

**DEPARTMENT OF TRANSPORTATION**

**Federal Railroad Administration**

**49 CFR Part 218**

**[Docket No. FRA-2014-0033, Notice No. 4]**

**RIN 2130-AC48**

**Train Crew Staffing**

**AGENCY:** Federal Railroad Administration (FRA), Department of Transportation (DOT).

**ACTION:** Notice of proposed rulemaking (NPRM); withdrawal.

**SUMMARY:** FRA withdraws the March 15, 2016 NPRM concerning train crew staffing. In withdrawing the NPRM, FRA is providing notice of its affirmative decision that no regulation of train crew staffing is necessary or appropriate for railroad operations to be conducted safely at this time.

**DATES:** As of [INSERT DATE OF PUBLICATION IN THE **FEDERAL REGISTER**], the NPRM published on March 15, 2016 (81 FR 13918), is withdrawn.

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**SUPPLEMENTARY INFORMATION:**

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## I. Background

FRA has the authority to regulate train crew staffing pursuant to its broad authority to, “as necessary, . . . prescribe regulations and issue orders for every area of railroad safety supplementing laws and regulations in effect on October 16, 1970.”<sup>1</sup> On March 15, 2016, FRA issued an NPRM which proposed regulations establishing minimum requirements for the size of train crew staffs depending on the type of operation (referred to herein as train crew staffing). The proposed rule was not statutorily mandated, but rather, arose out of two rail accidents in 2013 (Lac-Mégantic, Quebec and Casselton, North Dakota).<sup>2</sup> Following the Lac-Mégantic and Casselton accidents, the rail industry, Transportation Safety Board of Canada (TSB of Canada), and DOT undertook a

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<sup>1</sup> 49 U.S.C. 20103; 49 CFR 1.89.

<sup>2</sup> The accidents are described in the NPRM. See 81 FR 13918, 13921-13924 (Mar. 15, 2016).

variety of investigations and actions<sup>3</sup> to address rail safety and hazardous materials issues highlighted by those accidents, including FRA’s submission of a task to the Railroad Safety Advisory Committee (RSAC).<sup>4</sup>

On August 29, 2013, RSAC accepted a task (No. 13–05) entitled “Appropriate Train Crew Size” and formed a Working Group. The task statement noted that in light of the Lac-Mégantic accident, “FRA believes it is appropriate to review whether train crew staffing practices affect railroad safety.” Because FRA did not have reliable or conclusive statistical data to suggest whether one-person crew operations are safer or less safe than multiple-person crew operations, FRA hoped that RSAC would provide useful analysis, including conclusive data addressing whether there is a safety benefit or detriment from crew redundancy (i.e., multiple-person train crews) and a report on the costs and benefits associated with crew redundancy.

Despite meeting five times from October 2013 to March 2014, the RSAC Working Group was unable to reach consensus on any recommendation or identify conclusive, statistical data to suggest whether there is a safety benefit or detriment from crew redundancy. As noted in the NPRM, the accident data railroads provided did not capture accidents where the cause or contributing factor was a lack of a second crewmember and thus that data did not aid the Working Group.

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<sup>3</sup> Some of those actions are described in the NPRM. See, e.g., 81 FR at 13922 (Mar. 15, 2016).

<sup>4</sup> To adopt a participatory approach to rulemaking, in 1996, FRA first established the RSAC, which is designed to bring together all segments of the rail community to provide advice and recommendations to FRA on railroad safety issues. The RSAC includes representatives from railroads, labor, shippers, industry associations, and other government agencies. The RSAC provides recommendations to FRA on issuing and updating regulations and identifies non-regulatory approaches to improve safety. The most recent RSAC meeting occurred on April 24, 2019.

Although RSAC was unable to identify data necessary to determine whether a regulation was needed to address train crew staffing, FRA believed it was important to give the broader public an opportunity to provide input on this issue. Accordingly, on March 15, 2016, FRA issued the NPRM with an initial 60-day comment period. FRA then extended the comment period for an additional month<sup>5</sup> and held a public hearing on July 15, 2016. Subsequently, FRA extended the comment period through August 15, 2016.<sup>6</sup>

FRA received nearly 1,600 comments on the NPRM from industry stakeholders and individuals, including current, former, and retired crewmembers. FRA also received comments from the National Transportation Safety Board (NTSB), two members of Congress, and numerous state and local government officials. A general summary of the comments is provided below.<sup>7</sup>

*A. Comments Generally Supporting the Proposed Rule*

Approximately 1,545 of the written comments were in support of some kind of train crew staffing requirements, although not necessarily the exact proposed requirements found in the NPRM. Two railroad employee unions, the Brotherhood of Locomotive Engineers and Trainmen (BLET) and the International Association of Sheet Metal, Air, Rail and Transportation Workers Transportation Division (SMART TD), submitted comments advocating for changes to the proposed rule. Commenters

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<sup>5</sup> 81 FR 30229 (May 16, 2016).

<sup>6</sup> 81 FR 39014 (June 15, 2016).

