U.S. Department
of Transportation

**Federal Railroad
Administration**

2017 FEDERAL RAILROAD ADMINISTRATION REPORT TO CONGRESS ON ACTIONS TAKEN TO IMPLEMENT UNMET STATUTORY MANDATES AND ADDRESS OPEN RECOMMENDATIONS BY THE NATIONAL TRANSPORTATION SAFETY BOARD AND THE DEPARTMENT OF TRANSPORTATION'S INSPECTOR GENERAL REGARDING RAILROAD SAFETY

December 2018

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Basis for This Report

This report responds to Section 106 of the Rail Safety Improvement Act of 2008 (RSIA), Public Law Number 110-432, Division A, 122 Stat. 4848 *et seq.*, enacted on October 16, 2008. Section 106 reads as follows:

> **SEC. 106. REPORTS ON STATUTORY MANDATES AND RECOMMENDATIONS.**
>
> Not later than December 31, 2008, and annually thereafter, the Secretary shall transmit a report to the House of Representatives Committee on Transportation and Infrastructure and the Senate Committee on Commerce, Science, and Transportation on the specific actions taken to implement unmet statutory mandates regarding railroad safety and each open railroad safety recommendation made by the National Transportation Safety Board or the Department's Inspector General.

Reliance on the Federal Railroad Administration's (FRA) 2016 Report

In preparing this report on behalf of the Secretary of Transportation, FRA relied on the previous report (2016 Report) transmitted to the appropriate congressional committees to fulfill this annual requirement. Mandates and recommendations either added to or removed from the 2016 Report are noted below.

Treatment of Mandates in the RSIA and the FAST Act Regarding Railroad Safety

The RSIA and the Fixing America's Surface Transportation Act of 2015 (FAST Act), Public Law Number 114-94, 129 Stat. 1312, 1675, enacted on December 4, 2015, introduced numerous mandates regarding railroad safety. Some of these mandates require action to be taken after the completion of this report, and FRA has not included in this report the mandates with statutory deadlines after December 31, 2017.

Discussion of Exhibit A: Unmet Congressional Rail Safety Mandates (as of December 31, 2017)

Exhibit A lists FRA's six congressional rail safety mandates that were unmet as of December 31, 2017, and actions to implement them. The first five unmet statutory mandates in this report were listed in the 2016 Report; however, the sixth unmet statutory mandate is a new unmet statutory mandate (Recording Devices). Congressional rail safety mandates that were previously implemented or not yet due are not listed. The six items are:

1. Emergency Escape Breathing Apparatus;
2. Development and Use of Rail Safety Technology;
3. Hours of Service Regulatory Authority;
4. Railroad Safety Risk Reduction;

5. Safe Rail Transport of Certain Radioactive Materials; and
6. Recording Devices.

FRA excluded from Exhibit A ongoing Congressional rail safety mandates requiring FRA to produce regular reports, conduct regular safety inspections, establish rail safety programs, or take other action with no specific deadline or endpoint. FRA has taken action to fulfill these mandates, recognizes the need to take additional periodic action in the future, and has a process in place to meet these mandates.

Upon request FRA will provide a separate report on the status of any congressional rail safety mandate not included in Exhibit A.

Discussion of Exhibit B: Open Railroad Safety Recommendations by the National Transportation Safety Board (NTSB) to FRA

Exhibit B is a list of the 72 rail safety recommendations the NTSB issued to FRA open as of December 31, 2017, and a summary of FRA's actions to address them. Although the NTSB has accepted this report as the main source of updates on open recommendations, FRA routinely provides the NTSB with regular and ongoing updates, oral and written, on open NTSB recommendations. FRA believes this increased communication and engagement helps the NTSB understand FRA's actions and the rationale for FRA's particular responses to NTSB recommendations and will lead to the NTSB considering FRA's actions more favorably in the future.

Of the 71 recommendations listed in the 2016 Report, the NTSB subsequently closed the following safety recommendations: R-05-17; R-08-12; R-12-02; R-12-42; and R-14-47. These recommendations are therefore not listed in Exhibit B.

Subpart I of Exhibit B lists the 52 open NTSB recommendations that as of December 31, 2017, FRA was actively working to address or waiting for responses from the NTSB on its requests to close the recommendations based on the actions it had taken as of December 31, 2017. The 52 NTSB recommendations are grouped by NTSB classification. Specifically, the recommendations are grouped and listed by their classification from the NTSB as follows: Item Numbers 1–22, "Open – Acceptable Response"; Item Numbers 23–24, "Open – Acceptable Alternative Response"; Item Numbers 25–26, "Open – Initial Response Received"; Item Numbers 27–36, "Open – Await Response"; and Item Numbers 37–52, "Open – Unacceptable Response." Within each group, the NTSB recommendations are listed in chronological order by the date NTSB issued the recommendation with the most recent listed first, and, within the same date of issuance, by the number of the recommendation.

Subpart II of Exhibit B lists the 20 NTSB recommendations FRA considers satisfied based on the intent of the recommendation and the actions taken by FRA. FRA will notify the NTSB by letter of its decision to take no further action on these recommendations and respectfully ask the NTSB to close these recommendations. Because FRA is not taking any further action, it listed these 20 recommendations, Item Numbers 53–72, separately. These 20 recommendations should not be confused with recommendations listed in Subpart I of Exhibit B that FRA has requested

the NTSB close for other reasons. The recommendations in Subpart II are listed in chronological order by the date the NTSB issued the recommendation with the most recent listed first.

Discussion of Exhibit C: Open Rail Safety Recommendations by the Office of Inspector General (OIG) to FRA

Exhibit C contains four new rail safety recommendations the Department's OIG issued to FRA in 2017 that were open as of December 31, 2017, and FRA's actions to address them. Two of these recommendations were closed by the OIG shortly after the December 31, 2017 cut-off date for this Rreport.

The OIG closed all four safety recommendations listed in the the 2016 Report. The OIG also closed three safety recommendations it issued in 2017 (ST-2017-045, Nos. 1-3); these recommendations are not listed in the Report because they were closed in 2017.

Conclusion

The U.S. Department of Transportation (DOT) recognizes the significance of each unmet statutory mandate and open recommendation of the NTSB and the OIG regarding railroad safety. FRA has focused its efforts on implementing each unmet mandate and addressing each open recommendation in a timely manner to the extent practicable.

Exhibit A: Unmet Congressional Rail Safety Mandates (as of December 31, 2017)

Item No.	Short Title, Public Law Citation, and Enactment Date	Section and U.S. Code Citation, If Any	Unmet Statutory Mandate	Actions Taken by FRA	Actions Needed to Be Taken by FRA
1	Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, Div. A, October 16, 2008.	Section 413 (Emergency Escape Breathing Apparatus) Amended 49 U.S.C. by adding new Section 20166	"Not later than 18 months after the date of enactment of the Rail Safety Improvement Act of 2008, the Secretary of Transportation shall prescribe regulations that require railroad carriers—(1) to provide emergency escape breathing apparatus suitable to provide head and neck coverage with respiratory protection for all crewmembers in locomotive cabs on freight trains carrying hazardous materials that would pose an inhalation hazard in the event of release; (2) to provide convenient storage in each freight train locomotive to enable crewmembers to access such apparatus quickly; (3) to maintain such equipment in proper working condition; and (4) to provide their crewmembers with appropriate training for using the breathing apparatus."	On December 30, 2016, FRA issued a guidance document for railroads to use to develop effective emergency escape breathing apparatus (EEBA) programs to protect railroad employees transporting hazardous materials posing an inhalation hazard. In this guidance document, FRA highlights factors to consider when selecting appropriate EEBA devices and explains various programmatic components to evaluate when developing an EEBA program. The guidance is available at: http://www.fra.dot.gov/Elib/Document/16838.	Continue to identify and evaluate more economical means of compliance.

