepared in this critical area. This gap in training can lead to improper train make-up, increasing the risk of operational inefficiencies and safety hazards. The underlying cause of this condition is the insufficient focus within the training curriculum on key aspects of train make-up, which limits conductors' competency in meeting railroad operational standards.

Recommendation:

- CSX should enhance its new hire conductor training program to ensure comprehensive coverage of train make-up rules and practical application skills. This can be achieved by incorporating dedicated modules focused on understanding train make-up principles, hands-on exercises, and assessments to verify competency. By improving training in this area, CSX can better equip new conductors with the necessary skills to apply train make-up rules effectively, thereby reducing the likelihood of operational errors and enhancing overall safety.

Finding 3: Certified locomotive engineer recurrency training for train handling lacks essential components and is currently not part of the curriculum.

CSX's recurrent training for certified locomotive engineers lacks essential components related to train handling, as it does not currently cover key aspects such as DP dynamics,

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would enhance RFEs' ability to closely monitor and support engineers' compliance, provide timely assistance, and reinforce safety practices consistently.

proper placement of DP units, operating modes, and energy management strategies. According to federal regulations, such as 49 CFR Part 240, locomotive engineers must maintain proficiency in train handling techniques to ensure safe and efficient operations. The absence of these critical elements in the training curriculum can result in gaps in engineers' knowledge, potentially leading to inefficiencies and increased safety risks. The root cause of this condition is the limited scope of the current recurrent training curriculum, which does not adequately address advanced train handling skills necessary for modern railroad operations.

Recommendation:

- CSX should revise its recurrent training curriculum for certified locomotive engineers to incorporate comprehensive modules on distributed DP dynamics, proper unit placement, operating modes, and energy management techniques.[26]

Finding 4: Automatic Equipment Identification (AEI) reader only identifies axle count differences during transit, but does not verify train makeup compliance, and the AEI readers are not consistently deployed at all departing train locations, particularly intermediate terminals.

CSX's AEI system currently identifies only axle count differences during transit and does not verify train make-up compliance. Additionally, AEI readers are not consistently deployed at all departing train locations, particularly at intermediate terminals. Federal regulations and industry best practices emphasize the importance of accurate train make-up verification to ensure operational safety and compliance with train handling standards. The limited functionality and inconsistent deployment of AEI readers reduce CSX's ability to detect train make-up errors, potentially leading to increased safety risks and operational

[26] These enhancements would equip engineers with essential skills for handling trains effectively and safely, particularly under complex operational conditions. By expanding the training program, CSX can strengthen engineer proficiency, reduce operational risks, and improve overall train handling efficiency.

inefficiencies. The root cause of this condition is the restricted capability of AEI readers and their limited deployment across key terminal locations.

Recommendation:

- CSX should upgrade its AEI system to include capabilities for verifying train make-up compliance in addition to axle count. Additionally, AEI readers should be strategically deployed at all major train departure points, including intermediate terminals, to allow continuous monitoring of train make-up accuracy.[27]

Finding 5: At departure locations, the trainset compliance software program (used by yardmasters and managers) does not account for timetable-specific train makeup restrictions, and the accuracy of train consist information is not verified before departure.

At CSX departure locations, the train consist compliance software used by yardmasters and managers does not account for timetable-specific train make-up restrictions, nor is the accuracy of train consist information verified prior to departure. Federal regulations and industry standards require that train make-up adheres to specific restrictions to ensure safety, particularly in relation to handling and stability under various operating conditions. The lack of timetable-specific compliance checks and verification of consist information increases the risk of trains departing with improper configurations, potentially leading to safety hazards and operational inefficiencies. This cause is primarily due to the current software limitations and a lack of procedural checks to verify consist accuracy before departure.

[27] Enhancing the AEI system in this way would improve CSX's ability to detect discrepancies, support compliance with train handling standards, and reduce potential safety risks associated with incorrect train make-up.

Recommendation:

- CSX should enhance its train consist compliance software to incorporate timetable-specific train make-up restrictions and implement verification protocols to confirm the accuracy of consist information before departure.[28]

Finding 6: Crews bear the responsibility for ensuring train makeup compliance during work enroute, but work order car placement instructions are not provided to crews to ensure train makeup rules compliance.

CSX crews are responsible for ensuring train make-up compliance during work and route work order car placement; however, they are not provided with adequate instructions or guidance to ensure compliance with train make-up rules. Federal regulations and industry standards require that crews are equipped with clear, specific instructions to maintain train make-up compliance, which is critical to safe and efficient operations. Without proper guidance, crews may inadvertently place cars in configurations that do not align with make-up rules, potentially increasing the risk of operational issues or safety incidents. The root cause of this issue is the absence of clear, standardized instructions within work orders or crew guidance materials.

Recommendation:

- CSX should develop and implement clear instructions within work orders and provide crews with training focused on train make-up rules to support compliance during car placement.[29]

[28] Updating the software to automatically check for compliance with relevant make-up restrictions and establishing pre-departure verification procedures would improve the reliability of train consists, reduce safety risks associated with improper configurations, and ensure compliance with operational standards.

[29] By standardizing instructions and offering targeted training, CSX can better equip crews to maintain compliance with train make-up rules, thus reducing the likelihood of safety risks and operational inefficiencies associated with improper car placement.

CSX Hours of Service Program

FRA conducted a comprehensive review of CSX's Hours of Service (HOS) program, focusing on both dispatching and transportation employees. CSX uses an Electronic Hours of Service (EHOS) system for transportation employees and a paper record system for dispatch employees. The most recent EHOS audit conducted by CSX in late 2021 revealed minimal noncompliance, with CSX being the first Class I railroad to integrate the ability to amend HOS records into their EHOS system, a crucial regulatory requirement.

Observations from FRA's HOS review noted that CSX employs a rigorous internal auditing procedure to identify instances of excess HOS during on-duty periods. In 2023, CSX reported instances of excess HOS, of which 63 were defects and 19 were violations and each were promptly investigated and addressed by CSX crew services. To address these issues, CSX is expanding call windows for relieving transportation crews and enhancing testing and training of train management to identify crews reaching the 12-hour limit in their duty tour and provide the necessary relief. CSX has implemented various processes and reporting mechanisms to combat HOS-related issues, including sending Procedural Instruction Memos (PIM) to the dispatch team, daily reporting to identify shortcomings and opportunities for improvement in ordering transportation and relief crews, and regular delivery of System Notices to all TY&E employees to assist with common issues. Notifications on HOS awareness are also disseminated to all field management, and rules and guidance are displayed on CSX closed-circuit TVs.

As a result of these restructuring efforts, FRA has observed a steady decline in the number of excess service reports submitted by CSX. Moreover, CSX has issued additional training for transportation employees to ensure accurate reporting of relieved times, contributing to a clearer understanding of when transportation employees are relieved from duty.

Section 2.3 Motive Power & Equipment (MP&E) Findings

FRA's MP&E portion of the assessment focused on CSX's compliance with the following MP&E regulations: Freight Car Safety Standards (FCSS), Railroad Operating Practices

(Blue Signal Protection), Railroad Locomotive Safety Standards, Railroad Safety Appliance Standards (RSAS), and Brake System Safety Standards (BSSS).[30] To carry out the assessment, FRA:

1) inspected a large amount of CSX equipment from different locations,
2) observed brake tests, daily inspections, mechanical inspections, and blue flag protection of mechanical employees and crews designated to perform inspections on freight cars and locomotives; and
3) reviewed the completeness and record retention of freight car's Single Car Air Brake Test (SCABT), in key locations.

From January 22 through March 22, 2024, FRA's MP&E division conducted a safety assessment of CSX's system at multiple locations within 22 states. During its assessment, FRA identified 1,946 defective conditions while inspecting 6,259 freight cars and 131 defective conditions while inspecting 182 locomotives. Of these cars and locomotives, there were a total of 100 recommendations for civil penalties. FRA did not find non-compliance with any Blue Signal Protection requirements.

Finding 1: CSX had a high number of violations under the brake system safety standards.

Before departing its originating location, each train must receive a Class 1 air brake test to ensure that each freight car's air brakes are in effective operating condition. At some point during the test, railroad employees performing these inspections must position themselves to observe the operating condition of all freight car power brakes. Whenever possible, FRA accompanied CSX employees performing mechanical inspections and Class 1 air brake tests of freight cars. FRA also performed inspections on trains that had previously received a Class 1 air brake test. During these inspections, FRA identified 572 defects, including 38 instances of non-compliance recommended for violation.

[30] Title 49, Code of Federal Regulations, Parts 215, 218, 229, 231, and 232, available at https://www.ecfr.gov/current/title-49/subtitle-B/chapter-II.

Of those defects, FRA observed multiple trains with at least 27 cars past due for its SCABT. No freight car may depart from a location if it is overdue for its periodic inspection, performed in accordance with subpart D to 49 CFR Part 232. In some locations, FRA observed managers being verbally reprimanded by superiors for high bad order counts in originating trains, including those due to an overdue SCABT. FRA was able to conclude through record inspections that many of those freight cars could have received a SCABT prior to the FRA inspection.

Recommendations:

- CSX has systems in place to identify each freight car's due date for SCABT. These system alerts notify CSX at the 6 month and 3-month interval, prior to due date. FRA recommends that this program be better monitored and managed.
- CSX should evaluate current allocation of mechanical personnel to ensure 100% compliance of all originating trains.

Finding 2: CSX had a high number of violations under the FCSS and RSAS.

During the aforementioned inspections, FRA also found consistently high FCSS defects not identified and reported by CSX, including 1,946 instances of non-compliance, resulting in 100 recommendations for violation. Before departing its originating location, each freight car placed in an originating train must receive a pre-departure mechanical inspection and a Class 1 brake test to ensure 100% of all freight cars have air brakes in effective operating condition and are compliant with the FCSS and RSAS.

FRA observed in some locations managers were verbally reprimanded for high bad order counts in originating trains. FRA was able to conclude through a review of inspection records that freight cars were placed in originating trains without the proper mechanical pre-departure inspection and required brake test, also known as "block swapping," FRA identified five trains for complete failure to perform a Class 1 brake test due to freight cars added to an originating train without the receiving the required mechanical inspection and brake tests.

Recommendations:

- CSX should provide an environment that encourages car inspectors to report all non-compliant conditions to managers who regularly perform joint inspections with car inspectors.
- CSX should have adequate plans to adjust to increased freight car traffic while still maintaining 100% compliance with FRA's FCSS and RSAS.

Finding 3: CSX has provided limited resources to ensure compliance with the MP&E regulations.

FRA observed that CSX does not provide adequate resources to satisfactorily perform the inspections referenced in Findings 1 and 2 and ultimately ensure 100% compliance with the Brake System Safety Standards, Freight Car Safety Standards, and Safety Appliance Standards for all cars in originating trains.

For instance, in some locations, due to increased freight car traffic, FRA observed mechanical employees moved from repairing cars on shop tracks to performing Class 1 air brake inspections on departing trains. FRA posits that the high number of defects found by FRA and further evidenced by the observed reprimands, directly relate to CSX's insufficient number of mechanical employees.

Recommendations:

- CSX should provide an environment that encourages car inspectors to report all defective conditions by managers who regularly perform joint inspections with car inspectors.
- CSX should perform a time study to ensure adequate mechanical employees are available to perform quality inspections while simultaneously performing freight car repairs and required testing.
- CSX should have adequate plans to adjust to increased freight car traffic while still maintaining 100% compliance with FRA's FCSS, RSAS, and BSSS.

Section 2.4 Signal, Train Control and Crossings Findings

FRA's Signal, Train Control and Crossing division (S&TC) conducted an assessment of two key areas of review. The first area was a multi-district safety and compliance inspection of CSX's Signal Control Center (SCC), which receives dispatcher, private citizen, and other reports of signal, train control and grade crossing malfunctions, and notifies CSX signal forces to correct any issues.

During the week of December 10, 2023, FRA inspected the SCC for compliance with 49 CFR Parts 234 and 236. This inspection was conducted at CSX headquarters in Jacksonville, Florida.

The second area of review was CSX's Railroad Education and Development Institute (REDI) training facility in Atlanta, Georgia. During the week of February 6, 2024, FRA S&TC inspectors, who were accompanied by the CSX Director of Communications and Signal Training, reviewed the CSX REDI training center.