<sup>7</sup> The order the comments are discussed in this document, whether by issue or by commenter, is not intended to reflect the significance of the comment raised or the standing of the commenter. Additionally, this summary of the comments is intended to provide both a general understanding of the overall extent and nature of the comments, as well as give some specific descriptions to provide context. Not every comment is described in this summary though all were thoughtfully considered and, when specific numbers of comments are identified by comment theme or issue, such numbers are approximate as some comments could not be easily grouped with others.

supportive of the rule commonly sought more stringent requirements that would mandate fewer, or no, exceptions to a two-person train crew, or require the second person be a certified conductor under FRA's requirements in 49 CFR part 242. The four central points of these comments were that: (1) a train crew's duties are too demanding for one person; (2) new technology will make the job more complex; (3) unpredictable scheduling makes fatigue a greater factor when there is only a one-person crew; and (4) the idea of a one-person train crew is seemingly in conflict with the statutory and regulatory requirements for certification of both locomotive engineers and conductors.

The vast majority of comments supporting crew staffing requirements, approximately 1,418, were filed by members of the public on behalf of themselves as individuals. Most of these individual commenters identified themselves as current, former, or retired train crewmembers. These commenters largely provided anecdotal information supporting why they thought trains staffed with fewer than two persons created unsafe conditions. For example, Mike Rankin, who also testified at the public hearing, recalled that he was a conductor working with a locomotive engineer and was able to "cut" (separate) a train in half after a grade crossing accident. He stated that his actions likely saved a teenager's life by allowing emergency first responders quick access to the injured teenager through the grade crossing, and enabling hospital treatment much faster than if only one train crewmember had been present and the crossing remained blocked.

A variety of governmental officials and organizations also indicated support for train crew staffing requirements, but with a greater focus on safety for the communities in proximity to railroad tracks, as opposed to the safety of the rail operation itself. For

example, FRA heard testimony at the public hearing from Mayor Karen Darch of Barrington, Illinois. Mayor Darch explained that local governments and railroads face the same task of determining appropriate staffing levels, with the local governments focusing on police, fire, and emergency medical services. She testified “FRA should be concerned that industry may be tempted to bet on its favorable accident odds and make overly hasty staffing decisions to reduce operating costs.” She asked FRA to “balance the interests of the public living or traveling with proximity to” railroad track, because the economies of “villages, towns, and cities are negatively impacted on a daily basis by train or grade crossing warning device malfunctions that block crossings.” FRA also heard testimony from Mr. Ronnie C. Harris, Executive Director of the Louisiana Municipal Association, an organization that represents 303 cities, towns, and villages, and two consolidated parish governments in Louisiana. Mr. Harris expressed concern about dangerous commodities being transported by rail on long trains that have reached as long as 11,000 feet in length, and that, without two crewmembers, any blocked crossings would remain blocked for considerably longer than the time it would take a two-person crew to unblock a crossing.<sup>8</sup> In addition to these summarized comments, FRA also received written comments generally supporting the NPRM’s proposed requirements from State and local governmental officials, agencies and organizations from at least 16 States.

Two Members of Congress commented on the rule, and they echoed the concerns of State and local governmental commenters, as well as the labor unions. For instance,

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<sup>8</sup> FRA is currently researching the rail operation safety issues associated with freight train length, as well as participating in a U.S. Government Accountability Office (GAO) engagement (code 102557) on the same subject.

then-Senator Heidi Heitkamp (North Dakota) testified at the public hearing that, as a representative of a State that moves a lot of oil by rail, the people she represented are concerned about safety and they want to know that their government is doing everything possible from a regulatory standpoint to keep the movement of oil and other hazardous materials safe. Senator Heitkamp testified that she supports a crew staffing rule because she has heard from rail workers in her State that believe having two crew members is essential for their safety and the public's safety. Senator Heitkamp further added that the NPRM provided the right balance as it proposed to allow exceptions grounded in a safety rationale. Then-Rep. Richard M. Nolan (8<sup>th</sup> District, Minnesota) also commented in support of the rule. Like BLET and SMART TD, Rep. Nolan supported FRA adopting a more stringent requirement that the second crewmember must be a certified conductor.

The Western Organization of Resource Councils (WORC), a regional network of grassroots community organizations that includes 12,200 members, many of whom are farmers, ranchers, and others directly affected by coal, oil, and gas development and who live in communities along rail lines, raised concerns with trains being operated with fewer than two crewmembers. WORC commented that the 20-car hazardous materials threshold for "key trains" is not stringent enough to adequately protect communities and advocated for a single car threshold for determining whether a second crewmember must be present.

The Environmental Law & Policy Center, an organization dedicated to the protection of the environment, commented that a second crewmember can be critical in containing environmental damage or making operational moves that could prevent

accidents, and thus believes it is common sense that two crewmembers are better than one.

The National League of Cities (NLC), an advocate for more than 19,000 cities, villages, and towns, supported the NPRM. NLC commented that local officials are concerned with the significant increase in the volume of hazardous materials shipments combined with rail operators seeking to reduce crew sizes. NLC supported the rule as a response to “preventable tragedies of the past.”