Item No.	Short Title, Public Law Citation, and Enactment Date	Section and U.S. Code Citation, If Any	Unmet Statutory Mandate	Actions Taken by FRA	Actions Needed to Be Taken by FRA
2	Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, Div. A, October 16, 2008.	Section 406 Development and Use of Rail Safety Technology Amended 49 U.S.C. by adding new Section 20164	"(a) IN GENERAL.—Not later than 1 year after enactment of the [Rail] Safety [Improvement] Act of 2008, the Secretary of Transportation shall prescribe standards, guidance, regulations, or orders governing the development, use, and implementation of rail safety technology in dark territory, in arrangements not defined in Section 20501 or otherwise not covered by Federal standards, guidance, regulations, or orders that ensure the safe operation of such technology, such as—(1) switch position monitoring devices or indicators; (2) radio, remote control, or other power-assisted switches; (3) hot box, high water, or earthquake detectors; (4) remote control locomotive zone limiting devices; (5) slide fences; (6) grade crossing video monitors; (7) track integrity warning systems; or (8) other similar rail safety technologies, as determined by the Secretary."	The positive train control (PTC) effort under RSIA Section 104 delayed work on this project. A task statement was presented to FRA's Railroad Safety Advisory Committee (RSAC) for acceptance during the September 23, 2010, meeting and was accepted. An RSAC working group was formed and held its first meeting in March 2011. FRA planned to publish a proposed rule that, if adopted, would require each railroad that has already implemented, or chooses to implement, a certain safety device in dark territory (such as an unusual contingency detector, track integrity system, switch point monitoring system, or power-assisted switch) to adopt and comply with an FRA-approved plan for the maintenance, inspection, and repair of these devices. As of December 31, 2017, FRA is holding the dark territory rulemaking in abeyance because technology implementation plans expected in the railroads' risk reduction and system safety programs required under RSIA Section 103 will likely obviate the need for the dark territory rulemaking. (See below regarding the rulemaking under Section 103 of RSIA.)	Issue Risk Reduction Program (RRP) final rule.

Item No.	Short Title, Public Law Citation, and Enactment Date	Section and U.S. Code Citation, If Any	Unmet Statutory Mandate	Actions Taken by FRA	Actions Needed to Be Taken by FRA
3	Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, Div. A, October 16, 2008.	Section 108 (Hours of Service Regulatory Authority) Amended 49 U.S.C. by adding new Section 21109	"(e) PILOT PROJECTS.—(1) IN GENERAL.—Not later than 2 years after the date of enactment of the Rail Safety Improvement Act of 2008, the Secretary shall conduct at least 2 pilot projects of sufficient size and scope to analyze specific practices which may be used to reduce fatigue for train and engine and other railroad employees as follows: (A) A pilot project at a railroad or railroad facility to evaluate the efficacy of communicating to employees notice of their assigned shift time 10 hours prior to the beginning of their assigned shift as a method for reducing employee fatigue. (B) A pilot project at a railroad or railroad facility to evaluate the efficacy of requiring railroads who use employee scheduling practices that subject employees to periods of unscheduled duty calls to assign employees to defined or specific unscheduled call shifts that are followed by shifts not subject to call, as a method for reducing employee fatigue."	FRA must receive requests from railroads and rail labor organizations to fulfill this requirement properly. FRA has not received any requests, but continues to encourage participation. Once parties volunteer, FRA will conduct studies of at least two specified pilot projects involving examination and analysis of hours of service issues. In 1 project, a railroad must provide 10 hours of notice of the next assigned shift; in the other project, a railroad must assign employees to defined shifts subject to unscheduled calls, followed by shifts not subject to unscheduled calls.	Continue efforts to encourage affected parties to participate in the pilot projects.

Item No.	Short Title, Public Law Citation, and Enactment Date	Section and U.S. Code Citation, If Any	Unmet Statutory Mandate	Actions Taken by FRA	Actions Needed to Be Taken by FRA
4	Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, Div. A, October 16, 2008.	Section 103 (Railroad Safety Risk Reduction) Amended 49 U.S.C. by adding new Section 20156	"(a) IN GENERAL.— (1) PROGRAM REQUIREMENT.—Not later than 4 years after the date of enactment of the Rail Safety Improvement Act of 2008, the Secretary of Transportation, by regulation, shall require each railroad carrier that is a Class I railroad, a railroad carrier that has inadequate safety performance (as determined by the Secretary), or a railroad carrier that provides intercity rail passenger or commuter rail passenger transportation — (A) to develop a railroad safety risk reduction program under subsection (d) that systematically evaluates railroad safety risks on its system and manages those risks in order to reduce the numbers and rates of railroad accidents, incidents, injuries, and fatalities; (B) to submit its program, including any required plans, to the Secretary for review and approval; and (C) to implement the program and plans approved by the Secretary."	FRA initiated three rulemakings to meet this mandate. The System Safety Program (SSP) rulemaking will satisfy the mandate for passenger railroads, and the Risk Reduction Program (RRP) rulemaking will satisfy the mandate for Class I railroads and railroads with inadequate safety records. The RSAC created a Task Statement for Fatigue Management Plans (FMP), and an RSAC working group assisted FRA in developing rule text that will form the basis for the FMP regulation. The Office of Management and Budget (OMB) designated the RRP Notice of Proposed Rulemaking (NPRM) for freight railroads as significant and the NPRM was published on February 27, 2015. 80 FR 10950. As of December 31, 2017, FRA was drafting the RRP final rule. An NPRM addressing SSP was published on September 7, 2012, with public comments due by November 6, 2012. 77 FR 55372. FRA reopened the comment period until December 7, 2012. 77 FR 70409. On August 12, 2016, FRA published a final rule. 81 FR 53850. On October 3, 2016, FRA received four petitions for reconsideration of the SSP final rule. As of December 31, 2017, the requirements of the final rule were stayed while FRA is considering its response to the petitions. In addition, the Fatigue Management Working Group agreed on consensus rule text in June 2013 to recommend for a separate NPRM on FMP. As of December 31, 2017, FRA was developing an FMP NPRM.	Issue the final rule for the RRP rulemaking. Issue a response to petitions for re-consideration related to the SSP rulemaking. Issue a rulemaking addressing FMPs.

Item No.	Short Title, Public Law Citation, and Enactment Date	Section and U.S. Code Citation, If Any	Unmet Statutory Mandate	Actions Taken by FRA	Actions Needed to Be Taken by FRA
5	Hazardous Materials Transportation Uniform Safety Act of 1990, Pub. L. No. 101-615, November 16, 1990.	Section 15 (Safe Rail Transport of Certain Radioactive Materials) Amended Section 116(b) of the Hazardous Materials Transportation Act (then Title 49 U.S.C. App. 1813); provision now codified at 49 U.S.C. Section 5105(c)	"(b) SAFE RAIL TRANSPORT OF CERTAIN RADIOACTIVE MATERIALS - Within 24 months after the date of enactment of this section taking into consideration the findings of the study conducted pursuant to subsection (a), the Secretary shall amend existing regulations as the Secretary deems appropriate to provide for the safe transportation by rail of high-level radioactive waste and spent nuclear fuel by various methods of rail transportation, including by dedicated train."	FRA's final report required by Section (a) was delivered to Congress on September 27, 2005. Since the completion of the required study, the expected increase in rail shipments of spent nuclear fuel and high-level radioactive waste anticipated by this mandate has not occurred and, based on all information available to FRA, the agency determined that any potential increase in movements by rail will not occur before 2021, at the earliest. Meanwhile, through FRA's comprehensive rail safety regulatory program, as well as FRA's research and development program, advances in rail safety are being made that are directly relevant to this mandate (e.g., implementation of PTC technology and the finalization of risk reduction and system safety regulations). These regulations, together with the routing requirements of the Pipeline and Hazardous Materials Safety Administration's (PHMSA) hazardous materials regulations promulgated since enactment of this statutory mandate, will impact what future regulatory requirements are necessary to respond to this mandate. Given this continually evolving regulatory and technological framework and the anticipated timeframe for any potential increase in movements by rail, FRA placed this NPRM on hold until progress has been made in identifying a location to which the material will be transported for either temporary or permanent storage. FRA will continue, however, to coordinate with the parties involved in the transportation planning process and will monitor the status of the selection of a location to store this material. As planning among involved parties progresses, FRA will reevaluate the issue with the intent of proceeding with the rulemaking process as appropriate prior to 2021.	Prepare an NPRM and final rule based on results of research and review, as the U.S. Secretary of Transportation deems appropriate.

Item No.	Short Title, Public Law Citation, and Enactment Date	Section and U.S. Code Citation, If Any	Unmet Statutory Mandate	Actions Taken by FRA	Actions Needed to Be Taken by FRA
6	Fixing America's Surface Transportation Act, Pub. L. No. 114-94, December 4, 2015.	Section 11411 (Recording Devices) Amended 49 U.S.C. by adding new Section 20168	"(a)In General. – Not later than 2 years after the date of enactment of the Passenger Rail Reform and Investment Act of 2015, the Secretary of Transportation shall promulgate regulations to require each railroad carrier that provides regularly scheduled intercity rail passenger or commuter rail passenger transportation to the public to install inward- and outward-facing image recording devices in all controlling locomotive cabs and cab car operating compartments in such passenger trains."	FRA is currently developing the NPRM for this rulemaking. OMB has designated this rulemaking as "significant."	Issue NPRM and a final rule.