Signal Maintenance, Inspection, and Repair Practices

During inspection of the SCC, FRA team members reviewed CSX compliance with the following regulations:

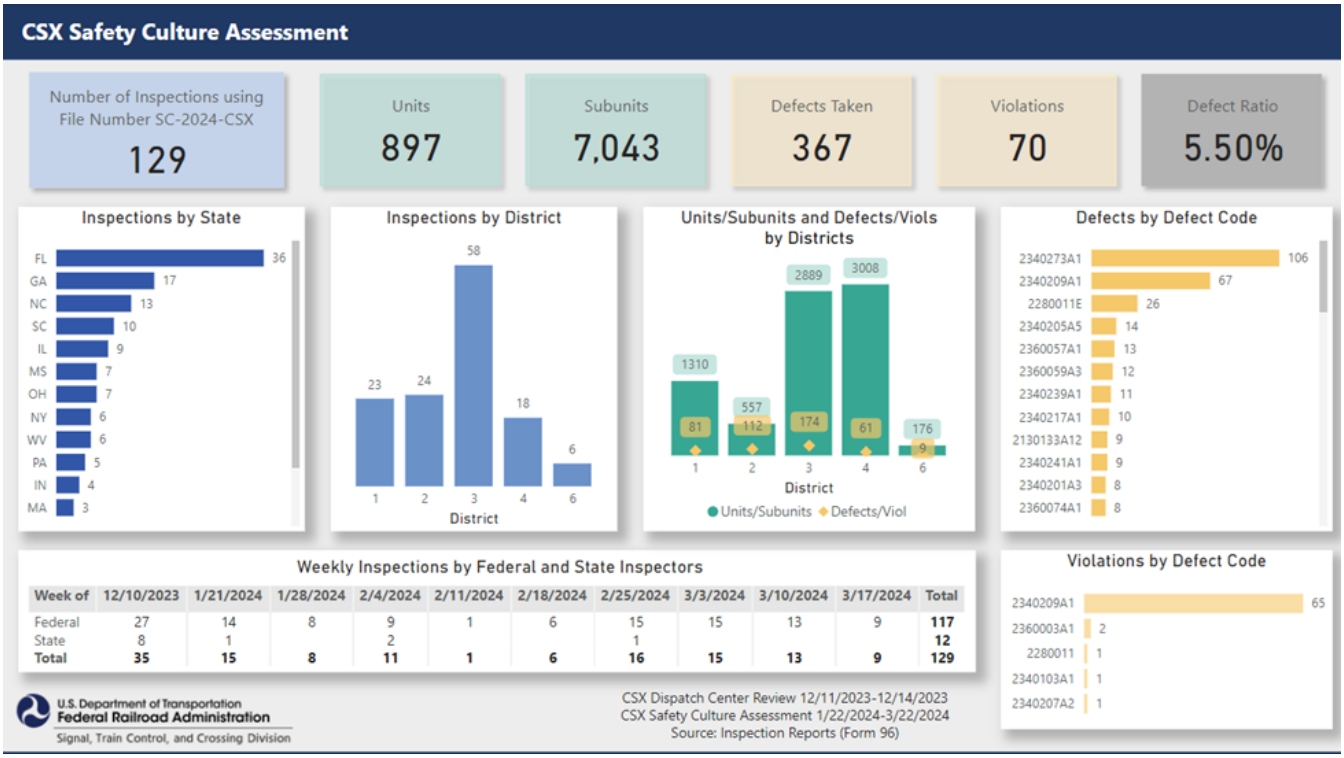
- Part 234 (Grade Crossing Safety), and
- Part 236 (Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances).

FRA reviewed the following records associated with the above regulations:

- Credible and public reports of warning system malfunction,
- Emergency Notification System records,
- Activation Failure reports,
- False Proceed reports,
- Test records, and
- Hours of Service records.

Figure 15 below has a breakdown of the records reviewed and results. These results include the CSX SCC HQ records and the actions taken by FRA field inspectors.

Figure 15. Summary findings of FRA's Signal, Train Control, and Crossings inspectors



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

During these inspections, FRA inspectors found numerous instances of interference with the normal operations of highway-rail grade crossing warning systems by MOW employees during review of credible report records. These actions cause false activations of the grade crossing warning systems (lights flashing with no trains). This reduces the general public's trust in the warning system and may influence driving behaviors, including the tendency for driving through a highway-rail grade crossing (HRGC) while the warning systems is activated. Reviewing the data from previous SCC inspections, MOW interference with HRGC warning systems remains a safety and regulatory compliance issue that has not been successfully addressed by CSX.

Recommendation:

- CSX should re-train MOW employees as to what interference with a HRGC is and how they are to perform work within the approach to a HRGC. This training could be done at their annual start up meetings or by developing a computer-based training module that each MOW employee would have to take and earn a passing grade.

Signal Training

The FRA team toured REDI facility in Atlanta, Georgia, performed a detailed observation of CSX's lab environments within the facility, and received a general overview of the signal training program. FRA observations found that the REDI facility training site applies current training techniques, seeks to remain current with CSX's infrastructure and equipment, and offers a wide variety of equipment and hands on training for different skill levels.

The CSX Communication & Signal (C&S) training program for signal workers is a 2-year program, consisting of four sessions with field OJT between training sessions. The OJT between sessions is generally six months. Signal employees start as an assistant signal worker (ASW) and develop the skills needed to become a signal worker. Training consists

of a mixture of PowerPoint presentations, indoor labs, along with outdoor hands-on field training on HGRC warning systems and wayside components and configurations.

Previously, in October 2023, FRA's Safety Partnerships Division performed an audit of CSX's 49 CFR Part 243 training program and found non-compliance with the training program for placing new hire signal employees in signal maintenance positions before they were fully qualified. At the time of this assessment, CSX was in the process of identifying these employees, having them work with mentors to complete OJT tasks related to the tests and inspections required of signal maintainers, and making several modifications to the CSX signal training program. During FRA's field review on February 6, 2024, CSX explained the actions taken to address the recommendations made by FRA's Safety Partnerships Division. CSX stated it is making several modifications to their training and OJT programs, specifically in ASW Session 1 and Session 4.

The ASW Session 1 is a two-week session consisting of administrative requirements, Safety Certifications (operating rules, roadway worker protection, hazmat, etc.), Basic Overview of Railroad Operations, Hours of Service, Meter Reading, Basic Track Circuits, CSX Signal Rules and Instructions (SR&I), Jumper Policy, and Grade Crossing Overview.

The ASW Session 2 is a two-week session consisting of a mixture of PowerPoint presentations, meter reading labs, switch labs, circuit tracing labs and outdoor hands-on field training. Topics covered are Meter Reading, Print Reading, Switch Parts and Layout, SR&I Tests and Inspections, M-23/T-21 Switch Tests and Inspections, General Railway Signal Switch Tests and Inspections, Switch Print Reading, Grade Crossing Overview, Crossing Applications (Motion Detector versus Predictor), Gate Mechanism Inspection, Crossing Installations, Tests and Inspections of Highway-Rail Grade Crossings, Jumper Policy, and Activation Failures.

The ASW Session 3 is a one-week session consisting of a mixture of PowerPoint Presentations, switch labs, and outdoor hands-on field training. Topics covered are Meter Reading, Track Circuits, Insulated Joints, Cable Testing, Short Finder, Cable Location, Signal Aspects and Codes, Crossing Applications, Defect Detectors, and Jumper Policy.

The ASW Session 4 is a two-week session of classroom time consisting primarily of signal circuits, track circuits, and signal systems/signal system components.

During the week of the February 2024 site visit, FRA conducted eight interviews of a group of individuals who had hired on with CSX in May of 2023. Two employees in the class were already performing unaccompanied tests and inspections on their own territories and had been for months. Another employee spoke of how they had to respond to an after-hours trouble call after two months of employment. The employee explained how uncomfortable they felt responding to a call on a territory that was unfamiliar at night. These issues had previously been identified by FRA's Safety Partnerships Division and brought to CSX's attention. At the time of our review, CSX had been in the process of correcting this issue and updating their OJT procedures and standards.

Overall, the center offers a large variety of training that encompasses all aspects of signaling. The interaction between the instructors and the trainees could be improved as the classroom instructor to trainee time was not used to its full potential. CSX is continuing to work with FRA's Safety Partnerships Division to address the concerns identified during the October inspection. CSX's plan was to have this completed before the end of April 2024. CSX resubmit its plan on July 3, 2024, to SPD, and a final review is pending.

Section 2.5 Track & Structures Findings

Track Team

FRA's Track Division inspection team (Track Team) focused on the following items.

- Compliance with CSX's continuous welded rail (CWR) plan, specifically cut in records and procedures.

- Quality control inspections of concentrated load defects following system maintenance work.

- Compliance observations of Roadway Worker Protection (RWP) procedures and roadway maintenance machines.

- Sample bridge inspection reports to compare railroad reports to field conditions identified.

The Track Team's assessment of CSX engineering department included compliance with regulatory requirements as well as identification of non-regulatory issues that may pose a significant safety risk during our inspections and reviews.

The items the Track Team focused on provided insight into the following Safety Culture Elements:

- Prioritization of safety decisions over competing interest.
- Training and resources to support safety.
- Reporting systems and accountability.

During the assessment period, the Track Team conducted 102 inspections, identified 705 defects, and recommended 17 civil penalties with defects identified in all focus investigation areas.

Finding 1: Documented track inspection reports did not match actual field conditions.

FRA identified safety concerns in all investigation areas, specifically, frogs, non-compliant ballast around culverts, non-effective crosstie clusters, and issues with inspection records. As an example, there were in total 148 defects taken on frogs associated with frog bolts, tread wear, and guard check measurements, which accounted for 21 percent of total defects. Non-compliant ballast locations with surface geometry conditions accounted for 8 percent of the 148 defects. The majority of the defects should have been identified during CSX's routine inspections and were not. Therefore, the CSX inspection reports did not match the actual conditions in the field.

The fact that field conditions are not properly documented by CSX inspectors may indicate a potential conflict between the competing interests of safety and other priorities. This may lead to increased risk and the possibility of derailment.

Recommendations:

- CSX should retrain their workforce on proper frog wear guidance with emphasis on proper measurement.
- CSX should retrain their inspection teams on proper reporting of non-compliant ballast.
- CSX should retrain their inspection teams on the importance of inspection records reflecting the actual conditions in the field.

Rail Integrity Team

Findings 2: Employees have not yet been trained for continuous welded rail (CWR) rail adjustment around fixed objects.

The Rail Integrity Team (RI) conducted field inspections and focused on maintenance and application practices of CSX's approved CWR plan with specific focus on CSX CWR rail cut in records and procedures. In addition, RI held conference calls with FRA inspectors to address concerns raised by CSX field personnel, and provided guidance and insight into which practices were a concern for the Track and Structures Division.

RI identified two concerns during this audit. The first issue was confusion about proper procedures for rail cut in and CWR maintenance procedures in and around fixed objects. On multiple occasions and across multiples subdivisions, CSX engineering frontline employees brought up the topic of procedural confusion around fixed objects. RI reviewed the CSX CWR plan and identified a lack of clear instructions on this topic. RI's CWR Review Team worked closely with CSX Engineering to address this specific issue, and CSX Engineering recently submitted an updated CWR plan that provided instructions for maintenance procedures in and around fixed objects. However, those changes have not yet been fully addressed because retraining efforts have not yet reached all persons responsible for the installation and maintenance of CWR. FRA RI will monitor the effectiveness of these procedures and revisit with CSX engineering field personnel to identify if these procedures helped in carrying out their duties.

The second concern RI identified was the lack of CWR maintenance records accurately reflecting the work performed in the field. Accurate field records are required per regulation and are essential to effectively maintaining CWR across the railroad network. FRA will evaluate CSX training to ensure proper documentation and record keeping is being provided to the workforce that emphasizes the importance of railroad CWR records matching the actual work performed in the field.

Recommendations:

- CSX should train their employees on their CWR Plan with specific attention on rail adjustments around fixed objects and monitor the effectiveness of these procedures.
- CSX should train their employees on CWR maintenance records that accurately documenting field work performed.