*B. Comments Generally Opposing the Proposed Rule*

Railroads, railroad associations, other associations and organizations, and some individual commenters submitted approximately 39 comments that largely took the position that FRA should not regulate train crew size for a variety of reasons. The Association of American Railroads (AAR) commented that FRA’s admission as to a lack of safety data meant the rule was “arbitrary,” indicating that AAR believed the rule could be determined unlawful through judicial review as a challenge under the Administrative Procedure Act (APA). AAR supported the NTSB’s approach encouraging FRA to first modify its accident report form to include the number of crewmembers in the controlling cab at the time of an accident and then use the data it gathers to evaluate the safety adequacy of current regulatory requirements.<sup>9</sup> In addition, AAR noted that the crew

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<sup>9</sup> The NTSB’s comment on the NPRM stated that the NTSB had not taken a prior position on crew size but that its accident report investigation into the derailment of National Railroad Passenger Corporation (Amtrak) train no. 188 in Philadelphia, Pennsylvania, on May 12, 2015, would address the issue. In that report, issued on May 17, 2016, the NTSB made a finding that FRA’s “accident database is inadequate for comparing relevant accident rates based on crew size because the information about accident circumstances and number of crewmembers in the controlling cab is insufficient.” NTSB, RAR-16/02, Derailment of Amtrak Passenger Train 188 at 19 (2016). Therefore, the NTSB made new recommendations to FRA to capture crewmember data and use the data to evaluate the adequacy of current crew size regulations. *Id.* (citing recommendations R-16-33 and R-16-34). On April 25, 2018, FRA asked RSAC to consider forming a working group to meet and discuss possible changes and updates to FRA’s data collection



staffing issue has historically been left for labor relations and that one-person train crews are currently being used safely. Further, AAR also believed that: (1) the accidents FRA relied on in the NPRM as the basis for the proposed rule did not provide such a basis; (2) FRA massively underestimated the costs of the rule on the industry; and (3) FRA's proposed rule was stifling innovation just as autonomous technologies were emerging and DOT was removing roadblocks to automation in other modes of transportation. AAR also provided research documents to support its position. For instance, AAR funded two studies conducted by Oliver Wyman, a consulting firm. One study, "Analysis of North American Freight Rail Single-Person Crews: Safety and Economics," concluded that safety data analyses show single-person crew operations appear as safe as multiple-person crew operations, if not safer. This study also concluded that the proposed rule would greatly reduce U.S. railroads' ability to control operating costs, without making the industry safer. A second study, "Assessment of European Railways: Characteristics and Crew-Related Safety," critiqued several of the assertions FRA made in its Regulatory Impact Analysis (RIA) on the NPRM, and generally found that European rail operations are comparable to U.S. rail operations and therefore the success of the European network in implementing single-person crew operations can serve as a model for the U.S. rail system. AAR also submitted a comparative risk assessment completed by ICF Incorporated, a consulting firm, titled "Evaluation of Single Crew Risks," which compared traditional Class I railroad two-person crew mainline operations with an FRA-compliant positive train control (PTC) system installed for both one-person- and two-person-crew mainline operations to determine the frequency of accidents that might be

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requirements that would include the NTSB's recommendations and RSAC accepted that task. That process is ongoing.

impacted by crew size. That assessment found almost no difference in accident rates between one- and two-person operations where PTC has been fully implemented. Union Pacific Railroad and Norfolk Southern Railway were two of the Class I freight railroads represented by AAR that submitted extensive comments raising the same themes.

The American Short Line and Regional Railroad Association (ASLRRA) objected to the NPRM for several reasons. ASLRRA was concerned about the financial impact and paperwork burden the rule would have on short line railroads, which generally are small entities, and questioned whether FRA adequately followed existing legal requirements that protect small businesses. ASLRRA challenged FRA's lack of data and FRA's internal survey of its regional personnel to determine the extent of one-person crew operations. Also, ASLRRA commented that its members would have a competitive disadvantage compared to the trucking industry, if the NPRM was finalized, and it submitted an economic paper suggesting the proposed rule's requirements may induce railroads to reallocate scarce resources away from upgrades to track and equipment.

## **II. FRA's Decision**

While FRA continues to monitor the potential safety impact of train crew staffing, for the reasons provided below, FRA finds that no regulation of train crew staffing is necessary or appropriate at this time. FRA believes that current safety programs and actions taken following the Lac-Mégantic and Casselton accidents are the appropriate avenues for addressing those accidents. Moreover, despite studying this issue in-depth and performing extensive outreach to industry stakeholders and the general public, FRA's statement in the NPRM that it "cannot provide reliable or conclusive statistical data to

suggest whether one-person crew operations are generally safer or less safe than multiple-person crew operations” still holds true today. Accordingly, FRA withdraws the NPRM.

*A. There is No Direct Safety Connection between Train Crew Staffing and the Lac-Mégantic or Casselton Accidents*

Although the Lac-Mégantic and Casselton accidents initially led FRA to review the potential impact of train crew staffing on safety, FRA subsequently determined that no direct conclusions could be drawn about train crew staffing’s safety impact on those accidents. As FRA acknowledged in the NPRM, the TSB of Canada’s investigation report on the Lac-Mégantic accident concluded it would have been possible for a single operator to apply a sufficient number of hand brakes within a reasonable amount of time to have secured the train involved in that accident.<sup>10</sup> The NPRM summarized TSB of Canada’s finding that it could not be concluded that a one-person crew contributed to the accident, and that risk, if any, posed by a one-person crew was not determined to have directly led to the accident. Simply put, TSB of Canada found no direct causal connection between this catastrophic accident and the number of train crewmembers.<sup>11</sup> As FRA acknowledged in the NPRM, “FRA does not have information that suggests that there have been any previous accidents involving one-person crew operations that could have been avoided by adding a second crewmember.”<sup>12</sup> That fact remains true today.