Exhibit B: Open Railroad Safety Recommendations by the National Transportation Safety Board (NTSB) to the Federal Railroad Administration (FRA)

SUBPART I

"Open—Acceptable Response"

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
1	3/13/1996	H-96-04	Develop procedures and processes that will facilitate improved communication to prevent hump crossings.	**Open – Acceptable Response**. FRA is preparing to disseminate a letter reminding railroads and other stakeholder associations and organizations of the American Association of State Highway and Transportation Officials' (AASHTO) Green Book guideline standards for the vertical alignment of newly constructed and materially modified highway-rail grade crossings, as well as the need for prior communication and coordination of any changes in highway approach elevation or roadway width.	Disseminate letters to railroads, the NTSB, and other associations and organizations to remind affected stakeholders of AASHTO's Green Book guideline standards and the need for prior communication and coordination to address, mitigate, and prevent hump crossings.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
2	8/11/1998	I-98-01	Develop and implement a field test program for in-vehicle safety and advisory warning systems.	**Open – Acceptable Response**. FRA is undertaking several projects related to testing intelligent transportation systems (ITS) to improve safety or mobility at highway-rail grade crossings as well as the completion and release of the Vehicle Proximity Alert System. FRA has partnered with the Federal Highway Administration (FHWA) and the Volpe National Transportation Systems Center (Volpe) on a project to develop a demonstration for a Rail Crossing Violation Warning (RCVW) system utilizing Connected Vehicles (CV) technologies. Based on a concept of operation developed by FRA, and utilizing standardized CV hardware and communications, the system will provide an in-vehicle warning to a driver approaching a highway-rail grade crossing with active grade crossing warning devices to allow the driver to stop before entering the crossing. A development contract was awarded to Battelle and Texas Transportation Institute with a period of performance going through September 20, 2017. Battelle completed a RCVW field demonstration and requirements verification testing in June 2017. FRA is currently soliciting a proposal to continue RCVW system development and to do more rigorous field testing and evaluation of system performance over the next few years. On September 1, 2017, FRA sent a letter to the NTSB detailing our actions and asking the NTSB to continue to classify this recommendation as "Open—Acceptable."	Continue efforts to help develop this technology.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
3	3/15/2004	R-04-07	Develop and implement Tank Car Design-Specific Fracture Toughness Standards, such as a minimum average Charpy value, for steels and other materials of construction for pressure tank cars used for the transportation of the DOT's Class 2 hazardous materials, including those in "low-temperature" service. The performance criteria must apply to the material orientation with the minimum impact resistance and take into account the entire range of operating temperatures of the tank car.	**Open – Acceptable Response**. FRA and PHMSA are considering proposing regulations, developed through the RSAC process, that would incorporate by reference the 2014 edition of the Association of American Railroads (AAR) Specification for Tank Cars M-1002 and identify the "low-temperature" commodities.	Work with PHMSA to propose regulation.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
4	4/25/2007	R-07-02	Assist PHMSA in developing regulations to require that railroads immediately provide to emergency responders accurate, real-time information regarding the identity and location of all hazardous materials on a train.	**Open – Acceptable Response**. FRA continues to work actively with PHMSA to complete and publish an NPRM to amend 49 CFR Part 174, which applies to persons who accept and transport hazardous materials by rail. The proposed rule is based on FRA's retrospective review of 49 CFR Part 174 under Executive Order 13563, Improving Regulation and Regulatory Review, to identify regulations that may be outmoded, ineffective, insufficient, or excessively burdensome. As part of this rulemaking initiative, FRA and PHMSA are considering enhancements to the existing requirement to document the placement of railcars transporting hazardous material in a train by leveraging existing automatic equipment identification reader technology and railroad communication protocols to ensure accurate real-time information is available to the train crew, dispatching office, and emergency response personnel. FRA anticipates that, once implemented, this rule will address not only R-07-02 issued to FRA and its companion recommendation R-07-03 issued to PHMSA, but also the congressional mandate of Section 7302 of the FAST Act.	Work with PHMSA to modify, streamline, expand, or repeal regulations, as necessary. Participate in PHMSA's multimodal pilot tests of electronic communications.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
5	2/23/2010	R-10-01	Require the installation, in all controlling locomotive cabs and cab car operating compartments, of crash- and fire-protected inward- and outward-facing audio and image recorders capable of providing recordings to verify that train crew actions are in accordance with rules and procedures that are essential to safety as well as train operating conditions. The devices should have a minimum 12-hour continuous recording capability with recordings that are easily accessible for review, with appropriate limitations on public release, for the investigation of accidents or for use by management in carrying out efficiency testing and system-wide performance monitoring programs.	**Open – Acceptable Response**. FRA is completing an NPRM addressing the recommendation and OMB has designated the rule as "significant." Also, Section 11411 of the FAST Act (codified at 49 U.S.C. 20168) requires FRA to issue a regulation requiring railroads to install inward- and outward-facing image recording devices on the controlling locomotive of passenger trains. The recording device's data must be stored on the controlling locomotive and have crash and fire protections. This rulemaking is intended to fulfill this FAST Act mandate (Exhibit A, Item No. 6), as well as NTSB recommendations R-10-01, R-10-02, and R-13-05 (Exhibit B, Items Nos. 5-6 and 23).	Issue an NPRM and a final rule.
6	2/23/2010	R-10-02	Require that railroads regularly review and use in-cab audio and image recordings (with appropriate limitations on public release), in conjunction with other performance data, to verify that train crew actions are in accordance with rules and procedures that are essential to safety.	**Open – Acceptable Response**. *See* response to R-10-01 (Exhibit B, Item No. 5). FRA is considering this NTSB recommendation as it develops the forthcoming proposed rule in response to Section 11411 of the FAST Act (codified at 49 U.S.C. 20168).	Issue an NPRM and a final rule.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
7	3/2/2012	R-12-03	Require that safety management systems and the associated key principles (including top-down ownership and policies, analysis of operational incidents and accidents, hazard identification and risk management, prevention and mitigation programs, and continuous evaluation and improvement programs) be incorporated into railroads' RRPs required by the RSIA.	**Open – Acceptable Response**. *See* response to Exhibit A, Item No. 4. The SSP and RRP rulemakings will consider this recommendation.	Issue final rule for the RRP rulemaking. Issue response to petitions for reconsideration related to the SSP rulemaking.
8	5/10/2012	R-12-17	Establish an ongoing program to monitor, evaluate, report on, and continuously improve fatigue management systems implemented by operating railroads to identify, mitigate, and continuously reduce fatigue-related risks for personnel performing safety-critical tasks, with particular emphasis on biomathematical models of fatigue.	**Open – Acceptable Response**. Section 103 of RSIA mandates that FRA issue regulations requiring each covered railroad to include an FMP in its railroad safety risk reduction program that meets certain statutory requirements. In particular, the regulations must require covered railroads to review and revise their FMPs at least once every two 2 years. The RSIA also requires FRA to review railroad safety risk reduction program plans to ensure the railroads are complying with their plans. FRA is working on a third regulation to meet the fatigue management provisions in the RSIA.	Issue regulations. Continue research.
9	5/10/2012	R-12-18	Conduct research on new and existing methods that can identify fatigue and mitigate performance decrements associated with fatigue in on-duty train crews.	**Open – Acceptable Response**. *See* FRA's response to R-12-17 (Exhibit B, Item No. 8). FRA has been and continues to conduct relevant research as part of its actions to address the mandate of section 103 of RSIA for each covered railroad's safety risk reduction program to include an FMP.	Continue research.
10	5/10/2012	R-12-19	Require the implementation of methods that can identify fatigue and mitigate performance decrements associated with fatigue in on-duty train crews that are identified or developed in response to Safety Recommendation R-12-18.	**Open – Acceptable Response**. *See* FRA's response to R-12-17 (Exhibit B, Item No. 8). FRA received assistance from an RSAC working group, in developing regulations for implementing Fatigue Management Systems.	Issue regulations as necessary.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
11	1/28/2013	R-12-39	Develop side impact crashworthiness standards (including performance validation) for passenger railcars that provide a measurable improvement compared to the current regulation for minimizing encroachment to and loss of railcar occupant survival space.	**Open – Acceptable Response.** FRA is conducting research on passenger equipment sidewall structure. However, current crashworthiness research emphasis is greater in other areas, such as glazing integrity. Because glazing is attached to the carbody sidewall, it is important to coordinate the glazing integrity and sidewall structure research efforts. Volpe is conducting this research on behalf of FRA. FRA directs and develops the research priorities. On December 6, 2016, FRA published an NPRM formalizing its first set of proposed updates to its Passenger Equipment Safety Standards, particularly with regard to crashworthiness and occupant protection. This rulemaking is the first of two planned rules intended to update and enhance regulations governing passenger equipment safety, including the adoption of criteria for facilitating the use of contemporary technology such as crash energy management (CEM) that will provide additional options for railroads and suppliers to effectively protect passengers in a collision. In addition to establishing standards for Tier III, the rule would provide complementary regulations for Tier I passenger equipment designed to alternative crashworthiness standards.	Complete research. Revise regulations as necessary.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