FRA will revisit with CSX field personnel to identify whether training on these procedures helped clarify how to carry out their duties.

Bridge Team

FRA's Bridge & Structures Group conducted limited observations of CSX bridges in North Carolina, South Carolina, and Illinois during this audit. FRA bridge personnel observed a total of 50 bridges, both with and without representatives from CSX, on the Aberdeen, Norlina, Charlotte, Blue Ridge, Spartanburg, and Blue Island Subdivisions. For each of these 50 locations, FRA reviewed the latest CSX bridge inspection report and compared them to the conditions observed in the field. FRA also reviewed CSX's instructions to operating personnel regarding the configuration of trains and equipment and their operation over bridges to assure that they wouldn't exceed the bridges' capacities (§ 237.73) and reviewed with CSX personnel the requirements of the Bridge Worker Safety Standards (§ 214, Subpart B) when working at heights.

The Bridge Safety Standards (49 CFR Part 237) require each track owner to adopt a Bridge Management Program (BMP) to prevent the deterioration of railroad bridges and their capability to safely carry the traffic operated over them. They are performance-based standards with responsibility for most of the details, within certain minimum requirements, determined by the track owner's designated Railroad Bridge Engineer(s)(RBEs). Among the "minimums" established by Part 237 is the requirement for bridge inspection records (§237.109) to be "*dated with the date(s) the physical inspection takes place and the date the record is created"* (§237.109(b)). FRA's interpretation of § 237.109(b) is that 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. 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 which point the record cannot be altered by any individual, only amended in accordance with the regulations (§237.155).

FRA reviewed CSX's bridge inspection reports for each of the 50 bridges observed. A standard format is used with the name of the individual completing the inspection and the date(s) that the inspection was completed appearing in the header. While the date(s) the inspection was completed and the name of the individual completing the inspection are clearly indicated, and the unique alphanumeric identification associated with the inspector suffices as a "certification"/signature, the date indicating when the record was created is not indicated. FRA considers this date to be important because it indicates when the record is "complete" and not subject to further alteration.

FRA realizes that information regarding who accessed/changed records, and when, may be part of the electronic recordkeeping; however, it was not included on the printed report. While §237.155, "Documents and records", recognizes the prevalence of electronic recordkeeping and storage, it explicitly requires the electronically generated record to contain all the information required by this part.

FRA noted the missing record creation date and issued defects for "bridge inspection reports missing when the date record was created" on all 17 bridges audited on the Blue Island Subdivision. While the same omission exists on the 33 bridges on the Aberdeen, Norlina, Charlotte, Blue Ridge, and Spartanburg Subdivisions, FRA chose not to issue defects for those reports. FRA found that the information recorded in the remainder of the report generally described the bridge conditions found in the field and in sufficient detail to allow for evaluation by the railroad's designated RBE(s), meeting the requirements of Part 237.

Finding 3: CSX did not provide all of the required information in instructions to their operating personnel regarding limitations on equipment permitted to operate over their bridges.

FRA took exception to the instructions issued to operating personnel regarding the makeup of trains and equipment authorized to travel over bridges on the Blue Island Subdivision. The regulations require specification of both the equipment weights and minimum equipment lengths or axle spacing allowed when issuing weight restrictions and cross section and equipment length when specifying dimensional restrictions. FRA noted current timetable instructions only reference the gross weight of cars being limited to 286,000 lbs., and 6-axle locomotives as being prohibited. There is no indication of minimum car length or axle spacing for weight, and limitations regarding cross section (or AAR Plate) and length of equipment was not provided. FRA realizes that these items may be addressed in other operating instructions such as operating bulletins or special instructions, but FRA has not been provided any additional documents and will be issuing defects for these two items under §237.73(b) and §237.73(c).

Recommendation:

- CSX should ensure that timetable instructions to ensure safe operation of trains over all bridges include required information about limitations and prohibitions.

Section 2.6 Hazardous Materials Findings

FRA's Hazmat Division participated in this assessment by focusing on CSX's compliance with the Hazardous Materials Regulations (HMR), specifically 49 CFR Part 174 – Carriage by Rail. A railroad carrier's ability to transport hazmat 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 railroad 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, High Hazard Flammable Train (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.

The HMR defects FRA identified during the assessment, which have also been observed during FRA's routine compliance inspections, are typically technical in nature, do not contribute to accident causation, and do not indicate a systemic HMR compliance issue. Specifically, during the assessment, Hazmat conducted approximately 200 focused inspections and identified approximately 300 defects related to HMR compliance. Of these inspections, Hazmat conducted approximately 96 train consists inspections and identified 8 defects related to maintaining accurate placement-in-train documents. Two of these placement-in-train document defects were recommended for violation. These defects were primarily the result of numbering errors 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

inspector recorded the defective condition but did not make a violation recommendation. 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.

Overall, during the 60-day assessment, the defects and violation identified resulted from the actions of a few individuals across the CSX 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. 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.

While not part of the original scope of this assessment, FRA issued a recommended violation to CSX for failure to expedite movement of hazmat, 49 CFR Part 174.14, as well as failure to address unauthorized access at yards for high-hazard flammable unit trains that were left unattended without sufficient security measures to prevent access, 49 CFR Part 172.820. Excess dwell times and lack of security to prevent unauthorized access to HHFTs raises the risk of safety and security incidents in locations where those trains are held and presents unnecessary threat to the safety of railroad personnel and the general public. This is an ongoing issue that FRA has been working with CSX to address since 2019.

CHAPTER 3: CSX RESPONSES TO RECENT SAFETY ACTIONS

Section 3.1 FRA Safety Advisories

During 2023 through February 2024, FRA issued the following Safety Advisories (SA), containing recommendations to the entire rail industry designed to address specific safety issues:

- Safety Advisory 2023-01 & 2023-01-02 (Supplement): Evaluation of Policies and Procedures Related to the Use and Maintenance of Hot Bearing Wayside Detectors;[31]
- Safety Advisory 2023-02: Train Makeup and Operational Safety Concerns;[32]
- Safety Advisory 2023-03: Accident Mitigation and Train Length;[33]
- Safety Advisory 2023-04: High-Impact Wheels Causing Damage to Rails and Track Structures;[34]
- Safety Advisory 2023-05: King Pin Assemblies in Highway-Rail Grade Crossing Warning Systems;[35]
- Safety Advisory 2023-06: Roadway Maintenance Machines – Importance of Clear Communications and Compliance with Applicable Rules and Procedures;[36] 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.[37]

[31] Federal Register, Safety Advisory 2023-01; Evaluation of Policies and Procedures Related to the Use and Maintenance of Hot Bearing Wayside Detectors and Safety Advisory 2023-01; Evaluation of Policies and Procedures Related to the Use and Maintenance of Hot Bearing Wayside Detectors (Second Supplement).
[32] Federal Register, Safety Advisory 2023-02; Train Makeup and Operational Safety Concerns.
[33] Federal Register, Safety Advisory 2023-03; Accident Mitigation and Train Length.
[34] Federal Register, Safety Advisory 2023-04; High-Impact Wheels Causing Damage to Rails and Track Structures.
[35] Federal Register, Safety Advisory 2023-05; King Pin Assemblies in Highway-Rail Grade Crossing Warning Systems.
[36] Federal Register, Safety Advisory 2023-06; Roadway Maintenance Machines-Importance of Clear Communications and Compliance With Applicable Rules and Procedures.
[37] Federal Register, 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.

Any responses CSX provided to FRA regarding these SA recommendations will continue to be monitored. A list of FRA's recommendations in these Safety Advisories and CSX's responses are included in Appendix A.

CSX's responses have mostly been consistent with FRA's SA recommendations. The majority of CSX responses indicate that the railroad has reviewed current rules and procedures to ensure the recommended action was taken. Many of these responses indicate that CSX provided an impromptu information refresher to affected employees or reiterated existing rules and procedures to those employees affected by FRA recommendations.

In a few instances, CSX took alternate action than what was recommended by FRA. For example, FRA Safety Advisory 2023-02 emphasized significant concerns related to train makeup following a rising trend in incidents where train build and makeup was a potential cause or contributing factor. Among other recommendations, SA 2023-02 recommended that railroads enhance its incident investigations procedures by addressing train makeup factors and their potential contribution to the cause of an incident. CSX declined to commit to including train makeup in its accident investigation procedures but did reaffirm its commitment to providing advanced training opportunities to accident investigators.

In other instances, CSX declined to take action in response to an FRA recommendation. For example, FRA issued Safety Advisory 2023-01 that made recommendations to enhance the mechanical reliability of rolling stock and the safety of railroad operations, in light of then-preliminary investigations of the Norfolk Southern derailment in East Palestine, Ohio, indicated a mechanical failure (burnt journal bearing) was the cause or contributing factor. Among other recommendations, SA 2023-01 recommended that railroads review their procedures to train and qualify personnel responsible for installing, inspecting, and maintaining hot bearing detectors to ensure they have the appropriate knowledge and skills, and consider increasing the frequency of such trainings and expanding training topics. CSX indicated that the existing frequency and content of training provided was adequate. This response is of note particularly given the results from the field and long form interviews where lack of continuous learning opportunities was frequently cited.

Section 3.2 FRA Safety Bulletins

FRA issued the following Safety Bulletins from March 2023 through February 2024:

- 2023-01: Switching Operation Accident;[38]
- 2023-02: Highway-Rail Grade Crossing and Shove Movement Accident;[39]
- 2023-03: Train Collision Involving a Mis-Aligned Switch – Dark Territory;[40]
- 2023-04: Trainee Switching Fatality Involving a Shove Movement in a Yard;[41]
- 2023-05: Shoving Movement Close Clearance Fatality;[42]
- 2023-06: Employee Amputation – Flat Switching Kicking Operations and Securement;[43]
- 2023-07: Employee Fatality – Crossing Tracks;[44]
- 2024-01 (Revised): Employee Fatality – Securement of Rolling Equipment;[45] and
- 2024-02: Positive Train Control Error and Malfunction – Train May Not be Protected.[46]

Out of the nine Safety Bulletins listed above, three were in direct response to incidents that occurred on CSX. First, was Safety Bulletin 2023-03, in which a CSX conductor trainee was killed. At approximately 8:05 p.m. (EST) on June 26, 2023, a CSX conductor trainee fell from the lead car he was riding and was struck and killed during a shove movement in Baltimore, Maryland. Second, was Safety Bulletin 2023-05, which involved yet another fatality of a CSX conductor trainee. On August 6, 2023, in Cumberland, Maryland, at approximately 11:42 p.m. (EST), a conductor trainee was riding on the side of a railcar

[38] Federal Railroad Administration, Safety Bulletin 2023-01: Switching Operation Accident | FRA (dot.gov).
[39] Federal Railroad Administration, Safety Bulletin 2023-02: Highway-Rail Grade Crossing and Shove Movement Accident | FRA (dot.gov).
[40] Federal Railroad Administration, Safety-Bulletin-2023-03-mis-aligned-switch-dark-territory.pdf (dot.gov).
[41] Federal Railroad Administration, Safety Bulletin 2023-04; Trainee Switching Fatality Involving a Shove Movement in a Yard | FRA (dot.gov).
[42] Federal Railroad Administration, Safety Bulletin 2023-05; Shoving Movement Close Clearance Fatality | FRA (dot.gov).
[43] Federal Railroad Administration, Safety Bulletin 2023-06; Employee Amputation – Flat Switching, Kicking Operations and Securement | FRA (dot.gov).
[44] Federal Railroad Administration, Safety Bulletin 2023-07; Employee Fatality - Crossing Tracks.
[45] Federal Railroad Administration, Safety Bulletin 2024-01 (Revised) - Employee Fatality – Securement of Rolling Equipment.pdf (dot.gov).
[46] Federal Railroad Administration, Safety Bulletin 2024-02 (PTC Safety Relevant Software Defect) FINAL.pdf (dot.gov).

during a shove movement, when he struck the handrail of a parked locomotive on an adjacent track. The conductor trainee was taken to a local hospital where he died. The third incident on CSX that prompted a response from FRA was Safety Bulletin 2023-07. During this incident on September 17, 2023, at approximately 3:24pm (EST) in Walbridge, Ohio, another CSX employee was killed. In this incident, a mechanical department crewmember was struck and killed by a pair of remote-control locomotives, while he was walking across multiple tracks, during switching operations.