While the NPRM noted some indirect connections between crew staffing and railroad safety with respect to the Lac-Mégantic and Casselton accidents, those connections are tangential at best and do not provide a sufficient basis for FRA regulation of train crew staffing requirements. For example, TSB of Canada made indirect

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<sup>10</sup> 81 FR at 13921.

<sup>11</sup> Railway Investigation Report R13D0054 at 117-18 (July 6, 2013), <http://bit.ly/VLqVBk>.

<sup>12</sup> 81 FR at 13921.

connections in the Lac-Mégantic accident between the railroad's poor safety culture and the one train crewmember's alleged failure to properly secure the train. However, in making this connection, TSB of Canada emphasized that a single crewmember could have prevented or helped avoid the catastrophic accident by following the railroad's rule requiring a proper hand brake effectiveness test (i.e., to determine whether a sufficient number of hand brakes were applied to properly secure the train), and that the incident may have been just as likely with multiple train crewmembers and a poor safety culture.

Likewise, after reviewing the facts of the Casselton accident as described in the NPRM,<sup>13</sup> and FRA's final accident investigation report,<sup>14</sup> FRA believes that the same type of positive post-accident mitigating actions were achievable with: (1) fewer than two crewmembers on the BNSF grain train involved in the accident, and (2) a well-planned, post-accident protocol that quickly brings railroad employees to the scene of an accident.<sup>15</sup> In other words, the facts of the accident suggest that BNSF could have duplicated the mitigating moves of the grain train crew with responding emergency crewmembers. While FRA acknowledges the BNSF key train crew performed well, potentially saving each other's lives, it is possible that one properly trained crewmember, technology, and/or additional railroad emergency planning could have achieved similar mitigating actions. Thus, the indirect safety connections cited in the NPRM do not provide a sufficient basis for FRA regulation of train crew staffing.

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<sup>13</sup> 81 FR at 13923-24.

<sup>14</sup> [https://www.fra.dot.gov/eLib/details/L18586#p1\\_z50\\_gD\\_IAC\\_y2013](https://www.fra.dot.gov/eLib/details/L18586#p1_z50_gD_IAC_y2013).

<sup>15</sup> BNSF's post-accident actions included the development of an inventory of emergency response resources along crude oil train routes, identifying locations for staging emergency response equipment, and identifying contacts for community notification. NTSB/Railroad Accident Brief RAB-17/01 at 15-16, <https://www.nts.gov/investigations/AccidentReports/Reports/RAB1701.pdf>.

FRA's current safety programs and actions taken by FRA and DOT following the Lac-Mégantic and Casselton accidents appropriately address safety concerns raised by those accidents. In direct response to the Lac-Mégantic derailment, FRA has taken the following actions to ensure the safe transportation of products by rail in the United States, with a particular focus on certain hazardous materials that present an immediate danger for communities and the environment in the event of a train accident.

- FRA issued Emergency Order (EO) 28 to address the immediate dangers that arise from unattended equipment left unsecured on mainline tracks.<sup>16</sup> EO 28 was rescinded on the effective date of a subsequent final rule,<sup>17</sup> discussed further below.
- FRA and the Pipeline and Hazardous Materials Safety Administration (PHMSA) jointly issued a Safety Advisory to railroads and commodity shippers detailing eight recommended actions the industry should take to better ensure the safe transport of hazardous materials.<sup>18</sup> These recommendations include: reviewing the details and lessons learned from the Lac Mégantic accident; reviewing crew staffing levels; removing and securing the train's "reverser" when unattended; reviewing all railroad operating procedures and testing/operating rules related to securing a train; reviewing Transport Canada's directives to secure and safely operate a train; and conducting a system-wide assessment of security risks when a train is

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<sup>16</sup> See 78 FR 48218, Aug. 7, 2013.

<sup>17</sup> See Securement of Unattended Equipment, 80 FR 47349, 47358, Aug. 6, 2015.

<sup>18</sup> See Federal Railroad Administration Safety Advisory 2013-06, Lac-Mégantic Railroad Accident and DOT Safety Recommendations, 78 FR 48224, Aug. 7, 2013, available at <http://www.fra.dot.gov/eLib/details/L04720>.

unattended and identifying mitigation efforts for those risks. Additionally, the Safety Advisory recommends testing and sampling of crude oil for proper classification for shipment, as well as a review of all shippers' safety and security plans.

- FRA and PHMSA jointly issued a follow-up Safety Advisory.<sup>19</sup> In this Safety Advisory, PHMSA and FRA reinforced the importance of proper characterization, classification, and selection of a packing group for Class 3 materials, and the corresponding requirements in the federal hazardous materials regulations for safety and security planning. In addition, the Safety Advisory reinforced that FRA expects offerors by rail and rail carriers to revise their safety and security plans required by the federal hazardous materials regulations, including the required risk assessments, to address the safety and security issues identified in FRA's EO 28 and the August 7, 2013, joint Safety Advisory.
- FRA and PHMSA jointly issued a Safety Advisory specifically regarding the transportation of petroleum crude oil.<sup>20</sup> More specifically, the Safety Advisory recommends that offerors and carriers of Bakken crude oil by rail tank car select and use the railroad tank car designs with the highest level of integrity reasonably available within their fleet for shipment of these hazardous materials by rail in interstate commerce. Further, the Safety

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<sup>19</sup> See Federal Railroad Administration Safety Advisory 2013-07, Safety and Security Plans for Class 3 Hazardous Materials Transported by Rail, 78 FR 69745, Nov. 20, 2013, available at <https://www.fra.dot.gov/eLib/details/L04861>.