12	1/28/2013	R-12-40	Once the side impact crashworthiness standards are developed in Safety Recommendation R-12-39, revise 49 CFR 238.217, *Side structure*, to require that new passenger railcars be built to these standards.	**Open – Acceptable Response**. *See* response to R-12-39 (Exhibit B, Item No. 11).	Complete research. Revise regulations as necessary.
13	8/14/2013	R-13-18	Determine what constitutes a reliable, valid, and comparable field test procedure for assessing the color discrimination capabilities of employees in safety-sensitive positions.	**Open – Acceptable Response**. FRA collected and analyzed information that allowed it to establish its interpretation of what constitutes a valid, reliable, and comparable field test procedure for assessing the color discrimination capabilities of locomotive engineers and conductors. FRA published an interim interpretation with a request for comments on November 24, 2015. 80 FR 73122. FRA is currently reviewing all of the comments that it received.	Publish final interpretation.
14	8/14/2013	R-13-19	When you have made the determination in Safety Recommendation R-13-18, require railroads to use a reliable, valid, and comparable field test procedure for assessing the color discrimination capabilities of employees in safety-sensitive positions.	**Open – Acceptable Response**. *See* response to R-13-18 (Exhibit B, Item No. 14).	Publish final interpretation.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
15	1/23/2014	R-14-02	Develop a program to audit response plans for rail carriers of petroleum products to ensure that adequate provisions are in place to respond to and remove a worst-case discharge to the maximum extent practicable and to mitigate or prevent a substantial threat of a worst-case discharge.	**Open – Acceptable Response**. On August 1, 2014, PHMSA, in consultation with FRA, published an Advance Notice of Proposed Rulemaking (ANPRM), developed by FRA titled Hazardous Materials: Oil Spill Response Plans for High-Hazard Flammable Trains (HM-51B). 79 FR 45079. In this ANPRM, the agencies solicited comments regarding expanding the requirement for comprehensive oil spill response plans to trains carrying large volumes of petroleum crude oil. On July 29, 2016, PHMSA, in consultation with FRA, published an NPRM that proposes to expand the applicability of comprehensive oil spill response plans (OSRPs) so that any railroad transporting a single train carrying 20 or more loaded tank cars of liquid petroleum oil in a continuous block or a single train carrying 35 or more loaded tank cars of liquid petroleum oil throughout the train consist must also have a current comprehensive written OSRP. 81 FR 50067. FRA will develop a program to audit the required response plans once a final rule is developed. The NPRM was published on July 29, 2016.	Work with PHMSA to issue final rule. Develop audit program.
16	10/22/2014	R-14-49	Develop an algorithm using grade crossing inventory and accident history data to provide annual crash prediction estimates for private highway-rail grade crossings, similar to your WBAPS tool for public grade crossings, and make the results easily accessible to States, railroads, and the public.	**Open – Acceptable Response**. FRA understands the intent of NTSB Safety Recommendation R-14-49. However, we believe this safety recommendation is not achievable, as FRA's current data will not support such an effort. Private crossings vary significantly from public crossings, so developing accident prediction formulas for them is not as simple as replicating what has already been done. Attempting to develop an algorithm for private crossings would require considerably more data, much of which is not available and will likely not be available for years. Therefore, on November 21, 2017, FRA sent a letter to the NTSB asking them to close this recommendation.	None.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
17	11/24/2014	R-14-69	When the proposed system safety program regulation is promulgated, develop and implement a robust performance-based audit program to ensure that railroads are maintaining effective system safety programs.	**Open – Acceptable Response**. *See* response to Exhibit A, Item No. 4. The RRP NPRM proposed to require railroads to conduct annual internal assessments to gain detailed knowledge of the status of program implementation and the degree to which the program is effectively reducing risk. Following the assessment, railroads would be required to develop improvement plans to address any deficiencies, and to provide an annual internal assessment program to FRA. FRA would then conduct, or cause to be conducted, external audits to assess implementation status and program effectiveness. In response to these external audits, railroads would be required to develop and implement improvement plans approved by FRA. FRA is considering options for addressing this NTSB recommendation in the RRP final rule. FRA published an SSP final rule for passenger railroads on August 12, 2016. 81 FR 53850. The SSP final rule describes how railroads must conduct internal system safety program assessments and how FRA will conduct external safety audits. *See* 49 CFR 270.303 and 270.305. On October 3, 2016, FRA received four petitions for reconsideration of the SSP final rule. As of December 31, 2017, the requirements of the SSP final rule are stayed while FRA considers its response to the petitions.	Consider NTSB's recommendation when developing the RRP final rule and addressing petitions in response to the SSP final rule.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
18	12/02/2014	R-14-74	Develop a performance standard to ensure that windows (e.g., glazing, gaskets, and any retention hardware) are retained in the window opening structure during an accident and incorporate the standard into 49 CFR Sections 238.221 and 238.421 to require that passenger railcars meet this standard.	**Open – Acceptable Response**. Volpe is conducting this research on behalf of FRA. FRA directs and develops the research priorities. Volpe began work on this research in September 2015. Volpe's work includes the following: (1) a review of current glazing regulations and the competing practical requirements placed on glazing systems; (2) a review of recent accidents in which passenger ejection from window openings due to dislodged glazing panes caused fatalities or injuries; and (3) a research proposal to define the problem, assess current glazing performance, and recommend prototype glazing-system modifications to improve performance.	Complete research. Issue regulations as necessary.
19	12/30/2014	R-14-75	Revise Title 49 CFR Part 213 to define specific allowable limits for combinations of track conditions, none of which individually amounts to a deviation from FRA regulations that requires remedial action, but, which when combined, require remedial action.	**Open – Acceptable Response**. In March 2013, FRA published a final rule on Vehicle/Track Interaction (VTI) Safety Standards that established new requirements to address unsafe combinations of track alignment and surface conditions. 78 FR 16051. FRA's track geometry inspection vehicles have all been programmed to detect combinations of the track geometry conditions contained in the VTI final rule. In addition to the final rule, RSAC accepted Task Number 15-02 Track Geometry (Task). The Task required the Track Safety Working Group to consider current or proposed track geometry requirements and other relevant information in making recommended changes to the full RSAC. The Task specifically required the Track Safety Working Group to review and evaluate whether certain additional geometry and/or track component defect combinations should be in the regulations.	Issue regulations as necessary.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
20	12/30/2014	R-14-76	Once you have completed the actions specified in Safety Recommendation R-14-75, program your geometry inspection vehicles to detect combinations of conditions that require remedial action.	**Open – Acceptable Response**. *See* response to R-14-75 (Exhibit B, Item No. 21).	Adjust geometry inspection vehicles as necessary.
21	2/4/2015	R-15-04	Review your existing regulations and your motive power and equipment compliance manual, and revise them as needed to prohibit automatic systems from resetting the locomotive alerter.	**Open – Acceptable Response**. The existing requirement contained in 49 CFR 229.140(b) requires an engineer to perform certain operations in the locomotive to reset the alerter. An automatic reset does not comply with this requirement, because the engineer must take action. As such, no regulatory change is needed to prohibit an automatic reset of the alerter. While FRA found no need for a regulatory change, FRA plans to provide supplemental training to FRA Motive Power and Equipment (MP&E) inspectors that will cover non-compliant alerter resets that are initiated by the engineer and then become automatic, including problems found to date with automatic horn activations. The training will advise inspectors to check a variety of alerter inputs to ensure that automatic actions do not initiate during the alerter timing cycle. FRA will also incorporate this training into the MP&E Compliance Manual during its upcoming revision.	Revise compliance manual, beginning summer of 2018.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
22	3/9/2017	R-17-03	Evaluate the risks posed to train crews by hazardous materials transported by rail, determine the adequate separation distance between hazardous materials cars and locomotives and occupied equipment that ensures the protection of train crews during both normal operations and accident conditions, and collaborate with PHMSA to revise 49 CFR 147.85 to reflect those findings.	**Open – Acceptable Response**. FRA's Hazardous Materials Division evaluates the risks posed to train crews by hazardous materials transported by rail and is developing and evaluating a methodology to establish an appropriate separation distance from occupied locomotives or occupied equipment and the hazardous materials cars in a train, to ensure the protection of train crews during normal operations, as well as during accidents. This work will be done in collaboration with PHMSA in an effort to revise 49 CFR 174.85. However, a specific time frame has yet to be established for completion of the evaluation and development of a regulatory proposal to revise this regulation. This time frame will be established by PHMSA as part of its rulemaking process.	Issue regulations as necessary.