FRA's recommendations listed in these Safety Bulletins and CSX's responses are included in Appendix B.

CSX has been responsive to FRA Safety Bulletins. After receiving a bulletin, CSX issues a safety alert or safety update to its employees that responds to the concerns outlined in the bulletin. CSX has also made responsive changes to operations. For example, CSX changed operating rules in response to recommendations made by FRA in Safety Bulletin 2023-03.

CHAPTER 4: OVERALL FINDINGS AND RECOMMENDATIONS

The demands of railroad operations continue to require adaptation and innovation. However, any change brings risk, and safety must never be degraded when pursuing new adaptations and innovations. No railroad operation is without risk and risks need to be managed and mitigated through people, processes, and training. 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.

When reviewing results from field interviews, long form interviews, focused inspections, as well as CSX's responses to prior FRA recommendations there were several recurrent themes related to the safety culture at CSX. The following three safety culture elements represent areas where CSX has the greatest opportunities to effect positive change:

- Element 4: Reporting systems and accountability are clearly defined.
- Element 9: The organization responds to safety concerns fairly and consistently.
- Element 10: Safety efforts are supported by training and resources.

Finding 1: CSX lacks adequate continuous learning opportunities for employees.

Continuous learning trainings provide employees with an opportunity to learn new information and skills, stay current on relevant job information, and reinforce existing information needed to perform their jobs safely.

During the assessment, FRA found issues with how MOW employees perform work within a HRGC. A continuous learning opportunity for MOW employees would provide them with the information they need to operate in a HRGC safely. Likewise, FRA inspectors identified confusion regarding procedures for rail cut in and CWR maintenance procedures in and

around fixed objects. FRA inspectors found lack of clear instructions on this topic. This is another example where continuous learning opportunities could be provided to improve understanding. Additionally, FRA found new hire conductor training does not adequately assess train makeup comprehension or competency in applying CSX train makeup rules. Recurrency training for train equipment handling lacks essential components and is currently not part of the curriculum.

Consistently, FRA found in interviews that both labor leaders and managers were unable to describe learning opportunities available to employees beyond those required by railroad rules or federal regulations. Of the few who indicated that continuous learning opportunities were available, none were able to cite definitively where employees could find these opportunities. CSX has also declined to provide additional training opportunities in response to FRA Safety Advisories and Safety Bulletins. This lack of continuous learning opportunities represents a safety risk as employees may not have the information needed to improve their skills, adapt to changes, and perform their jobs safely.

Recommendations:

- Review existing training opportunities available for employees.
- Identify training gaps and create training opportunities that address these gaps.
- Identify any new continuing education opportunities.
- Create messaging for employees and managers that will direct them to where to find continuing educational opportunities.
- Expand the media in which continuous education is available.
- Create advanced training opportunities for accident investigators as discussed in CSX's response to FRA Safety Advisory 2023-02.

Finding 2: Available reporting systems are inadequate.

Systems for employees to report safety concerns are critical to early identification and mitigation of hazards and risks. Feedback from both long form interviews and free form

feedback provided in field interviews indicated that many employees were unaware of the methods currently in place to report safety concerns at CSX. Those employees who were aware of available reporting systems indicated that the concerns are often not recorded and follow up actions that provide employees with information on the status of concerns are rare.

Employees who do not believe that their safety concerns are being given appropriate consideration and follow through may be less inclined to report safety concerns. This, in turn, can prevent the railroad from addressing small hazards before they become larger safety risks. CSX reports that it has an anonymous safety reporting program, "Have a Voice in Safety"; however, results from this assessment indicate that this program is not well known and as a result is likely underused.

Recommendations:

- Consider expanding methods for employees to report safety concerns.
- Explore ways to publicize new and existing systems to report safety concerns.
- Review existing centralized reporting system and determine what changes are required to record and follow through with all safety concerns so employees are aware of how their concerns are handled from initial report through final resolution.
- Participate in FRA's Confidential Close Call Reporting System (C3RS) to allow all craft employees to confidentially report safety concerns without fear of discipline or de-certification action.
- Develop a system to follow up with employees regarding corrective actions taken in response to safety concerns they raise.
- Create a process to share data and information about safety concerns between departments and examine this data for trends.

Finding 3: The CSX discipline policy is inconsistently applied.

A consistent discipline policy provides structure and stability; employees know what is expected of them and can trust that discipline is handled fairly and consistently across the

organization. Employees have observed some positive changes regarding the CSX discipline policy. However, the majority of employees who discussed the discipline policy at CSX did so to express concerns. Employees from all crafts, and independent of location, believed the discipline policy was inconsistently applied, and manager specific. Another frequently expressed concern was that punitive actions were taken without feedback and guidance on how to correctly and safely perform a task.

Some employees specifically mentioned that consistency and feedback with respect to the discipline policy are improving. However, many employees expressed confusion as to the specific consequences of certain actions. Some employees expressed concern that disciplinary consequences are arbitrary, and others indicated that some actions do not consistently result in disciplinary action. It is possible that changes have been made but that the adoption of those changes has been slow and is not yet system wide.

Recommendations:

- Review the CSX discipline policy and explore ways to include more coaching and feedback to employees.
- Ensure that the CSX discipline policy is being applied consistently across locations, managers, and employee crafts.
- Explore ways to increase transparency in the discipline policy so employees are aware of the specific actions that lead to consequences and the specific consequences that will be taken for a given action.
- Create a policy that requires all disciplinary actions, regardless if punitive action is taken, are accompanied by coaching or feedback to the employee to explain what was done improperly and the steps that can be taken to prevent that action in the future.

Finding 4: CSX's responses to safety concerns are often inadequate.

FRA inspections and assessment data found that CSX's responses to safety concerns are often inadequate. For example, at some CSX locations managers were verbally reprimanded

for high bad order counts in originating trains. In addition to this being inconsistent with prioritizing safety, it also implicitly incentivizes managers to overlook problems in inspections to avoid receiving reprimands or other adverse actions.

Additionally, comments from the assessment interviews indicated that many times managers do not follow up on safety concerns raised by employees. Employees also expressed that some managers rush them to meet production demands, often at the expense of safety.

Recommendations:

- Monitor existing CSX programs that identify testing, maintenance, and safety requirements for freight cars.
- Ensure that employees have adequate time to provide quality inspections, make repairs, complete required testing, and address safety concerns.
- Consider creating a policy for either additional time or additional personnel during times of increased freight traffic to ensure that safety standards are being met.

APPENDIX A: FRA SAFETY ADVISORIES AND CSX RESPONSES

Safety Advisory 2023-01 and supplemental Safety Advisories 2023-01-01 and 2023-02 (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 issued four recommendations to railroads for evaluation, analysis, inspection of hot bearing detectors (HBD), as well as training and qualification of certain personnel. FRA published the first supplement to this SA on June 14, 2023 (SA 2023-01-01), adding a recommendation that railroads evaluate the resiliency and accuracy of the overall process used to monitor and measure bearing health. FRA issued a second supplemental (SA 2023-01-02) on July 17, 2024, to additionally recommend railroads to ensure that their desks for monitoring wayside detectors are adequately staffed and to maximize HBD data sharing between railroads. FRA's recommendations and CSX's responses are summarized below.

Recommendations & 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:
CSX reports that its Communications and Signals departments have reviewed their HBD documentation.

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:

CSX says that it has evaluated and is comfortable with the level of initial and continuing education training for signal employees.

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:

CSX describes that its mechanical department reviewed recent E53C incidents, trending alarms, as well as WM95 (fused) bearings. It has also added new R19 trending logic, as an additional layer of safety, on top of existing Trending and Talker (single measurement) rules.

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:

CSX states that to ensure all parties understand the type of car involved, all alerts related to bearing temperature or high impact are labeled as "Hazmat" or "Non-Hazmat" shipments. Different trending logic has also been assigned to its hazmat cars. In addition, regarding OT-55, CSX's current spacing does meet the recommendations in the AAR document.

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:

CSX says that to ensure consistency when interacting and using wayside data, its "Mechanical Desk Daily Duties" document has been revised to include specific graphic examples. The mechanical desk staff size has also been increased to allow further focus on car operations. CSX has also requested their internal audit team complete and end-to-end review of the wayside alarm process.

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 CSX's responses are summarized below.

Recommendations & Responses

Recommendation 1.
Review and update train makeup policies, procedures, and guidelines to ensure they are comprehensive, effective, and current.

Response to Recommendation 1:
CSX reports that it reviews all rules, including their ABTH rules regularly and updates them as needed. Additionally, after FRA's recommendations to the SA, CSX reviewed the rules again.

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.

Response to Recommendation 2:
CSX states that it has completed this recommendation. CSX audits its internal processes and regularly follows-up with employees involved in the building of trains. Additionally, according to CSX, its employees are trained annually and tri-annually on rules and guidelines around proper building of trains.

Recommendation 3.

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

Response to Recommendation 3:

CSX describes that it runs simulations via Train Dynamics Analyzer for the purpose of verifying or modifying current train build rules, as well as to test forces within a train that could cause issues, such as extreme draft/buff forces, or lateral over vertical forces leading to derailment.

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.

Response to Recommendation 4:

CSX conveys that this recommendation is not only encouraged but mandated. Specifically, CSX says that employees are empowered to take the "safe course of action," and to immediately contact their supervisor in the event they are asked to perform a task that is unsafe.

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.

Response to Recommendation 5:

CSX states that it commonly uses distributed power on all train types to help the locomotive engineers minimize train forces. CSX also updated its existing train length and tonnage rules in June 2023, adding additional limits for trains that are equipped with distributed power.

Recommendation 6.

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

Response to Recommendation 6:

CSX reports it found no need to update their current train accident investigation procedures. However, CSX is continuing to provide advanced training with field operations leaders to improve their train accident investigation skills.

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 to safely operate such trains. The recommendations made in this SA and CSX's responses are summarized below.

Recommendations & 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.

Response to Recommendation 1:
CSX reports that it reviews all rules, including ABTH rules on a regular basis, and updates those rules as needed.

Recommendation 2.
Implement technologies, policies, procedures, and/or any necessary hardware enhancements to ensure two-way EOT (end-of-train) devices maintain undisrupted 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.

Response to Recommendation 2:
CSX reports that it added a rule requiring the testing of EOT prior to descending a steep grade. CSX also updated ABTH rules around the monitoring of air gauges.

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.

Response to Recommendation 3:

CSX conveys that its operating rules currently account for this occurrence, specifically, if communication is lost, the movement must stop until communication is reestablished. Nevertheless, CSX continues to try to identify locations where communication signal repeaters can be installed.

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.

Response to Recommendation 4:

CSX says that its operating rules cover all aspects of this, with regard to longer trains. According to CSX, it constantly reviews train handling rules and procedures, to make themselves better and safer.

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.

Response to Recommendation 5:

CSX conveys that it has completed this recommendation. Specifically, engineers and engineer trainees get training regarding all new technology.

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.

Response to Recommendation 6:

CSX reports it reviews testing data against their incident and accident data, continually. According to CSX, it has found no correlation of train accident of test failure frequency related to longer trains. CSX admits that its biggest area of opportunity remains in their switching yards at low speeds, complying with critical rules and procedures.

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.

Response to Recommendation 7:

CSX says it has operating rules in place to minimize blocked highway grade crossings, but it is continuing toto work with its operating and dispatching personnel on continued improvement in this area.

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 Recommendation 8:

CSX states that its train handling team in Jacksonville, Florida, has and continues to simulate areas of concern, either from past events, or simulating future operations to ensure safety of operations.

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 CSX's responses are summarized below.

Recommendations & 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 ration 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:

CSX conveys that it has production logic that is finding 85 level 4 (ratio>6) cars per month. CSX also flags and back-orders wheels at 90 kips and has a process that calls for all wheels 80 kips and above, to be changes while on any rip track for other defects.

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 SA and CSX's responses are summarized below.

Recommendations & 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 or worn components and give special consideration to highway-rail grade crossing warning systems that are exposed to high level 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:

CSX confirms it has completed inspection of the king pin assemblies and replaced all worn components that it found.

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 CSX's responses are summarized below.