<sup>20</sup> See Federal Railroad Administration Safety Advisory 2014-01, Notice of Safety Advisory, 79 FR 27370, May 13, 2014, available at <https://www.fra.dot.gov/eLib/details/L05222>.

Advisory recommends offerors and carriers of Bakken crude oil avoid the use of older, legacy DOT Specification 111 or CTC 111 tank cars for the shipment of such oil, to the extent reasonably practicable.

- FRA coordinated with PHMSA on a PHMSA final rule adopting new operational requirements for certain trains transporting large quantities of flammable liquids known as “high-hazard flammable trains”; enhancing safety improvements in tank car design standards; providing a sampling and classification program for unrefined petroleum-based products; and mandating notification requirements.<sup>21</sup>
- FRA issued a final rule to strengthen existing securement regulations, which mitigate risks associated with the unintended movement of unattended equipment.<sup>22</sup> Additional requirements addressed hazards identified from the Lac-Mégantic accident. The final rule codified much of FRA’s EO 28, requiring railroads to implement procedures to ensure the proper securement of equipment containing certain types and amounts of hazardous materials when left unattended. For example, the rule contains requirements to ensure that each locomotive left unattended outside of a yard is equipped with an operative exterior locking mechanism and that such locks be applied on the controlling locomotive cab door when a train is transporting tank cars loaded with certain hazardous materials. The rule also provides that such hazardous materials trains may only be left unattended on a main track or siding if

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<sup>21</sup> See Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High Hazard Flammable Trains, 80 FR 26643, May 8, 2015.

<sup>22</sup> See Securement of Unattended Equipment, 80 FR 47349, Aug. 6, 2015.

justified in a plan adopted by the railroad, accompanied by an appropriate job briefing, and proper securement is made and verified. This rule also requires additional verification of securement if a non-railroad emergency responder may have been in a position to have affected the equipment.

In addition to those actions, FRA previously addressed post-accident protocols for passenger trains through the passenger train emergency preparedness regulation.<sup>23</sup> That rule, typically referred to as the passenger train “e-prep” rule, requires each railroad involved in passenger train operations to submit a plan, for FRA approval, that ensures the railroad can effectively and efficiently manage passenger train emergencies. The e-prep rule does not require a specific number of on-board personnel, but rather ensures that railroads can successfully implement the emergency preparedness plans and those operations adopted under the rule; this notice of withdrawal does not have any effect on the emergency preparedness plan requirements.

As identified in the NPRM, FRA is also in the process of developing regulations requiring Class I railroads, other freight railroads with inadequate safety performance, and all passenger railroads to implement safety risk reduction programs (RRPs).<sup>24</sup> These RRP's represent a comprehensive, system-oriented approach to safety that determines an operation's level of risk by identifying and analyzing applicable hazards and developing strategies to mitigate that risk. As part of its RRP, a railroad would identify safety

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<sup>23</sup> 49 CFR part 239, Passenger Train Emergency Preparedness; 63 FR 24630 (May 4, 1998).

<sup>24</sup> On August 12, 2016, FRA published a final rule, found at 49 CFR part 270, mandating that commuter and intercity passenger railroads develop and implement a system safety program to improve the safety of their operations. 81 FR 53850. A stay was issued on this final rule until September 4, 2019, to consider petitions for reconsideration. 83 FR 63106. (Dec. 7, 2018). Similarly, on February 27, 2015, FRA published an NPRM that proposes to require each Class I railroad and any freight railroad with inadequate safety performance develop and implement an RRP to improve the safety of their operations. 80 FR 10950.



hazards and risks associated with its operations, which could include changes in train crew staffing.<sup>25</sup>

In particular, as new technologies are introduced that may be connected to future reductions in crew size (e.g., PTC technology), railroads will be required to analyze the safety impacts of implementing those technologies as part of their RRP. As provided in 49 CFR part 270 and proposed in 49 CFR part 271,<sup>26</sup> railroads required to have an RRP shall conduct a technology analysis evaluating current, new, or novel technologies that may mitigate or eliminate hazards and the resulting risks identified through the risk-based hazard management program. The technology analysis must also analyze the safety impact of implementing the identified technologies.

*B. Rail Safety Data Does Not Support a Train Crew Staffing Rulemaking*

FRA's accident/incident safety data<sup>27</sup> does not establish that one-person operations are less safe than multi-person train crews. Indeed, as FRA noted in the NPRM, existing one-person operations "have not yet raised serious safety concerns" and, in fact, "it is possible that one-person crews have contributed to the [railroads'] improving safety record."<sup>28</sup> The NTSB also concurs with that conclusion:

[T]here is insufficient data to demonstrate that accidents are avoided by having a second qualified person in the cab. In fact, the NTSB has investigated numerous accidents in which both qualified individuals in a two-person crew made mistakes and failed to avoid an accident.<sup>29</sup>

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<sup>25</sup> For example, FRA's proposed risk reduction rule would require, if made final, that a railroad's safety performance evaluation monitors the railroad's system to identify emerging or new risks, which is expected to include a reduction in crew staffing levels. See proposed 49 CFR 271.105, 80 FR at 10992-93. FRA's system safety final rule requires that once FRA approves a railroad's plan, the railroad must apply a risk-based hazard analysis to identify hazards such as "employee levels and schedules" and must also perform a new analysis whenever there are "significant operational changes." 49 CFR 270.103(q)(1) and (3).