"Open—Acceptable Alternative Response"

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
23	3/08/2013	R-13-05	Identify, and require railroads to use in locomotive cabs, technology based solutions that detect the presence of signal-emitting portable electronic devices and that inform railroad management about the detected devices in real time.	**Open – Acceptable Alternative Response**. *See* response to R-10-01 (Exhibit B, Item No. 5). FRA tasked the RSAC with establishing the Recording Devices Working Group to consider the effects of railroads using recording devices to monitor all behavior in the locomotive cab, including crewmembers using signal-emitting portable electronic devices. The working group evaluated the potential use of audio and/or video recordings of the crew in the locomotive cab. FRA ended the working group in May 2015 (without consensus on any topic) and announced it would develop a rulemaking that included requirements for inward-facing locomotive cameras, which will help detect the usage of signal-emitting portable electronic devices in the locomotive cab. OMB has designed this rulemaking as "significant." FRA is currently drafting the NPRM for this rulemaking, which would also fulfill Section 11411 of the FAST Act (codified at 49 U.S.C. 20168). *See* response to Exhibit A, Item 6.	Finalize an NPRM and a final rule.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
24	8/22/2014	R-14-15	Promulgate a regulation permitting a train to pass a red signal aspect protecting a moveable bridge that is similar to the criteria for allowing a train to cross a broken rail as contained in 49 CFR 213.7(d) to ensure that the bridge has been inspected by a qualified employee before a train is authorized to proceed across the bridge.	**Open – Acceptable Alternative Response**. On February 25, 2013, FRA issued Safety Advisory 2013-01, Passing Stop Signals Protecting Movable Bridges, to bring to the attention of movable bridge owners the importance of using adequate span locking and exercising caution when allowing a train to pass a stop signal protecting a movable bridge. This safety advisory emphasizes the importance of providing adequate training to those individuals authorized to determine if a movable bridge is properly aligned and locked. Furthermore, on November 7, 2014, FRA published a final rule establishing minimum training standards for all safety-related railroad employees, as required by the RSIA. 79 FR 66460. The purpose of this new final training standards rule is to ensure that any person employed by a railroad or a contractor of a railroad as a safety-related railroad employee is trained and qualified to comply with any relevant Federal railroad safety laws, regulations, and orders, as well as any relevant railroad rules and procedures promulgated to implement those Federal railroad safety laws, regulations, and orders. Under this final rule, railroads must submit their training plans to FRA for review. The earliest implementation date for the rule is January 1, 2020.	Complete evaluation of all training programs when submitted to FRA and qualifications for categories of safety-related railroad employees.

"Open—Initial Response Received"

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
25	9/29/2015	R-15-35	Enhance your medical standards by identifying a list of medical conditions that disqualify employees for safety-sensitive positions because of the conditions' potential for negatively affecting rail safety.	**Open – Initial Response Received**. FRA is addressing railroad employees' medical fitness for duty issues sequentially based on the NTSB accident investigations of railroad accidents.	FRA has vision and hearing standards for certified locomotive engineers and conductors. FRA will issue additional standards as necessary.
26	9/29/2015	R-15-37	Once disqualifying medical conditions and medications have been identified, develop specific criteria (such as standards for medical test results) that may allow employees who have been disqualified but have been determined by a subsequent, individualized assessment to pose no increased danger to rail safety to obtain a medical certification.	**Open – Initial Response Received**. As noted in our response to R-15-35, FRA is addressing railroad employees' medical fitness for duty issues sequentially based on the NTSB accident investigations of railroad accidents.	After Recommendation R-15-35 has been accomplished, FRA will consider how specific criteria might be developed.

"Open—Await Response"

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
27	6/9/2016	R-16-32	Require railroads to install devices and develop procedures that will help crewmembers identify their current location and display their upcoming route in territories where positive train control will not be implemented.	**Open – Await Response**. As of December 31, 2017, a letter to the NTSB requesting reclassification of this recommendation to "Open – Acceptable Response" was being drafted, to be sent during the 2nd Quarter of FY18.	FRA believes that addressing this recommendation will require developing and testing new or adapted technologies, as well as their associated processes and procedures.
28	6/9/2016	R-16-33	Modify FRA Form F 6180.54 (Rail Equipment Accident/Incident Report) to include the number of crewmembers in the controlling cab of the train at the time of the accident to evaluate the safety adequacy of current crew size regulations.	**Open – Await Response**. FRA asked RSAC members at a May 25, 2017, meeting to consider possible changes and updates to 49 CFR Part 225, Railroad Accidents/Incidents: Reports Classification, and Investigations, including the addition of new or desired fields of information to be collected on Form F 6180.54. These possible changes include modifications to Form F 6180.54, and other reporting forms, along with several modifications to the FRA Reporting Guide. On August 23, 2017, FRA sent a letter to the NTSB requesting that they reclassify this recommendation as, "Open – Acceptable Action."	Consult with industry and make changes to form.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
29	6/9/2016	R-16-34	After FRA Form F 6180.54 is modified as specified in R-16-33, use the data regarding number of crewmembers in the controlling cab of the train at the time of the accident to evaluate the safety adequacy of current crew size regulations.	**Open – Await Response**. *See* response to R-16-33 (Exhibit B, Item No. 29).	When changes to Form F 6180.54 are implemented, FRA will review the data captured on the form as necessary to evaluate FRA safety requirements.
30	6/9/2016	R-16-35	Conduct research to evaluate the causes of passenger injuries in passenger railcar derailments and overturns and evaluate potential methods for mitigating those injuries, such as installing seat belts in railcars and securing potential projectiles.	**Open – Await Response**. On August 23, 2017, FRA sent a letter to the NTSB requesting reclassification of this recommendation as "Closed – Acceptable Action."	None.
31	6/9/2016	R-16-36	When the research specified in R-16-35 identifies safety improvements, use the findings to develop occupant protection standards for passenger railcars to mitigate passenger injuries likely to occur during derailments and overturns.	**Open – Await Response**. On August 23, 2017, FRA sent a letter to the NTSB requesting reclassification of this recommendation as "Closed – Acceptable Action."	None.
32	1/24/2017	R-16-43	Require freight railroads to use validated bio-mathematical fatigue models, similar to the models used by passenger railroads, to develop work schedules that do not pose an excessive risk of fatigue	**Open – Await Response**. On March 30, 2017, FRA sent an initial response to the NTSB indicating that it believed many railroads will model the fatigue effects of their schedules using biomathematical models as part of their Fatigue Management Plans (FMPs) and that FRA has awarded grants to railroads to voluntarily develop FMPS, including biomathematical modeling. As of December 31, 2017, FRA was awaiting the NTSB's approval and classification for this recommendation.	FRA withdrew its ANPRM on sleep apnea in August 2017. FRA will ask the NTSB to close this recommendation.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
33	1/24/2017	R-16-44	Develop and enforce medical standards that railroad employees in safety-sensitive positions diagnosed with sleep disorders must meet to be considered fit for duty.	**Open – Await Response**. On March 10, 2016, FRA and the Federal Motor Carrier Safety Administration (FMCSA) issued a joint ANPRM requesting data and information on the prevalence of moderate-to-severe obstructive sleep apnea (OSA) among individuals occupying safety-sensitive positions in highway and rail transportation, and its potential consequences for the safety of rail and highway transportation. 81 FR 12642. The ANPRM also requested information on potential costs and benefits from regulatory actions that address the safety risks associated with motor carrier and rail transportation workers in safety sensitive positions who have OSA. Approximately 700 comments were received in writing and at 3 joint FRA/FMCSA public listening sessions. The majority of commenters, including both employers and unions, asserted that OSA regulation was unnecessary. On August 8, 2017, FRA and FMCSA withdrew the ANPRM after determining that OSA was best addressed through their regulatory programs. *See* responses to R-12-16 and R-13-21 (Exhibit A, Items Nos. 43 and 48).	*See* response to R-16-43, above.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
34	6/29/2017	R-17-06	Work with PHMSA to develop specific guidance for railroads using the list of items found in Appendix D of 49 CFR Part 172 in their risk assessments and apply the information gathered in those risk assessments when analyzing proposed routes for high-hazard flammable trains or high-hazard flammable unit trains.	**Open – Await Response**. FRA collaborated with PHMSA on a joint response, which PHMSA sent to the NTSB on October 19, 2017.	PHMSA has the lead on addressing this recommendation; FRA will assist as required.
35	12/28/2017	R-17-17	Enact Title 49 Code of Federal Regulations Part 270, System Safety Program, without further delay.	**Open – Await Response**. *See* Exhibit A, Item No. 4. FRA published an NPRM to address SSP planning requirements on September 7, 2012, with public comments due by November 6, 2012. 77 FR 55372. FRA reopened the comment period until December 7, 2012. 77 FR 70409. On August 12, 2016, FRA published a final rule. 81 FR 53850. On October 3, 2016, FRA received four petitions for reconsideration of the SSP final rule. As of December 31, 2017, the requirements of the final rule were stayed while FRA is considering its response to the petitions.	Issue a response to petitions for reconsideration related to the SSP rulemaking.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
36	12/28/2017	R-17-18	Require railroads to install technology on hi-rail, backhoes, other independently operating pieces of maintenance-of-way (MOW) equipment, and on the leading and trailing units of sets of MOW equipment operated by maintenance workers to provide dispatchers and the dispatch system an independent source of information on the locations of this equipment to prevent unauthorized incursions by trains onto sections of track where maintenance activities are taking place in accordance with the Congressional mandate under the RSIA 2008.	**Open – Await Response**. FRA received this recommendation on December 28, 2017, and as of December 31, 2017, was considering feasibility of implementing response.	Consider feasibility of implementing response and respond to the NTSB as appropriate.