Recommendations & 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 recommendation (1)), particularly those involving the operation of RMMs and roadway workers working on and in the vicinity of RMMs.

Response to Recommendations 1- 2:
CSX reports that it provides daily job briefings on machine operations. It also expressed that a few years ago it instituted a rule to help combat machine collision injuries, which requires operators to stop and make contact with the trailing machine to indicate that they stopped. If there is no response from trailing machine, the lead operator must dismount their machine and walk towards the approaching machine waving that trailing machine to stop.

Recommendation 3.
Conduct additional safety briefings to raise workers' awareness of the hazards associated with operating and working around RMMs.

Response to Recommendation 3:

CSX reports that employees are provided daily job briefings on machine operations. 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

FRA published SA 2023-07 on November 14, 2023to reduce weather-related accidents/incidents and improve the efficiency of the national rail network during severe weather events. The recommendations made in this SA and CSX's responses are summarized below.

Recommendations & 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. In evaluating these rules, policies, and procedures, railroads should ensure preparation and response training curriculums are up to date and include critical information necessary for operating personnel, whether simulated drills are performed to test employee response and recovery from severe weather events, whether employees receive sufficient training on weather monitoring software (including updated new training when software enhancements are introduced); whether policies and procedures for communicating weather events are adequate; whether backup communication and dispatching systems are present and tested regularly; and whether evacuation and safety plans are all-encompassing, to include railroad personnel working in the field and those in transit (*e.g.,* on the rails, in yards, and traveling on roadways).

Recommendation 2.

Railroads should evaluate their weather forecasting policies and procedures. In assessing the relevant policies and procedures, railroads should consider integrating weather forecasting

policies and procedures (and the outcomes from those policies and procedures) into dispatch operations and whether those policies and procedures should be incorporated into positive train control systems. Railroads should additionally consider whether the National Oceanic and Atmospheric Administration (NOAA) and United States Geological Survey (USGS) predicting, and monitoring capabilities are utilized adequately and consistently within those policies and procedures.

Recommendation 3.

Railroads should evaluate their operating infrastructure to identify critical and geographical elements susceptible to severe weather events. Railroads should identify operating infrastructure sensitive to extreme weather events and review plans and policies to monitor the infrastructure proactively and reactively. Railroads should consider issues such as whether technology can be introduced to monitor critical infrastructure in real-time and how weather-related action plans can be revised to establish standardized interfaces with other railroads, agencies, and municipalities (e.g., United States Coast Guard and local and State authorities) in the event of a weather-related event. Railroads should review and update these plans and policies periodically and ensure weather-related action plans address specific risks to the identified critical infrastructure.

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. As part of these action plans, railroads should consider developing and implementing an auditing program for severe weather alert systems or other alternative methods to ensure such systems remain in working condition. Railroads should ensure such systems are tested routinely, and their functionality is consistent with all current weather-related action plans.

Recommendation 5.

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

sufficient rules, policies, and procedures are implemented and periodically reviewed and updated to enable effective determinations as to when it is safe to operate in extreme weather conditions and when it is not (considering environmental exposures for railroad personnel and other relevant factors). Rules, policies, and procedures should address weather events such as wind, heat, cold, flooding, flash flooding, tornadoes, hurricanes, fire, visibility, snow, ice, sand drifts, earthquakes, landslides, and environmental factors such as the air quality index.

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. In doing so, railroads should consider how much deviation exists between railroads related to operational weather rules, policies, and procedures. Railroads should consider whether those deviations are justified and to what extent rail safety would benefit from industry-wide standardization of weather-related rules, policies, procedures, and weather-related action plans in general. Railroads should also consider whether individual railroad weather-related rules, policies, and action plans include adequate collaboration with tenant and interchange railroads.

Response to Recommendations 1- 6:

CSX says that it uses Accuweather service, which has a direct notification system that alerts them of severe weather events in a timely manner. The notifications are communicated to their Network Operations Center in Jacksonville, Florida, which is then communicated to the specific event area and the affected employees. CSX states that it has reviewed its rules, procedures, and policies regarding weather events and concluded that they have a robust system in place.

APPENDIX B: FRA SAFETY BULLETINS AND CSX RESPONSES

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.

FRA also noted the importance of the following factors to ensure switching operations are conducted safely:

- Proper training, periodic oversight, and application of appropriate railroad operating rules when fouling equipment.
- Proper job briefings and communications between assigned crewmembers during switching operations. All crewmembers must have the same understanding of the switching moves.
- Maintenance of situational awareness; always be prepared for unexpected movement when fouling equipment.

A summary of the recommendations, and CSX's responses to those recommendations, are below.

Recommendations & 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.

Recommendation 2.

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

Response to Recommendations 1 & 2:

CSX provided the following Safety Alert bulletin to its employees on March 7, 2023, stating that the document should guide safety discussions with employees.

FRA Safety Bulletin/Switching Operation Accident

The Federal Railroad Administration (FRA) is investigating a recent switching accident in relation to a foreign carrier that resulted in a crewmember amputation. Based on FRA's preliminary investigation, a three-member local switch crew was in the process of switching loaded and unloaded tank cars to assemble an outbound train. The crew was handling cars from yard tracks and kicking them into an adjacent siding where the outbound train was being assembled. One of the crewmembers was positioned between a yard track and the siding. He was alternating between operating the uncoupling lever on cars located in the yard tracks and lacing air hoses in the siding. While in the process of lacing air hoses, a cut of cars that had been kicked coupled into the stationary cars in the siding. This coupling caused movement of the stationary cars resulting in the crewmember's leg being amputated.

Although FRA's investigation into this accident is ongoing, FRA notes the importance of the following factors to ensure switching operations are conducted safely:

- **Proper training, periodic oversight, and application of appropriate railroad operating rules when fouling equipment.**
- **Proper job briefings and communications between assigned crewmembers during switching operations. All crewmembers must have the same understanding of the switching moves.**
- **Maintenance of situational awareness; always be prepared for unexpected movement when fouling equipment.**

FRA reminds railroads and train crew members of the work of the Switching Operations Fatality Analysis (SOFA) Working Group, a voluntary, non-regulatory workplace-safety partnership formed to identify commonalities among fatalities that occur during switching operations. SOFA findings are available on FRA's website at:

https://railroads.dot.gov/railroad-safety/divisions/partnerships-programs/switching-operations-fatalities-analysis-sofa

CSX Safety Department

CSX Operating Requirements

Rule 414.2

Do not foul equipment not coupled to a locomotive or coupled to a locomotive that is not under the control of a locomotive operator until known the equipment is secured and will not be coupled to.

Rule 2100.1

Employees must not foul tracks or equipment unless job duties require. Before fouling tracks or equipment, employees must establish the proper protection for the job classification.

CSX Safety Department

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 the railroad industry was aware of the fatal accident.

FRA also noted the importance of the following factors to ensure switching operations are conducted safely:

- Proper training, periodic oversight, and application of appropriate railroad operating rules when fouling equipment.
- Proper job briefings and communications between assigned crewmembers during switching operations. All crewmembers must have the same understanding of the switching moves.
- Maintenance of situational awareness; always be prepared for unexpected movement when fouling equipment.

A summary of the recommendations, and CSX's responses to those recommendations, are below.

Recommendations & 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.

Recommendation 2.
Ensure 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 Recommendations 1 & 2:

CSX issued the following Safety Alert bulletin to its employees on March 7, 2023.

Mandatory Safety Briefing – NS Fatality

On the morning of March 7, 2023 a NS conductor was fatally injured while servicing a customer in Cleveland Ohio. Initial reports indicate that the 46 year-old conductor was in the process of riding a shoving movement over a crossing when the movement was struck by a dump truck. The crossing was not equipped with warning devices and the overall conditions at the time of the incident was night/dark. It is unknown at this time if the angle of the crossing in relation to the track, or the position of the cab of the dump truck (far side from approaching rail movement) played any role in the driver's failure or inability to yield.

As we operate within customer facilities it is imperative that we maintain a high level of situational awareness and extreme focus – as circumstances outside of our control may affect conditions. Interplant switching, loading and unloading, truck/vehicle traffic, and a general lack of knowledge as to the specifics of rail operations within facilities can lead to unexpected conditions.

Taking the safest course of action means that we actively look to identify potential hazards and analyze the work environment in real time. We are empowered to make changes (ex: stop, slow down, reposition) to ensure the safest outcome for ourselves and our peers.

CSX Safety Department

Related Incidents

- **2/24/23 – L732-24 was in the process of shoving the Albany Wye when the movement struck a vehicle that failed to yield at the crossing.**
- **3/5/23 – Conductor and trainee were in the process of shoving into a customer facility when they encountered equipment that had been left foul by a third-party switching contractor – resulting in injury to the trainee.**

Points of Emphasis

- Inspect the conditions of gates, equipment, or any aspect of customer facilities that may constitute a potential risk prior to entering.
- When working with trainees, both employees are required to ride the field side of the movement, and should not be positioned on opposite sides of the same car.
- During switching operations, assignments should maintain dialogue between each other as to the location of equipment.
- Employees must remain vigilant at locations wherein customers conduct interplant switching themselves, as there may be an elevated risk of equipment in the foul or road traffic.
- We work within a dynamic environment, **do not take the location of equipment for granted** – as it may have moved unbeknownst to the employee.
- **When in doubt, stop and take the safe course!**

CSX Safety Department

CSX Operating Requirements

Rule 200.3

When providing warning signals, employees must use:

a. Red flag or fusees during the day, or
b. White light or red fusees at night or during the day when signals cannot be plainly seen.

Rule 312.6

When motorists fail to comply with crossing warnings:

1. Record vehicle identification numbers or other identifying information,
2. Promptly report school buses and vehicles carrying dangerous or hazardous materials to the train dispatcher, and
3. When safe to do so, report the motorists to the Public Safety Coordination Center (PSCC) center at 1-800-232-0144.

Rule 406.2

Employees directing a shoving or pushing movement must:

1. Know all cars to be shoved are coupled by stretching the slack, and
2. Ride the side of the leading end of the equipment or be in a position on the ground ahead and in the clear of any shoving movement that will traverse any switch , derail, public highway-rail or pedestrian crossing located on the portion of track to be shoved in order to ensure such devices are properly lined and appropriate protection is provided at crossings.

Rule 2102.1

When riding on equipment, employees must:

1. Position body to face the equipment and look in the direction of travel,
2. Maintain 3-points of contact, keeping secure hand holds and footing,
3. Be prepared for unexpected movements and slack action at all times,
4. Ride the side of cars equipped with a horizontal grab iron at least 12 inches above the floor of the car or at least one vertical grab iron that allow an employee to stand upright.
5. Ride the side of rail cars or the trailing end of a cut of cars equipped with an end platform.
6. Ride the steps or front/rear locomotive platforms when positioned on the outside of a moving locomotive,
7. Dismount before passing a close clearance sign or reaching a close clearance,
8. Ride on the side of equipment away from live tracks, main tracks, sidings, close clearances or other hazards, and
9. Dismount equipment prior to coupling.

CSX Safety Department

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

FRA issued Safety Bulletin 2023-03 on May 9, 2023, after a train collision in dark territory with no PTC overlay. The collision resulted in the derailment of three locomotives and 12 grain cars, where both members of the crew were seriously injured. FRA's purpose in issuing this Safety Bulletin was to (1) provide awareness to the industry, and (2) recommend the industry brief their employees and contractors about the circumstances of this incident.

FRA also emphasized the importance of ensuring safe operations of hand-operated main track switches by:

- Conducting proper training, periodic oversight, and adherence to railroad operating rule requirements for hand-operated, main track switches.
- Ensuring that the switches are visually verified to be properly lined for the intended route, and if uncertainty arises, conducting a double check as needed.
- Ensuring clear and concise verbal communication among all crewmembers to confirm the position of the switch before leaving the location where any hand-operated main track switch was operated.
- Releasing the limits of main track authority in non-signaled territory only after reporting to the train dispatcher that all hand-operated main track switches have been restored to their normal positions and locked. Exceptions can be made if the train dispatcher directs otherwise, and the necessary protection is provided.
- Guarding against complacency derived from repetitive task performance by using multiple methods or tools to validate safety critical tasks are complete.
- Encouraging employees to, when in doubt about switch positions, take the safe course and reverify the position of the switch before releasing track authority.