<sup>26</sup> See 49 CFR part 270.103 and proposed 49 CFR 271.109, 80 FR at 10993.

<sup>27</sup> 49 CFR part 225, Railroad Accidents/Incidents: Reports Classification, and Investigations.

<sup>28</sup> 81 FR at 13950 and 13932.

<sup>29</sup> NTSB, RAR-16/02, Derailment of Amtrak Passenger Train 188, at 18 (2016).

FRA reviewed accident/incident data over a seventeen-year period ending in 2018 and could not determine that any of the accidents/incidents involving a one-person crew would have been prevented by having multiple crewmembers.<sup>30</sup> Moreover, because “FRA does not capture data that would provide information regarding the total operating mileage for one-person crew operations in the United States (or even two-person operations), it is impossible for FRA to normalize the data and be able to compare the accident/incident rate of one-person operations to that of two-person train crew operations to see if one-person operations appear safer or less safe.”<sup>31</sup>

For these reasons, this accident/incident data does not support a train crew staffing regulation. Rather, the accident/incident data FRA presented in the NPRM suggests that a railroad with a higher rate of train accidents involving the transportation of hazardous materials could find itself more likely to continue that trend, regardless of the size of the crew, assuming the railroad takes no further action to prevent such accidents from occurring.<sup>32</sup>

Without “data to prove a direct correlation between higher rates of safety and multiple person crews,”<sup>33</sup> FRA provided the Working Group with five FRA-sponsored research reports,<sup>34</sup> as well as one Transportation Research Board (TRB) conference report

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<sup>30</sup> FRA presented safety data to the RSAC covering nearly 12 years of railroad safety data between January 2002 and October 2013. The data was developed by reviewing accident/incident reports submitted to FRA. As stated in the NPRM, the “accident/incident reports involving one-person train crews . . . do not clearly help determine that the accident/incident would have been prevented by having multiple crewmembers.” 81 FR at 13931. In a subsequent review of the data through 2018, FRA again could not conclude that any of the accidents/incidents involving a one-person crew would have been prevented by having multiple crewmembers.

<sup>31</sup> 81 FR at 13931.

<sup>32</sup> 81 FR 13930-32.

<sup>33</sup> 81 FR at 13919.

<sup>34</sup> The following is a list of the five research reports and their location on FRA’s website:

that contained presentations from multiple research reports, before the first meeting of the RSAC in October 2013. While these reports identify safety issues that railroads should consider when evaluating any reduction in the number of train crewmembers or a shift in responsibilities among those crewmembers, the reports do not indicate that one-person crew operations are less safe and therefore do not form a sufficient basis for a final rule on crew staffing.

*C. Comments to the NPRM Do Not Support a Train Crew Staffing Rulemaking*

Based on its review and careful consideration of all the comments to the NPRM, FRA has determined that no regulation of train crew staffing is necessary or appropriate at this time. The comments do not provide conclusive data suggesting that there have been any previous accidents involving one-person crew operations that could have been avoided by adding a second crewmember or that one-person crew operations are less safe.

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- (1) *Cognitive and Collaborative Demands of Freight Conductor Activities: Results and Implications of a Cognitive Task Analysis–Human Factors in Railroad Operations*, Final Report, dated July 2012, DOT/FRA/ORD-12/13. The report was prepared and researched by the John A. Volpe National Transportation Systems Center (Volpe Center). <http://www.fra.dot.gov/eLib/details/L04331>.
  - (2) *Rail Industry Job Analysis: Passenger Conductor*, Final Report, dated Feb. 2013, DOT/FRA/ORD-13/07. The report was prepared and researched by the Volpe Center. <http://www.fra.dot.gov/eLib/details/L04321>.
  - (3) *Fatigue Status in the U.S. Railroad Industry*, Final Report, dated Feb. 2013, DOT/FRA/ORD-13/06. [www.fra.dot.gov/Elib/Document/2929](http://www.fra.dot.gov/Elib/Document/2929). The report was prepared and researched by QinetiQ North America and FRA’s Office of Research and Development.
  - (4) *Technology Implications of a Cognitive Task Analysis for Locomotive Engineers–Human Factors in Railroad Operations*, Final Report, dated Jan. 2009, DOT/FRA/ORD-09/03. The report was prepared and researched by the Volpe Center. [www.fra.dot.gov/Elib/Document/381](http://www.fra.dot.gov/Elib/Document/381).
  - (5) *Using Cognitive Task Analysis to Inform Issues in Human Systems Integration in Railroad Operations–Human Factors in Railroad Operations*, Final Report, dated May 2013, DOT/FRA/ORD-13/31. The report was prepared and researched by the Volpe Center. <http://www.fra.dot.gov/eLib/details/L04589>.

While the comments note some indirect connections between crew staffing and railroad safety, such as post-accident response or handling of disabled trains, those indirect connections do not provide a sufficient basis for FRA regulation of train crew staffing requirements. Moreover, FRA believes the indirect safety connections cited in the comments could be achieved with fewer than two crewmembers with a well-planned, disabled-train/post-accident protocol that quickly brings railroad employees to the scene of a disabled train or accident. FRA expects railroads would consider these protocols as mitigation options under their RRP when evaluating any changes to train crew staffing levels. Thus, FRA believes that its previously discussed current safety programs, along with other actions taken by FRA and DOT, more appropriately address the safety concerns raised by the commenters.