"Open—Unacceptable Response"

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
37	1/13/2000	R-00-02	Develop, then periodically publish, an easy-to-understand source of information for train operating crewmembers on the hazards of using specific medications when performing their duties.	**Open – Unacceptable Response**. FRA is developing an optional training module on the hazards of using specific medications. This module will be made available for free on FRA's Web site to enable the rail industry to use as-is or to provide a model for its own training on this subject. Once it is completed, FRA will publicize the availability of the training module to FRA's railroad contacts, regional offices, inspectors, and other interested parties. FRA will also ask DOT's Office of Drug and Alcohol Policy and Compliance to announce the new module to its distribution network and to make the module available on its Web site. In addition, FRA will conduct outreach at its own training sessions, at industry conferences such as the Railroad Roundtable, and at labor and trade association meetings.	Complete development of training module and make it available on FRA's Web site. Notify railroads and unions of this new resource.

38	1/13/2000	R-00-03	Establish and implement an educational program targeting train operating crewmembers that, at a minimum, ensures that all crewmembers are aware of the source of information described in Safety Recommendation R-00-02 regarding the hazards of using specific medications when performing their duties.	**Open – Unacceptable Response**. *See* response to R-00-02 (Exhibit B, Item No. 38).	*See* response to R-00-02.
39	1/13/2000	R-00-04	Establish, in coordination with DOT, FMCSA, FTA, and the U.S. Coast Guard, comprehensive toxicological testing requirements for an appropriate sample of fatal highway, railroad, transit, and marine accidents to ensure the identification of the role played by common prescription and over-the-counter (OTC) medications. FRA will review and analyze the results of such testing at intervals not to exceed every 5 years.	**Open – Unacceptable Response**. On June 10, 2016, FRA published a final rule expanding the scope of its drug and alcohol program to cover employees who perform MOW activities. 81 FR 37893. FRA is also pursuing a research project specifically investigating the role of prescription and OTC drugs in fatal accidents.	Initiate research project investigating the role of prescription and OTC drugs in fatal accidents.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
40	6/07/2006	R-06-07	Require railroads to implement for all power-assisted switch machines—regardless of location—a formal commissioning procedure and a formal maintenance program that includes records of inspections, tests, maintenance, and repairs.	**Open – Unacceptable Response**. *See* response to R-12-27 (Exhibit B, Item No. 45). The RSAC Dark Territory Working Group considered safety technologies, including power-assisted switch machines and switch point monitoring systems as a primary topic. The working group met four times to develop recommendations for standards, guidance, regulations, or orders governing the development, use, and implementation of rail safety technologies in nonsignaled territory. The working group developed a draft document recommending the creation of individual railroad plans for the maintenance, inspection, and testing of certain safety devices, including power-assisted switch machines and switch	Consider resuming consultions with the industry after completing the RRP and SSP rulemakings.

				point monitoring systems, currently in use in nonsignaled territory.	