A summary of the recommendations, and CSX's responses to those recommendations, are below.

Recommendations & 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:

CSX stated that this FRA Safety Bulletin was reviewed in detail. After their Cayce, South Carolina, train accident in 2018 involving an Amtrak train, CSX's operating rules were changed to ensure that anytime a switch is reported lined back for normal operations that the employee be at the location of the switch, to ensure they have eyes on the switch. CSX has also continued to use their switch position awareness forms as a documented record of switch position in dark territory. CSX reports that it believes it has safely addressed this issue with it operating rules and training.

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 CSX's responses to those recommendations, are below.

Recommendations & Responses

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 safety, 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 experiences employees to perform services safely. The SOFA Working Group is voluntary, non-regulatory, workplace safety partnership formed to identify commonalties among fatalities that occur during switching operations.

Response to Recommendation 1:

CSX revised and clarified its Riding Equipment rule by issuing the following Safety Briefing on June 27, 2023.

Safety Briefing – Riding Equipment

On June 26, 2023 a CSX trainee was fatally injured while directing a shoving movement at Seagirt Terminal in Baltimore, Md. This tragic incident remains under investigation and is a somber reminder that we must all remain focused and committed to maintaining situational awareness when performing critical activities.

When riding equipment, employees must be alert and prepared for slack action. Proper positioning on the equipment as well as maintaining 3-points of contact must be maintained to provide protection against unexpected slack.

Taking the safest course of action means that we actively look to identify potential hazards and analyze the work environment in real time. We are empowered to make changes (ex: stop, slow down, reposition) to ensure the safest outcome for ourselves and our peers.

Critical Rule and Focus Requirements

- **Always face equipment and maintain three points of contact when mounting and/or dismounting equipment**
- **Communicate intent to mount/dismount moving equipment to locomotive operator in order to ensure speed will not exceed 4 mph**
- **Always take proper position when riding a tank car**
- **Always dismount equipment before passing a close clearance or making a coupling**
- **Expect and be prepared for slack action at any time**

- **Never mount or dismount a moving tank car**
- **Unless equipped with two stirrups, never ride a tank car over a crossing**
- **Never occupy a locomotive walkway when traversing over crossings (railroad or vehicle), curves, bridges, and control points or above 20 mph**
- **Never dismount equipment at a location that does not provide solid footing**
- **Never ride the side of equipment adjacent to live tracks, main tracks sidings, close clearances or other hazards**

CSX Safety Department

Points of Emphasis

- Conduct an inspection of safety appliances prior to mounting equipment/do not ride damaged equipment.
- Check footing prior to dismounting equipment/do not dismount near obstructions or in areas with poor footing.
- Be familiar, and comply with, special instructions.
- Maintain vigilance within customer facilities.
- Inspect the conditions of gates, equipment, or any aspect of customer facilities that may constitute a potential risk prior to entering.
- When working with trainees, both employees are required to ride the field side of the movement, and should not be positioned on opposite sides of the same car.
- If unfamiliar with the physical layout of a given location, inspect the location prior to riding equipment.
- If in doubt, take the safe course – do not ride equipment.

CSX Safety Department

Riding Intermodal Equipment

Riding intermodal equipment as shown in the manner [below] is considered to be **non-compliant** as it does not allow the employee to be prepared for unexpected movements and slack action at all times as required by **2102.1(3)**. Additionally, riding in this manner is considered to be **non-compliant** with the requirements of **2102.2(e)(b)** – as it constitutes riding the end of a car being shoved.

CSX Safety Department

CSX Operating Requirements

Rule 104.5

Employees are responsible for the actions of employees under their instruction. They must verify those employees are:

1. Familiar with their duties,
2. Provided proper instruction, and
3. Must be in a position which provides continuous monitoring of the trainee and allows for immediate intervention and corrective action of any non-compliant or unsafe activities observed.

Rule 2102.1

When riding on equipment, employees must:

1. Position body to face the equipment and look in the direction of travel,
2. Maintain 3-points of contact, keeping secure hand holds and footing,
3. Be prepared for unexpected movements and slack action at all times,
4. Ride the side of cars equipped with a horizontal grab iron at least 12 inches above the floor of the car or at least one vertical grab iron that allow an employee to stand upright.
5. Ride the side of rail cars or the trailing end of a cut of cars equipped with an end platform.
6. Ride the steps or front/rear locomotive platforms when positioned on the outside of a moving locomotive,
7. Dismount before passing a close clearance sign or reaching a close clearance,
8. Ride on the side of equipment away from live tracks, main tracks, sidings, close clearances or other hazards, and
9. Dismount equipment prior to coupling.

CSX Safety Department

Rule 2102.2

When riding on equipment, employees must not:

a. Place hands, arms, or legs inside equipment with shiftable loads or near the end gates of a drop end gondola; or
b. Occupy side locomotive walkways when:

    1. Traversing over crossings (railroad or vehicle), curves, bridges, and control points; and
    2. Above 20 mph; or

c. Use bridge plates or container brackets as hand holds on flat cars; or
d. Transition from one side of a car to the other while the car is moving, except in an emergency situation, or
e. Ride:

    a. Platform between coupled cars, or
    b. End of cars being shoved unless the car is equipped with a riding platform that has a solid safety rail positioned between the employee and the end of the equipment, or
    c. Couplers, draw-heads, cut levers, or cushion underframe devices, or
    d. Bottom step of equipment when traversing highway-rail crossings at grade, or
    e. The middle ladder of tank cars, or
    f. The side of equipment that is adjacent to a main track or siding that is occupied with equipment, or
    g. The following series of cars: LEWX (1000-1099), LEWX (2100-2197), DEAX (11351-11450), CIGX (802713-803211), or
    h. Equipment other than the front steps of a locomotive when traversing from the top of a hump into the bowl tracks, or
    i. Locomotive platforms behind the walkway chains.

Rule 2102.3

When riding tank cars, employees must ensure they have a firm hand hold that prevents unintentional movement and:

a. If only one vertical grab iron, ride with one foot in the stirrups and one foot on the end platform, or
b. If two vertical grab irons, ride with both feet in the stirrups, or
c. If the tank car is the rear car of a pulling movement, employees may ride the outer edge of the end platform.

CSX Safety Department

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 CSX's responses to those recommendations, are below.

Recommendations & Responses

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 Recommendations:

1.1, CSX stated that it is reviewing both phases 1 & 2 of its conductor training program. To date, CSX has decided to add a fifth week of training to REDI (phase 1).

1.2, CSX reports that it has identified permanent close clearances listed in its timetable with special instructions and marked in the field where physically possible with signage reading "Stop. Dismount." Known temporary close clearances related to track centers in yards are also identified with special instructions that prohibit riding the side of equipment, or riding the side of equipment at these locations when cars are on the adjacent track.

Additionally, CSX says that it is using GIS mapping technology to identify main track and siding locations where track centers may create temporary close clearances. Its plan is to publish a special instruction book containing these locations by region, zone, subdivision, and mile post location.

1.3, CSX said that it is reviewing current operating and safety rules on riding equipment to determine if modifications are needed. CSX has issued Safety Alerts and provided manager job briefings covering these topics, reminding employees that each situation must be examined, and risks identified, prior to riding equipment.

CSX's response does not explicitly address recommendation 1.4.

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 CSX's responses to those recommendations, are below.

Recommendations & Responses

Recommendation 1.

Ensure switching operations are conducted safety, including ensuring:

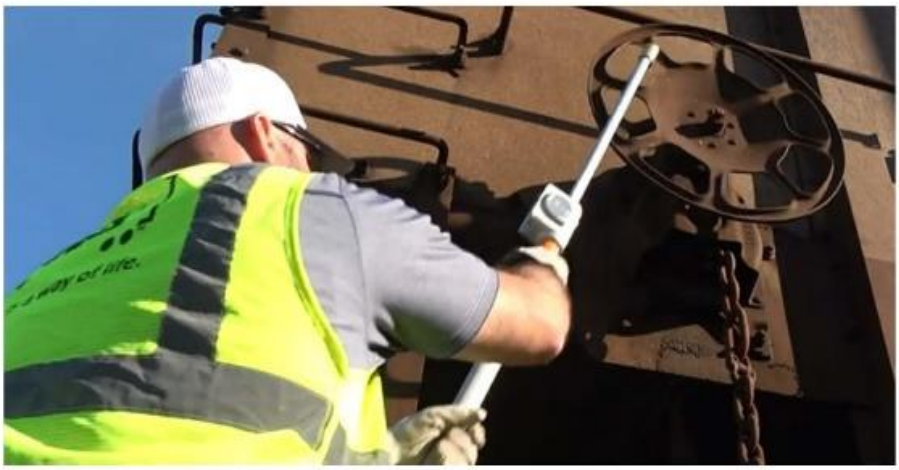
1. Operating rules and protocols adequately address hazards associated with "kicking" cars;
2. Employees receive adequate field training to enable them to recognize risks associated with improperly secured "kicked" cars and understand proper procedures for responding to a rolling car, mounting equipment, and applying handbrakes safety; 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:

CSX issued the following Safety Alert to its employees on September 3, 2023.

Safety Alert: Union Pacific, Serious Injury

On September 1, 2023, a Union Pacific employee sustained a serious injuries to both legs while attempting to secure equipment. While this incident is currently under investigation, employees are reminded to remain cognizant as to the condition of equipment, and to anticipate unexpected movement.



CSX Safety Department

Critical Rule and Focus Requirements

- Know timetable special instructions regarding securement at your location
- Apply required number of hand brakes on equipment, a minimum of one
- Operate hand brakes properly on locomotives and/or cars, maintaining three points of contact and proper body position on equipment when applying hand brakes
- Always test hand brakes to ensure they are sufficient to hold equipment
- Switches and levers on locomotives must be properly positioned and locomotive cab doors must be locked.

- Always face equipment and maintain three points of contact when mounting and/or dismounting equipment
- Communicate intent to mount/dismount moving equipment to locomotive operator in order to ensure speed will not exceed 4 mph
- Always take proper position when riding a tank car
- Always dismount equipment before passing a close clearance or making a coupling
- Expect and be prepared for slack action at any time

- Never mount or dismount a moving tank car
- Unless equipped with two stirrups, never ride a tank car over a crossing
- Never occupy a locomotive walkway when traversing over crossings (railroad or vehicle), curves, bridges, and control points or above 20 mph
- Never dismount equipment at a location that does not provide solid footing
- Never ride the side of equipment adjacent to live tracks, main tracks sidings, close clearances or other hazards

CSX Safety Department

CSX Operating Requirements

2100.3

When working on or about tracks, **be alert for unsecured or shifted lading and movement of cars, locomotives, or equipment at any time, in either direction, on any track**. Employees must not:

1. Stand less than 10 feet from a switch or derail being traversed by equipment during switching operations,
2. Stand less than 30 feet from a switch or derail associated with the route of a passing train,
3. Cross within 25 feet of the end of standing equipment unless protection has been provided or the equipment is under their control or the control of a crew member,
4. Cross between standing equipment separated by less than 50 feet except a mechanical employee working inside a mechanical facility or track with blue flag protection established,
5. Take shelter under any car, equipment, or locomotive,
6. Walk or stand foul of any track if a more suitable option is available, and
7. Have back turned from moving equipment being controlled by employee when it is traveling in his/her direction.

2101.3

When mounting, dismounting or crossing over equipment, **employees must not**:

a. Have in his or her possession any grip/bag or other item that would prevent the full use of both hands, or
b. Step, or reach, from one car to another, or
c. Cross under equipment, or
d. Jump from equipment or structure to ground level except in an emergency, or
e. Mount or dismount a moving tank car (unless equipped with 2 vertical handholds) or mount or dismount any equipment if the equipment is moving too fast, or
f. Step on or use as a hand hold:
    a. Any part of the hand brake, or
    b. Cut lever, or
    c. Angle cock, or
    d. Coupler, or
    e. Components of a cushion underframe or sliding center sill.
g. Mount free-rolling equipment that is not attached to a locomotive.