FRA also does not concur with commenters who assert that the idea of a one-person train crew is seemingly in conflict with the statutory and regulatory requirements for certification of both locomotive engineers and conductors. There are no specific statutes or regulations prohibiting a one-person train crew, nor is there a specific requirement that would prohibit autonomous technology from operating a locomotive or train in lieu of a certified locomotive engineer. However, the NPRM identified several regulations that a railroad would need to be cognizant of when adjusting its crew staffing levels, while acknowledging that none of those regulations requires a minimum number of crewmembers to achieve compliance.

*D. A Train Crew Staffing Rule Would Unnecessarily Impede the Future of Rail Innovation and Automation*

FRA’s current regulatory regime is largely based on traditional or “legacy” equipment and systems<sup>35</sup> that railroads are, in many instances, moving away from. DOT has recognized that the integration of technology and automation across our transportation system has the potential to increase productivity, facilitate freight movement, create new kinds of jobs, and, most importantly, improve safety significantly by reducing accidents caused by human error.<sup>36</sup> FRA’s accident/incident data for calendar year 2017 shows that railroads reported 1,710 train accidents not occurring at highway grade crossings, and the most frequent of which, 38 percent of those accidents (650), were attributable to human factor causes.<sup>37</sup> The potential benefits of automation will certainly bring new challenges, requiring active steps to prepare for the future by engaging with new technologies to ensure safety without hampering innovation.

DOT’s approach to achieving safety improvements begins with a focus on removing unnecessary barriers and issuing voluntary guidance, rather than regulations that could stifle innovation. In furtherance of these goals, on March 29, 2018, FRA published a request for information (RFI) on the subject of automation in the railroad industry.<sup>38</sup> The RFI’s purpose was to facilitate comments that would help FRA understand the current stage and development of automated railroad operations and how the agency can best position itself to support the integration and implementation of new automation technologies to increase the safety, reliability, and capacity of the nation’s railroad system. Some commenters to the RFI identified the train crew staffing

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<sup>35</sup> Notable exceptions are 49 CFR part 236, subparts H and I, which contain FRA’s standards for processor-based signal and train control systems and positive train control regulations.

<sup>36</sup> DOT’s “Preparing for the Future of Transportation,” Automated Vehicles 3.0 (Oct. 4, 2018).

<sup>37</sup> The other causes cited were track (27 percent), miscellaneous (18 percent), motive power/equipment (14 percent), and signal caused, all track types (3 percent).

<https://safetydata.fra.dot.gov/officeofsafety/default.aspx>.

<sup>38</sup> 83 FR 13583.

rulemaking as a potential barrier to automation or other technology improvements. Similar comments were submitted to the train crew staffing NPRM itself. FRA generally agrees with those comments and, without sufficient safety data showing the need for such a rule, concurs that the NPRM should be withdrawn.

By requiring a minimum number of crewmembers for certain trains, finalizing the train crew staffing rule would have departed from FRA's long-standing regulatory approach of not endorsing any particular crew staffing arrangement.<sup>39</sup> FRA completely disagrees with the comments suggesting that there is a specific statutory or regulatory requirement that a certified locomotive engineer and a certified conductor are required on each locomotive or train. The lack of a legal prohibition means that each railroad is free to make train crew staffing decisions as part of their operational management decisions, which would include consideration of technological advancements and any applicable collective bargaining agreements. However, the NPRM identified several regulations that a railroad would need to be cognizant of when adjusting its crew staffing levels, while acknowledging that none of those regulations requires a minimum number of crewmembers to achieve compliance. For example, the NPRM noted that when complying with the requirements in 49 CFR 218.99 for performing a shoving or pushing movement, a second crewmember routinely provides point protection. However, the NPRM also noted that the point protection rule permits use of cameras for performing these movements.<sup>40</sup>

*E. FRA's Withdrawal is an Affirmative Decision Not to Regulate with the Intention to Preempt State Laws*

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<sup>39</sup> For example, FRA's conductor certification final rule provides that: "It is FRA's intent that this conductor certification regulation . . . be neutral on the crew consist issue. Nothing in part 242 should be read as FRA's endorsement of any particular crew consist arrangement." 76 FR 69802, 69825 (Nov. 9, 2011).

<sup>40</sup> 81 FR at 13932 (citing 49 CFR 218.99).

In issuing this withdrawal, FRA has determined that no regulation of train crew staffing is necessary or appropriate at this time and intends for the withdrawal to preempt all state laws attempting to regulate train crew staffing in any manner. FRA believes that nine states have laws in place regulating crew size in some manner: California, West Virginia, and Wisconsin require a minimum of two crew members for certain trains;<sup>41</sup> Arizona, California, Ohio, and Oregon have “full crew” requirements for certain trains;<sup>42</sup> and Massachusetts, New Jersey, and Washington impose other restrictions.<sup>43</sup> FRA also believes that laws regulating crew size have been proposed in 30 states since 2015.<sup>44</sup>

Provisions of the federal railroad safety statutes, specifically the former Federal Railroad Safety Act of 1970 (FRSA), repealed and recodified at 49 U.S.C. 20106, mandate that laws, regulations, and orders “related to railroad safety” be nationally uniform.<sup>45</sup> The FRSA provides that a state law is preempted where FRA, under authority delegated from the Secretary of Transportation, “prescribes a regulation or issues an order covering the subject matter of the State requirement.”<sup>46</sup> A federal regulation or

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<sup>41</sup> Cal. Lab. Code § 6903(a); W. Va. Code Ann. § 24-3-1b(a); Wis. Stat. Ann. § 192.25(2).