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
41	4/10/2008 Reiterated 7/3/2017	R-08-07	Revise the definition of "covered employee" under 49 CFR Part 219 for purposes of Congressionally mandated alcohol and controlled substances testing programs to encompass all employees and agents performing safety-sensitive functions, as described in 49 CFR 209.301 and 209.303.	**Open – Unacceptable Response**. Section 412 of the RSIA authorized FRA to expand its drug and alcohol testing program only to cover those employees who perform MOW activities. On June 10, 2016, FRA published a final rule entitled Control of Alcohol and Drug Use: Coverage of Maintenance of Way (MOW) Employees and Retrospective Regulatory Review-Based Amendments. 81 FR 37893. The final rule expands the scope of FRA's drug and alcohol regulations found at 49 CFR Part 219 to cover MOW employees. In the final rule, FRA adopts the definition of "roadway worker" found in 49 CFR Part 214 to define "MOW employee" under 49 CFR Part 219. As the final rule explains, FRA did not expand 49 CFR Part 219's scope to cover every employee performing safety-sensitive functions that 49 CFR 209.301 and 209.303 describe, as FRA has found no overriding safety interest justifying such an expansion. For example, FRA's post accident testing (PAT) data does not support expanding 49 CFR Part 219's scope beyond individuals who perform MOW activities. FRA continues to monitor other railroad employee crafts by conducting post-accident toxicological testing for all railroad employees who are fatally-injured in train accidents and incidents under 49 CFR 219.203(a)(4)(ii) and will revisit the issue of coverage for individuals who perform other 49 CFR 209.303 functions if their rate of positive post-mortem PAT results rises in the future. On August 10, 2017, FRA sent a letter to the NTSB requesting that they close this recommendation.	FRA believes it has met the intent of the recommendation and is awaiting the NTSB's response to a closure letter FRA sent the NTSB in August 2017.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
42	3/2/2012	R-12-01	Develop a comprehensive storm water drainage assessment program to be conducted jointly by railroads and public entities.	**Open – Unacceptable Response.** On November 21, 2017, FRA sent a letter to the NTSB requesting closure of this recommendation. On December 6, 2017, NTSB reclassified this recommendation as "Open – Unacceptable Response."	None.
43	5/10/2012 Reiterated 1/24/2017	R-12-16	Require railroads to medically screen employees in safety-sensitive positions for sleep apnea and other sleep disorders.	**Open – Unacceptable Response**. FRA is addressing railroad employees' medical fitness for duty issues sequentially based on NTSB accident investigations of railroad accidents. *See* responses to R-16-44 and R-13-21 (Exhibit A, Items ##Nos. 34 and 48). On March 30, 2017, FRA sent a letter to the NTSB asking them to reclassify this recommendation as "Open – —Acceptable Response."	Continue to study medical conditions that are contributing causes to accidents and appropriate strategies to address those conditions.
44	5/10/2012	R-12-20	Require the use of positive train control (PTC) technologies that will detect the rear of trains and prevent rear-end collisions.	**Open – Unacceptable Response**. The economic analysis of the PTC final rule discussed the merits of requiring PTC technologies to detect the rear of trains and prevent rear-end collisions at restricted speed and the limitations of PTC technology. While implementation of PTC systems as required under 49 U.S.C. 20157 and 49 CFR Part 236, Subpart I, will prevent high speed rear-end collisions, requiring a railroad to design and implement a PTC system that prevents low speed rear-end collisions would significantly add to the already adverse cost-benefit ratio of required PTC system implementation.	After railroads complete initial implementation of PTC systems as required under the Positive Train Control Enforcement and Implementation Act of 2015, determine whether additional regulatory requirements are necessary.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
45	5/24/2012	R-12-27	Require railroads to install, along main lines in nonsignaled territory not equipped with PTC, appropriate technology that warns approaching trains of incorrectly lined main track switches with enough time to permit stopping.	**Open – Unacceptable Response**. *See* response to Exhibit A, Item 2. The RSAC Dark Territory Working Group considered safety technologies, including power-assisted switch machines and switch point monitoring systems, as a primary topic. The working group met four times to develop recommendations for standards, guidance, regulations, or orders governing the development, use, and implementation of rail safety technologies in nonsignaled territory. The working group developed a draft document recommending the creation of individual railroad plans for the maintenance, inspection, and testing of certain safety devices, including power-assisted switch machines and switch point monitoring systems, currently in use in nonsignaled territory.	Consider resuming consultations with the industry after completion of the RRP and SSP rulemakings.
46	3/8/2013	R-13-07	Require railroads to implement initial and recurrent crew resource management (CRM) training for train crews.	**Open – Unacceptable Response**. FRA believes CRM training will be best addressed voluntarily by railroads under SSP and RRP rules.	Continue to encourage railroads to voluntarily develop CRM training programs as part of their RRP or SSP. Issue RRP final rule.
47	8/14/2013	R-13-20	Require more frequent medical certification exams for employees in safety-sensitive positions who have chronic conditions with the potential to deteriorate sufficiently to impair safe job performance.	**Open – Unacceptable Response**. FRA is dedicated to addressing medical conditions identified as a safety risk by NTSB or FRA investigations. FRA will take regulatory action as necessary and would encourage railroads to incorporate medical issues as part of their RRPs or SSPs to address their most pressing medical risks. In addition, FRA will continue to work with industry stakeholders to develop cooperative studies and outreach.	*See* response to R-00-02.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
48	8/14/2013; Reiterated 1/24/2017	R-13-21	Develop medical certification regulations for employees in safety-sensitive positions that include, at a minimum: (1) a complete medical history that includes specific screening for sleep disorders, a review of current medications, and a thorough physical examination; (2) standardization of testing protocols across the industry; and (3) centralized oversight of certification decisions for employees who fail initial testing. Also, consider requiring that medical examinations be performed by those with specific training and certification in evaluating medication use and health issues related to occupational safety on railroads. **[This recommendation supersedes Safety Recommendations R-02-24 through -26.]**	**Open – Unacceptable Response**. FRA is addressing railroad employees' medical fitness for duty issues sequentially based on the NTSB accident investigations of railroad accidents. *See* responses to R-16-44 and R-12-16 (Exhibit A, Items Nos. 34 and 43).	Continue to study medical conditions that are contributing causes to accidents and appropriate strategies to address those conditions.
49	5/19/2014	R-14-11	Revise the Track Safety Standards specified in 49 CFR 213.233(b)(3), removing the exemption for high-density commuter railroads and requiring all railroads to comply with these requirements: (1) to traverse each main track by vehicle or inspect each main track on foot at least once every 2 weeks, and (2) to traverse and inspect each siding, either by vehicle or on foot, at least once every month.	**Open – Unacceptable Response**. The RSAC Track Safety Working Group considered specific improvements to Track Safety Standards in 49 CFR Ppart 213, Subpart F, or other responsive actions designed to enhance rail safety by improving track inspection methods, frequency, and documentation. As required by the FAST Act, FRA is also evaluating whether to revise the Track Safety Standards to adopt this recommendation, which specifically concerns track inspection methods.	Issue regulations as necessary.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
50	10/22/2014	R-14-33	Revise the portions of 49 CFR Part 214 for comprehensive job briefings for roadway workers to include the best practices in the Occupational Safety Health Administration (OSHA) standards contained in 29 CFR Parts 1910 and 1926.	**Open – Unacceptable Response**. FRA believes its efforts are best directed at ensuring compliance with its comprehensive existing regulatory requirements, as opposed to duplicating the already existing requirements of other agencies with different areas of expertise. FRA recognizes OSHA, like FRA, has a robust set of regulations to protect roadway workers. On November 28, 2016, FRA published Safety Advisory 2016-02, Identification and Mitigation of Hazards Through Job Safety Briefings and Hazard Recognition Strategies. The Safety Advisory reminds railroads and railroad contractors, and their employees (including roadway workers) of the importance of identifying hazardous conditions at job locations, conducting thorough job safety briefings to discuss the hazardous conditions, and taking appropriate actions to mitigate those conditions. On March 6, 2017, FRA sent a letter to the NTSB requesting that they close this recommendation.	FRA will also continue to instruct its inspectors to look for potential hazards and bring them to the railroads' attention.
51	10/22/2014	R-14-34	Revise your national inspection program to include specific emphasis on roadway worker activities, including emphasizing hazard recognition and mitigation in job briefings.	**Open – Unacceptable Response**. On November 28, 2016, FRA published Safety Advisory 2016-02, Identification and Mitigation of Hazards Through Job Safety Briefings and Hazard Recognition Strategies. 81 FR 85674. On March 6, 2017, FRA sent a letter to the NTSB requesting that they close this recommendation.	None.

FRA Item No.	Issue Date	Rec No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA	Actions Needed to Be Taken by FRA
52	10/22/2014	R-14-36	Require initial and recurring training for roadway workers in hazard recognition and mitigation. Such training should include recognition and mitigation of the hazards of tasks being performed by coworkers.	**Open – Unacceptable Response**. FRA Railroad Workplace Safety regulations, 49 CFR Part 214, already require that roadway workers receive recurring annual training associated with the risks associated with being struck by trains or on-track equipment. Section 214.345(e) specifically requires that roadway workers be annually trained on "the hazards associated with working on or near railroad tracks, including review of on-track safety rules and procedures." In addition, FRA published a final rule containing extensive training and qualification requirements for all safety-related railroad employees. 79 FR 66460. This rulemaking included minimum training standard for roadway workers as defined by existing 49 CFR 214.7, and contains an extensive refresher qualification requirement for roadway workers. On November 28, 2016, FRA published Safety Advisory 2016-02, Identification and Mitigation of Hazards Through Job Safety Briefings and Hazard Recognition Strategies. 81 FR 85674. On March 6, 2017, FRA sent a letter to the NTSB requesting that they close this recommendation.	None.