2104.8

To operate a vertical wheel hand brake by hand, employees must:

1. **Maintain three points of contact;**
2. Properly position hands:
    a. On cars with a brake platform, hold firmly with one hand to a grab iron, ladder rung or hand hold; or
    b. On locomotives, place one hand on the handrail or against a flat surface if available;
3. Properly position feet:
    a. On cars equipped with a brake platform, place right foot on the brake platform and left foot on the ladder rung firmly braced against the side rail or,
    b. If operating from the ground, keep one foot outside the rail and be alert for sudden movement.

CSX Safety Department

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 CSX's responses to those recommendations, are below.

Recommendations & Responses

Recommendation 1.

FRA reminded all railroads and railroad employees of the importance of maintaining constant situational awareness when approaching or fouling railroad tracks and the importance of being 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.

FRA reminded all railroads and railroad employees of the importance of maintaining constant situational awareness when approaching or fouling railroad tracks and the importance of stopping and looking in both directions before fouling or crossing a track or set of tracks.

Response to Recommendations 1 & 2:

CSX issued the following Safety Alert to its employees on September 18, 2023.

Safety Briefing – On or About Tracks

On September 17th, 2023 a CSX car inspector in Walbridge, OH was in the process of applying blue signal protection by lining and locking a switch against movement when struck by a remote control locomotive and fatally injured. This tragic incident remains under investigation but it is a somber reminder to maintain situational awareness and apply proper on and about track safety rules and procedures when performing tasks.

Points of Emphasis

- Communicate effectively by conducting a proper safety briefing before beginning the task, and update as needed or when conditions change.
- Employees must maintain situational awareness at all times and :
  - Avoid fixation
  - Do not make assumptions
  - Expect movement on all tracks at all times from any direction
- Review terminal emergency action plans with your coworkers and/or local officials

CSX Operating Requirements

Rule 2100.4

Employees must stop and look in both directions before:
a. Fouling or crossing a track or set of tracks (it is permissible to cross more than one track without stopping at each track if safe to do so), or
b. Moving from under or between equipment, or
c. Getting on or off equipment, or
d. Operating a switch, or
e. Operating a derail.

Course Code Information

Title: Mechanical Safety Conversation - Crossing Tracks

Description: During this mandatory safety conversation, Mechanical managers will discuss Safe Way rule 2100 (On or About Track Safety) with employees stressing the importance of rule 2100.4, to stop and look in both directions before fouling or crossing a track or set of tracks.

Code: MASCROSSTK23

CSX Safety Department

Safety Bulletin 2024-01 (Revised): Employee Fatality – Securement of Rolling Equipment

FRA issued Safety Bulletin 2024-01 (Revised) on February 13, 2024, after the fatal injury of a locomotive engineer during yard switching operations. FRA's purpose in issuing the Safety Bulletin was to ensure the railroad industry and its employees are aware of this fatality. A summary of the recommendations, and CSX's responses to those recommendations, are below.

Recommendations & Responses

Recommendation 1.

Ensure rolling equipment is properly secured at all times, including ensuring:

1. Employees understand the importance of complying with railroad rules for securement of rolling equipment;
2. Railroads provide employees adequate training on railroad operating rules and procedures for proper securement of rolling equipment:
3. Railroads provide employees appropriate periodic oversight of compliance with railroad operating rules and procedures for proper securement of rolling equipment;
4. Railroads empower employees to seek immediate clarification of any safety rule, including rules to the securement of equipment; and
5. Railroads remind employees of the dangers associated with improperly secured rolling equipment.

Response to Recommendation 1:

CSX issued a Safety Update to its employees on February 7, 2024. The Safety Update focuses on "Active Thinking During Routine Tasks."

SAFETY UPDATE

CSX

February 7th, 2024

ACTIVE THINKING DURING ROUTINE TASKS

When performing our jobs duties, we often take the routine for granted. We traverse and line hundreds of switches a day. Unfortunately, today, we are in the middle of trend where employees are running through more switches than ever. Not checking our line up before pulling, assuming switches are returned to normal when another assignment enters our zone – sometimes forgetting the zone was given to another job and is still occupied. Several incidents of run through switches have led to FRA decertifications – which no one wants. None of these incidents were intentional, so why do they happen? In simple terms, we perform these tasks so often without issue, we assume more of the same, we turn off our thinking and our brain tells us the switch is good for our movement; just like the last 100. We assume this without carefully and deliberately thinking about our route. The call to action is to look at every switch carefully, scanning it, ensuring with 100% certainty that it lined properly – double checking and even slowing down the movement and our thinking to ensure we will ,with 100% certainty, make it across each switch as intended. We do not want you to be the next crew operating through an improperly lined switch.

The second and more important opportunity is **minimizing our exposure to hazards** in general. We want to share the scenario below as a key example. I ask that we look at where two employees stood as they brought a shove to them. They are fouling tracks, close to the switch lined into an adjacent track. In this position they are exposed to risks of cars coming out of body tracks (while focusing on the shove coming towards them) and exposed to risk of the cars derailing, and being too close to escape. We make this move daily without cars derailing, we are accustomed to things going right. We also trust our peers to properly protect shoves and properly secure cars – but truthfully that doesn't always happen. In our heads the risk was minimal – they were wrong.

The lead car derailed in this scenario, split the switch and headed right towards them. They scrambled, running in different directions trying to escape from being struck. They were lucky. By placing ourselves in a place of safety we do not rely on luck, we rely on thoughtful decisions to place ourselves in the safest positions possible. Things can and do go wrong. Planning, thinking and deciding what measures I can take to minimize my risk is key in this industry. Taking a few steps can minimize our exposure and we can speak up about this to look out for each other. This should have never been a near miss – and it was not intentional. It was a normal move we make every day that went sideways. This is bigger than the rulebook, it's about putting our mindset in a position to succeed one task at a time.

As we go work each task in our tour of duty, we must constantly perform "What if" inspections and factor in these hazards when deciding where we position ourselves. We have to decrease our exposure to injury and derailments – be cut in and slow our thinking down to the right now. This will stop this trend of near misses, injuries, run through switches and decertifications.

CSX SAFETY DEPARTMENT

Safety Bulletin 2024-02: Positive Train Control Error and Malfunction – Train May Not be Protected

FRA issued Safety Bulletin 2024-02 on February 13, 2024, after receiving notification that during lab testing, a software defect was found present in the Interoperable Electronic Train Management System's (I-ETMS) onboard software. Though the software defect has not yet occurred in the railroad operating environment, the defect may cause a speed restriction within a zone not to be enforced by the positive train control (PTC) system.

FRA's purpose in issuing the Safety Bulletin was to ensure the railroad industry, its employees, and contractors are aware of this safety-relevant software defect and remind railroads to brief employees and contractors about the specific short-term mitigations. A summary of the recommendations, and CSX's responses to those recommendations, are below.

Recommendations & Responses

Recommendation 1.

The fix for this software defect is currently in progress. Until the fix is fully implemented, the supplier of the I-ETMS software has provided some recommendations to any railroad operating the following I-ETMS software versions: 6.3.20.0 – 6.3.24.6, 6.5.2.1 – 6.5.2.4, 6.5.3.0, 6.5.4.0, and I-ETMS Protect onboard software versions 7.0.2.1 and earlier. Specifically, the supplier recommends railroads using this software to immediately implement the following short-term mitigations to ensure safe PTC operations:

1. Instruct crews, once PTC location and direction of travel is established, to avoid manually changing the train's direction of travel through the "Select Direction" soft key over, or immediately adjacent to, a switch; and
2. If necessary to change the train's direction through the "Select Direction" soft key, cut out the PTC system and re-initialize it with the correct timetable direction. This

would allow the onboard system to re-acquire the status of the switch under the train and remove the exclusion zone.

FRA also reminded the industry that crews should be aware of this software defect and understand that when the train transitions to an exclusion zone, all track within the exclusion zone will be colored gray on the I-ETMS onboard display.

Response to Recommendation 1:

CSX reported that for the issue identified in WEG-SAF-11352, regarding defect 2006, it reviewed the error and malfunction notification and determined that based on its operations, this condition would be a rare occurrence. If the condition would occur on CSX, the exclusion zone is represented by a gray track line and the maximum speed, warning and braking distances, and next target are removed and replaced with three asterisks on the PTC CDU. CSX Operating Rule 1304.1 requires that the crew contact the dispatcher or PTC support desk when operating with PTC active above 0 MPH and the current speed displays three asterisks. Additionally, the rules notes that PTC protection will not be provided until the speed is again shown in numeric form on the display. A copy of the CSX Operating Rule is provided below. CSX is working with Wabtec on a resolution to this defect and will implement the software fix as soon as it is available.

1304 - Operating with Speed Not Displayed

1304.1 All PTC active trains operating at speeds above 0 MPH that encounter the current speed to display 3 asterisks must contact:

a. The train dispatcher, or

b. The PTC support desk.

NOTE: If this occurs, the train does not need to be stopped. PTC will not provide enforcement protection until the speed is again shown in numeric form on the PTC display.

1304 - Operating with Speed Not Displayed

1304.1 All PTC active trains operating at speeds above 0 MPH that encounter the current speed to display 3 asterisks must contact:

a. The train dispatcher, or

b. The PTC support desk.

NOTE: If this occurs, the train does not need to be stopped. PTC will not provide enforcement protection until the speed is again shown in numeric form on the PTC display.

APPENDIX C: LETTERS BETWEEN FRA, CSX & THE RAIL INDUSTRY AT LARGE

U.S. Department of Transportation
Federal Railroad Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

May 10, 2021

Mr. James M. Foote
President and Chief Executive Officer
CSX Transportation, Inc.
500 Water Street
Jacksonville, FL 32202

Dear Mr. Foote:

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

cc:
Mr. James Schwichtenberg, Chief Safety Officer, CSX Transportation, Inc.

U.S. Department
of Transportation

Federal Railroad
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

May 4, 2022

Mr. Ian Jefferies
President and Chief Executive Officer
Association of American Railroads
425 Third Street SW, Suite 1000
Washington, DC 20024

Dear Mr. Jefferies:

Thank you for your December 13, 2021, response to my letter of November 12, 2021, regarding conductor certification programs. While it is true that the railroad industry has made great strides in improving railroad safety over the decades, and reducing the total number of on-duty fatalities, the Federal Railroad Administration (FRA) remains concerned that the employee fatality rate has plateaued.

Between 2001 and 2021, the employee fatality rate per 200,000 employee hours has averaged 0.01, and over the last eight years, the total number of on-duty fatalities has averaged 11 per year. Given the clear plateau in this critical safety statistic, FRA is alarmed that some of your member railroads appear to be abruptly shortening the duration of training programs for operating crewmembers.

Accordingly, FRA's intensive focus on the training, qualification, and certification of locomotive engineers and conductors will continue. To avoid preventable accidents and injuries, these critical, front-line railroad employees need robust and quality training prior to being considered certified in performing safety-critical tasks that subject these employees to the dangers of the railroad operating environment. Through ongoing reviews of training and certification programs, and through implementation of the Congressionally mandated audits as part of the Infrastructure Investment and Jobs Act, along with the cooperation of your members as you pledged, FRA seeks to ensure railroads are providing robust and quality training for locomotive engineers and conductors.

FRA shares your interest in achieving the goal noted in your letter – zero fatalities. I look forward to continuing productive engagement with the Association of American Railroads and its member railroads to seek new opportunities to make railroading safer. As you said in your letter, there is more work to do.

Sincerely,

Amit Bose
Administrator

U.S. Department
of Transportation

Federal Railroad
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

June 10, 2022

Dear Fellow Rail Safety Stakeholders:

As previously outlined in my letter dated March 28, 2022, to the Association of American Railroads (AAR) and its member railroads, the Federal Railroad Administration (FRA) is concerned with the industry practice of having rail transportation employees spend extended periods of time at away-from-home-terminal (AFHT) locations. An FRA study found that surveyed employees reported sleep at a AFHT is shorter and of worse quality than home sleep,[1] which may increase fatigue. FRA recognizes that fatigue of railroad employees is a longstanding concern and challenge for the railroad industry.

When rail transportation employees are required to stay at AFHT lodging for extended periods, environmental factors (such as loud ambient noise due to other guests or lodging staff) create challenges for obtaining quality rest. Further, the variability of train lineups at AFHT locations can cause longer than normal stays at AFHT lodging, potentially further exacerbating the level of fatigue.