<sup>42</sup> Ariz. Rev. Stat. Ann. § 40-881; Cal. Lab. Code § 6901(a); Ohio Rev. Code Ann. § 4999.06; Or. Rev. Stat. Ann. § 824.300.

<sup>43</sup> Mass. Gen. Laws Ann. ch. 160, § 185; N.J. Stat. Ann. § 48:12-155; Wash. Rev. Code Ann. § 81.40.010(1).

<sup>44</sup> 2016 Ala. S.B. 239; 2019 Ariz. H.B. 2102; 2019 Colo. H.B. 1034; 2019 Geor. H.B. 190; 2019 Idaho H.B. 53; 2019 Ill. S.B. 24; 2016 Ind. H.B. 1029; 2019 Iowa S.F. 248; 2015 Kan. S.B. 164; 2019 Ky. H.B. 111; 2016 La. H.B. 778; 2019 Maine H.P. 521; 2019 Md. H.B. 66; 2017 Mass. S.B. 1953; 2019 Minn. S.F. 263; 2019 Mo. H.B. 179; 2019 Neb. L.B. 611; 2017 Nev. S.B. 427; 2019 N.M. H.B. 244; 2015 N.Y. S.B. 7435; 2015 N.D. H.B. 1357; 2017 Ohio S.B. 74; 2017 Okla. H.B. 1195; 2017 Pa. H.B. 1585; 2018 S.D. H.B. 1150; 2019 Tex. H.B. 742; 2019 Utah S.B. 176; 2018 Va. H.B. 1789; 2019 Wash. S.B. 5877; 2019 Wyo. H.B. 104.

<sup>45</sup> 49 U.S.C. 20106(a)(1).

<sup>46</sup> 49 U.S.C. 20106(a)(2). While the FRSA also includes a narrow savings clause for “essentially local safety hazards” which might except an otherwise preempted state law, that clause would not apply to the state laws at issue which would apply statewide and therefore do not address an “essentially local” hazard. 49 U.S.C. 20106(a)(2); H.R. Rep. No. 1194, 91<sup>st</sup> Cong., 2d Sess. (1970) (“these local hazards would not be statewide in character”); see also *Norfolk & Western Ry. Co. v. Public Utilities Com’n of Ohio*, 926 F.2d 567, 571 (6th Cir. 1991) and *National Ass’n of Regulatory Util. Comm’rs v. Coleman*, 542 F.2d 11, 13 (3d

order covers the subject matter of a state law where “the federal regulations substantially subsume the subject matter of the relevant state law.”<sup>47</sup> A federal regulation or order need not be identical to the state law to cover the same subject matter. The Supreme Court has held preemption can be found from “related safety regulations” and “the context of the overall structure of the regulations.”<sup>48</sup> Federal and state actions cover the same subject matter when they address the same railroad safety concerns.<sup>49</sup> FRA intends this notice of withdrawal to cover the same subject matter as the state laws regulating crew size and therefore expects it will have preemptive effect.

This notice of withdrawal provides what the Supreme Court referred to as “negative” or “implicit” preemption. The Court recognized that “where failure of . . . federal officials affirmatively to exercise their full authority takes on the character of a ruling that no such regulation is appropriate or approved pursuant to the policy of the statute,” any state law enacting such a regulation is preempted.<sup>50</sup>

After closely examining the train crew staffing issue and conducting significant outreach to industry and public stakeholders, FRA determined that issuing any regulation requiring a minimum number of train crewmembers would not be justified because such a regulation is unnecessary for a railroad operation to be conducted safely at this time.

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Cir. 1976) (both holding that the local hazard exception cannot be applied to uphold the application of a statewide rule).

<sup>47</sup> *CSX Transportation, Inc. v. Easterwood*, 507 U.S. 658, 664-65 (1993).

<sup>48</sup> *Easterwood*, 507 U.S. at 674.

<sup>49</sup> *Burlington Northern R.R. v. Montana*, 880 F.2d 1104, 1105 (9th Cir. 1989).

<sup>50</sup> *Ray v. Atlantic Richfield Co.*, 435 U.S. 151, 178 (1978) (quoting *Bethlehem Steel Co. v. New York State Labor Relations Board*, 330 U.S. 767, 774 (1947)). For example, FRA examined the effectiveness of strobe and oscillating lights on locomotives and concluded they were not effective in reducing grade-crossing accidents and mandating them was therefore unjustified. 48 FR 20257 (May 5, 1983). When examined by the Ninth Circuit, the court held that “[u]nder [FRSA], where the FRA has rejected the requirement of strobe or oscillating lights, a state may not require them.” *Marshall v. Burlington Northern, Inc.*, 720 F.2d 1149, 1154 (9th Cir. 1983).



Thus, this notice of withdrawal provides FRA's determination that no regulation of train crew staffing is appropriate and that FRA intends to negatively preempt any state laws concerning that subject matter.

Issued in Washington, DC, under the authority set forth in 49 CFR 1.89(b).

**Ronald L. Batory,**  
*Administrator.*