FRA looks forward to partnering with railroad and rail labor leadership at the upcoming meeting of the Railroad Safety Advisory Committee (RSAC) to discuss and identify potential ways of addressing fatigue in the railroad industry. The proposed RSAC task statement seeks to engage rail industry leaders to design and conduct one or more pilot programs to analyze practices that could reduce fatigue and maximize alertness for train and engine crews and other railroad employees.

I urge railroads to consider the potential for increasing fatigue when employees have extended stays at AFHT locations. I look forward to AAR's and its member railroads' support and participation in the proposed RSAC task.

Sincerely,

Amit Bose
Administrator

[1] Gertler, J., & DiFiore, A. (2009). *Work schedules and sleep patterns of railroad train and engine service workers* (DOT/FRA/ORD-09/22). Federal Railroad Administration. https://railroads.dot.gov/elibrary/work-schedules-and-sleep-patterns-railroad-train-and-engine-service-workers

U.S. Department
of Transportation

Federal Railroad
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

January 5, 2023

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

Mr. Joseph Hinrichs
President & Chief Executive Officer
CSX Transportation, Inc.
500 Water Street
Jacksonville, FL 32202

Ms. Tracy Robinson
President & Chief Executive Officer
Canadian National Railway
935 de La Gauchetiere Street
West Montreal, Quebec H3B 2M9

Mr. Patrick Ottensmeyer
President & Chief Executive Officer
Kansas City Southern Railway
427 West 12th Street
Kansas City, MO 64105

Mr. Keith Creel
President & Chief Executive Officer
Canadian Pacific Railway
7550 Ogden Dale Road SE
Calgary, AB T2C 4X9

Mr. Alan Shaw
President & Chief Executive Officer
Norfolk Southern Railway
650 West Peachtree Street NW
Atlanta, GA 30308

Mr. Ian Jefferies
President & Chief Executive Officer
425 Third Street SW, Suite 1000
Washington, DC 20024

Mr. Lance M. Fritz
Chairman, President, & Chief Executive Officer
Union Pacific Railroad
1400 Douglas Street
Omaha, NE 68179

Dear Mses. Farmer and Robinson, and Messrs. Jefferies, Creel, Hinrich, Ottensmeyer, Shaw, and Fritz:

The Bipartisan Infrastructure Law requires the Federal Railroad Administration (FRA) to initiate audits of the training, qualification, and certification programs of locomotive engineers and conductors, as required by 49 CFR Parts 240 and 242. These audits will include a focus on determining whether such programs provide locomotive engineers and conductors the knowledge, skill, and ability to discharge their responsibilities safely—a cornerstone for the safety of rail operations.

Over the last year and a half, FRA has reviewed several programs submitted by railroads. FRA has taken a collaborative approach to these program reviews, providing specific, detailed comments regarding compliance with the regulation. Some programs have been reviewed by

FRA several times, and in some cases, the revisions to a program barely made incremental progress toward correcting the deficiencies that FRA took great care detailing in successive letters to the railroad.

To encourage full compliance, please be advised that FRA is committed to pursuing enforcement action if a railroad's resubmitted certification program continues to fail to address the deficiencies identified by FRA. Accordingly, whenever FRA conducts its audit of your railroad, FRA will take into account those opportunities FRA has already provided your railroad to correct or address previously identified deficiencies.

I want to remind industry that the quality and adequacy of these certification programs are fundamental to ensuring that your operating crews are properly trained to safely perform their assigned duties. This starts with certification programs that clearly meet the minimum training and qualification standards.

Should you have any questions, please contact Mr. Christian B. Holt, Staff Director, Operating Practices Division, at Christian.Holt@dot.gov or 202-366-0978. In addition, a copy of this letter is being sent to the president of each labor organization representing your affected employees.

Sincerely,

Amit Bose
Administrator

cc:
Mr. Jeremy Ferguson, President, SMART-Transportation Division
Mr. Eddie Hall, National President, BLET

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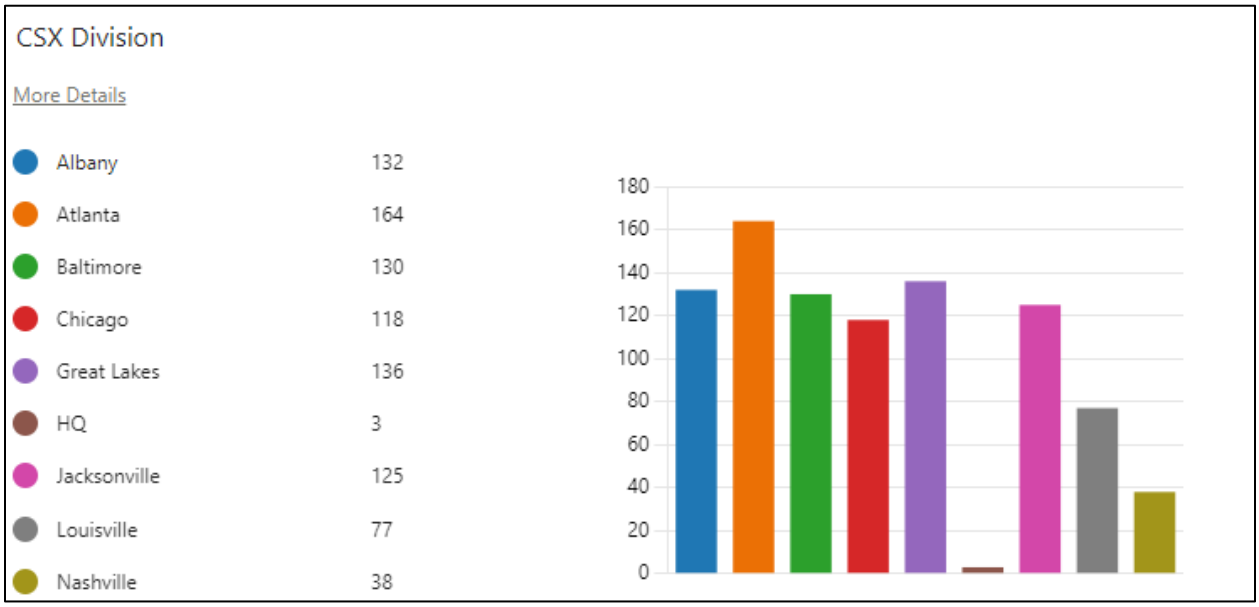
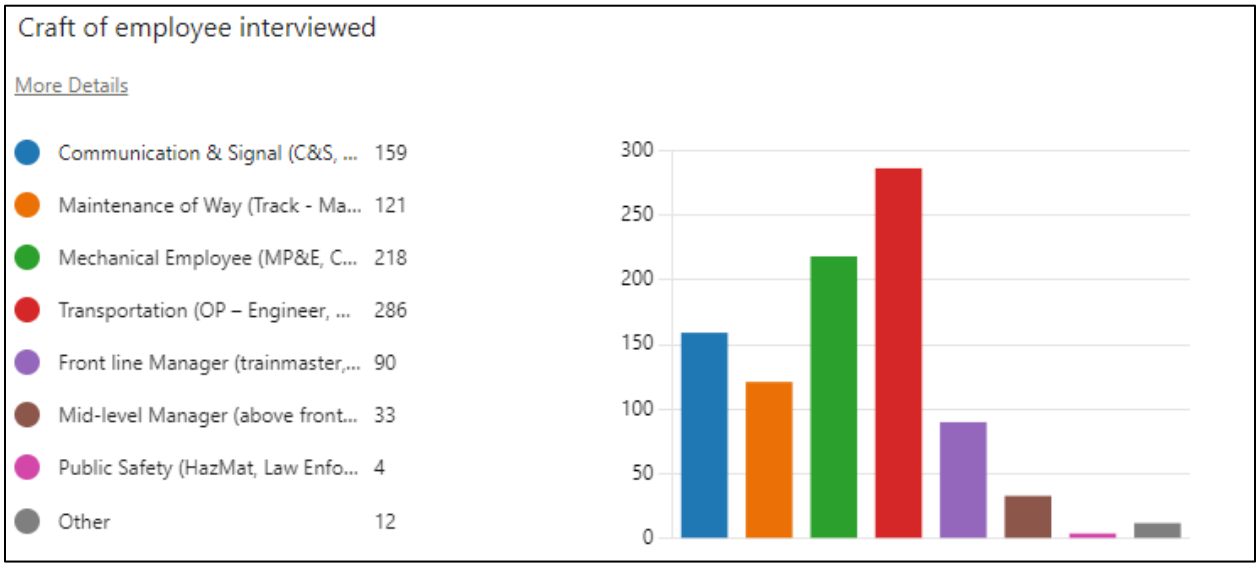
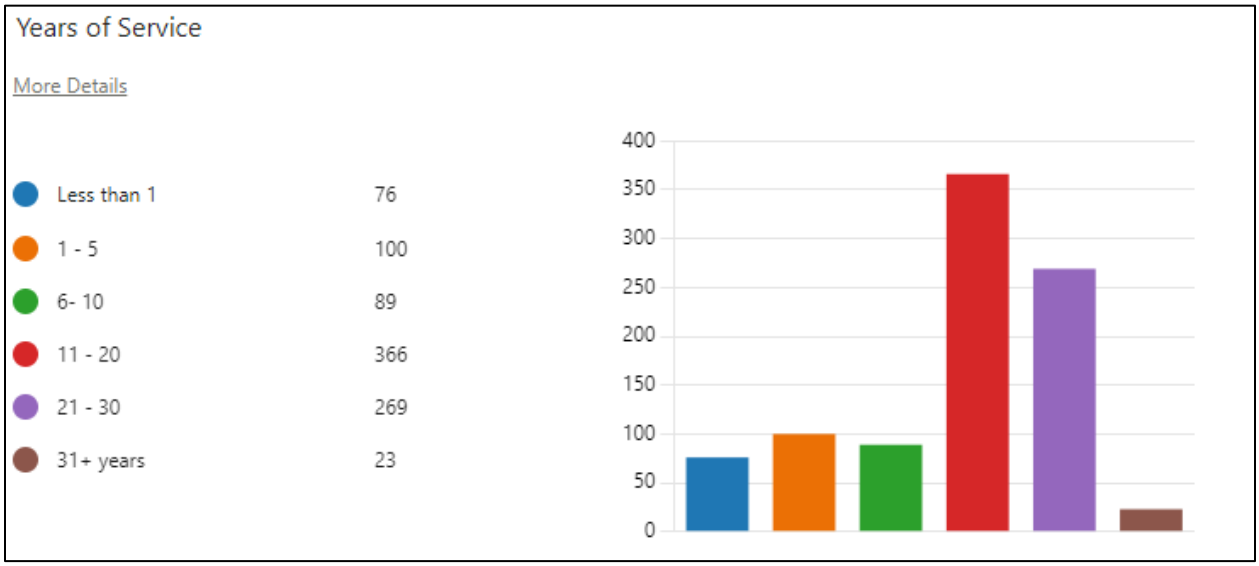
APPENDIX D: AGGREGATED DEMOGRPAHIC INFORMATION FROM CSX RESPONDENTS






Years of Service
More Details
Less than 1 76
1 - 5 100
6- 10 89
11 - 20 366
21 - 30 269
31+ years 23
400
350
300
250
200
150
100
50
0

APPENDIX E: SAFETY CULTURE QUESTIONNAIRE FOR CSX

CSX Safety Culture Field Interview Questions

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

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

APPENDIX F: SEMI-STRUCTURED INTERVIEW QUESTIONS (GENERIC)

CSX Safety Culture Semi-Structured Interview Questions

1. How long have you worked in the railroad industry?
2. Is safety a priority on CSX 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 CSXs 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 supervisors actively listen when safety concerns are raised?
    a. Do supervisors take appropriate follow-up actions?
    b. Do supervisors update employees on the status of concerns?
5. Describe how frontline 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 CSX leadership/managers/employees feel personally responsible for safety?
    a. Do CSX 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 CSX 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?
    c. How does CSX respond to safety concerns of employees?
    d. In your opinion does CSX respond/track these safety concerns and provide feedback to employees in a timely manner?
9. Does CSX 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 CSX 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 CSX 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 CSX allow employees enough time to take advantage of available continuous learning programs?