SUBPART II
Open Rail Safety Recommendations FRA Will Not Further Address

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
53	3/12/2001	R-01-02	Evaluate, with the assistance of Research and Special Programs Administration, the AAR, and the Railway Progress Institute, the deterioration of pressure relief devices through normal service and then develop inspection criteria to ensure that the pressure relief devices remain functional between regular inspection intervals. FRA will incorporate these inspection criteria into DOT's Hazardous Materials Regulations.	**Open – Acceptable Response**. FRA evaluated the effects of environmental conditions on the determination of the start-to-discharge pressure of pressure relief valves. A review of the test data with industry representatives concluded that environmental factors did not affect the performance of pressure relief valves. Additionally, on June 25, 2012, (HM-216B) 49 CFR Part 180 was revised to require a service equipment owner to establish inspection and test frequencies appropriate to ensure that the design level of reliability and safety of the equipment is met (service equipment includes pressure relief devices). The intervals must be based upon analysis of previous test and inspection results for that service equipment and lading combination. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
54	9/24/2001	R-01-17	Modify 49 CFR 219.201(b), as necessary, to ensure that the exemption from mandatory post-accident drug and alcohol testing for those involved in highway-rail grade crossing accidents does not apply to any railroad signal, maintenance, and other employees whose actions at or near a grade crossing involved in an accident may have contributed to the occurrence or severity of the accident.	Open – Acceptable Response. On June 10, 2016, FRA published a final rule entitled Control of Alcohol and Drug Use: Coverage of Maintenance of Way (MOW) Employees and Retrospective Regulatory Review-Based Amendments. 81 Fed. Reg. 37893. The final rule responds to this recommendation by narrowing the 49 CFR 219.201(b) exemption by adding a new FRA post-accident toxicological testing (PAT testing) qualifying event, "Human-factor highway-rail grade crossing accident/incident." 81 Fed. Reg. 37905. This new qualifying event will require PAT testing after a highway-rail grade crossing accident/incident whenever there is reason to believe a regulated employee interfered with the normal functioning of the grade crossing system. *Id.* Testing will also be required for highway-rail grade crossing accidents/incidents involving other human factor errors. *Id.* In the 2nd Quarter of FY 18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
55	4/10/2008 Reiterated 12/28/2017	R-08-06	Require redundant signal protection, such as shunting, for MOW work crews who depend on the train dispatcher to provide signal protection.	**Open – Unacceptable Response**. On June 10, 2016, FRA published a final rule amending 49 CFR Part 214. 81 FR 37840, 37859. The final rule addressed multiple roadway worker protection issues, and included a provision requiring railroads to adopt redundant signal protections for roadway work groups that rely on dispatchers to establish controlled track working limits. As explained in the final rule, redundant signal protections are intended to protect against train movements into established working limits before a roadway work group has released its authority. Redundant signal protections, which could include shunting procedures, are risk mitigation measures or safety redundancies to ensure the proper establishment and maintenance of signal protections for controlled track working limits that are in effect. Specifically, the final rule requires Class I or II and passenger railroads that establish on-track safety using controlled track working limits (49 CFR 214.321–214.323) in signalized territories to evaluate their particular operations and identify what type of redundant signal protection(s) is appropriate. This evaluation must be completed by July 1, 2017. After railroads conduct the required evaluation, railroads must adopt and comply with an appropriate method of redundant signal protections in their on-track safety program by January 1, 2018. FRA may object to a railroad's method of providing redundant signal protections under the review procedures specified in 49 CFR 214.307, or may take other appropriate enforcement action if a railroad neglects to evaluate, adopt, or comply with appropriate redundant protection procedures. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
56	4/02/2009	R-09-01	Establish uniform signal aspects that railroads must use to authorize a train to enter an occupied block, and prohibit the use of these aspects for any other signal indication.	**Open – Unacceptable Response**. FRA has regulations addressing necessary and uniform basic signal aspects and their associated indications. These requirements include a description of the signal display that railroads must use to indicate stop, restricted speed, and proceed at authorized speed. FRA studies signal systems for trains through inspections and audits conducted on various properties to determine where conditions exist that present the potential for ambiguity and misinterpretation of the intended signal indication. FRA also urged each railroad to review its program of qualification for engineers and conductors to ensure they identify any such ambiguities or misinterpretations and specifically evaluate engineers and conductors during skills testing. In addition, with RSIA's mandated implementation of PTC, the functionality of the PTC onboard display units will ensure the meaning of all signal displays encountered are shown to the crew in a way that will eliminate any discrepancy or misunderstanding of the operating limitations of the signal displayed and its intended information. After the required railroads implement PTC, FRA may survey the remainder of non-PTC-equipped railroads to determine the extent to which conditions continue to exist that present the potential for ambiguity and misinterpretation of the intended signal indication. FRA could then use the results of this survey to determine whether issuing a safety advisory would be appropriate. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
57	4/02/2009	R-09-02	Study the different signal systems for trains, identify ways to communicate more uniformly the meaning of signal aspects across all railroad territories, and require the railroads to implement as many uniform signal meanings as possible.	**Open – Unacceptable Response**. *See* FRA's response to R-09-01 (Exhibit B, Item No. 56). In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
58	4/02/2009	R-09-03	Require that emergency exits on new and remanufactured locomotive cabs provide for rapid egress by cab occupants and rapid entry by emergency responders.	**Open – Unacceptable Response**. FRA's review of reported data for the last 15 years revealed one injury attributed to "opening" or "getting out" of a locomotive cab after an accident. Thus, it would be an imprudent use of FRA resources to establish additional regulatory requirements to address a potential safety hazard that resulted in only one injury in the last 15 years. Moreover, the implementation of AAR Standard S-580, applicable to all new or rebuilt locomotives, increased the strength of the cab's structure, which greatly increased the survivable volume for occupants. The greater survivable volume increases the likelihood that the exits will be accessible and thereby improves egress by cab occupants and entry by emergency responders. In addition, FRA believes that the NTSB has not fully considered the positive effects of the emergency responder training that FRA developed and distributed after this safety recommendation was originally made. Finally, further action in this area may conflict with FRA implementation of its responses to other related NTSB recommendations. For example, implementation of PTC requires railroads to install additional antennas on the cab roof, which limits the space available for potential escape/rescue hatches that could provide for rapid access and egress. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
59	5/10/2012	R-12-21	Revise 49 CFR Part 229 to ensure the protection of the occupants of isolated locomotive operating cabs in the event of a collision. Make the revision applicable to all locomotives, including the existing fleet and those newly constructed, rebuilt, refurbished, and overhauled, unless the cab will never be occupied.	**Open – Acceptable Response**. In light of this NTSB recommendation FRA evaluated: (1) current safety data; (2) existing safety requirements; (3) research on inhibiting colliding equipment override; and, (4) recent revisions to industry safety standards. FRA concluded that recent industry safety standards revisions appropriately address the NTSB's safety concerns. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
60	5/10/2012	R-12-22	Revise 49 CFR Part 229 to require crashworthiness performance validation for all new locomotive designs under conditions expected in a collision.	**Open – Unacceptable Response**. It is FRA's position that it is neither technologically nor economically feasible to create a complete catalog of "conditions expected in a collision," and FRA disagrees with using such an approach to develop safety regulations. Certain conditions that can be expected based on experience are rare and are not a good basis for establishing broadly applicable performance standards. Locomotive crashworthiness scenarios include collisions with expected types of railroad equipment, such as freight cars and locomotives. FRA has historically taken into account more common, expected accident scenarios involving this equipment, specifically train-to-train collisions and collisions at grade crossings, and the existing regulations adequately address those scenarios. Other scenarios are uncommon and will not necessarily be repeated. Each possible, but uncommon, scenario can be different and there is no way to predict how a locomotive cab will be impacted in an unspecified accident scenario. If regulations are reactively developed to cover extremely unusual accident scenarios, the resulting requirements will not properly address most accidents and will be only marginally effective and cost inefficient. FRA also notes that existing crashworthiness regulations do not prohibit or discourage performance-based methods of compliance. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
61	1/28/2013	R-12-41	Require that passenger railcar doors be designed to prevent fire and smoke from traveling between railcars.	**Open – Unacceptable Response**. Both sliding and swinging doors interact closely with the surrounding carbody structure, at the hinge, track, jamb, pocket, and/or latch. Even minor distortion of that structure due to the forces of collision or derailment, or simply a change in the orientation of the door due to a car being significantly displaced from its upright position, could cause the door to fail to operate as intended. Thus, during an emergency, additional time and effort would be needed to operate the door, delaying egress and access through those doors. Adding weight or tighter seals to make the doors smoke and fire resistant would create a similar distortion and could cost lives in such an emergency. The NTSB recommendation does not address the need for a design that balances competing safety objectives, and does not appear to take into account the requirements of FRA's fire safety regulations for protecting car occupants from fire and smoke. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
62	8/14/2013	R-13-22	Require all information captured by any required recorder to also be recorded in another location remote from the lead locomotive(s), to minimize the likelihood of the information being unrecoverable as a result of an accident.	**Open – Unacceptable Response**. FRA considered this recommendation and determined that implementation is currently neither technologically or economically feasible (in part because of the limited availability of communications spectrum that would be necessary to implement the recommendation), and that the loss of event recorder data is a rare event that does not justify such a burden to mitigate such an unusual event. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
63	12/19/2013	R-13-38	Work with the Federal Highway Administration (FHWA) to (1) include guidance in the Manual on Uniform Traffic Control Devices (MUTCD) for the installation of advance warning devices, such as movement-activated blank-out signs, that specifically use the word "train" to indicate the preemption of highway traffic signals by an approaching train, and (2) amend the MUTCD to indicate that preemption confirmation lights, while not intended to provide guidance to the general public, would be useful in providing advance information on train movements to law enforcement and emergency responders.	**Open – Acceptable Response**. FRA provided assistance to the FHWA MUTCD team on the development of the MUTCD. Additionally, staff from FRA's Office of Railroad Safety participated as members with FHWA at meetings of the National Committee on Uniform Traffic Control Devices. FRA continues to support FHWA on this topic and any others that contribute to improved safety. However, FRA does not have regulatory authority to approve or publish the MUTCD. That responsibility lies solely with FHWA. *See* 23 CFR 655.603. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
64	8/22/2014	R-14-16	Collaborate with PHMSA and ASLRRA to develop a risk assessment tool that addresses the known limitations and shortcomings of the Rail Corridor Risk Management Safety software tool.	**Open – Acceptable Response**. FRA funded the development and beta-testing of the Hazmat Transportation Risk Analytical Model (H-TRAM) Web-based software tool. This tool was developed for shortline and regional railroads to perform safety and security risk analyses in accordance with 49 CFR 172.820, Additional planning requirements for transportation by rail. The tool uses railroad operating information and route attributes to assess the 27 key risk factors listed in 49 CFR Part 172, Appendix D, Rail Risk Analysis Factors, with particular emphasis on population density. FRA funded an independent verification and validation of the tool, and findings of this study (primarily "ease of use" issues and process documentation) are being addressed. Currently, 14 railroad companies use H-TRAM. FRA has requested funding to continue supporting this project. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
FRA Item No.	**Issue Date**	**Rec. No.**	**Open NTSB Recommendation**	**NTSB Classification and Actions Taken by FRA**

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
65	8/22/2014	R-14-17	Collaborate with PHMSA and the American Short Line and Regional Railroad Association (ASLRRA) to conduct audits of shortline and regional railroads to ensure that proper route risk assessments that identify safety and security vulnerabilities are being performed and are incorporated into a safety management system program.	**Open – Acceptable Response**. *See* response to R-14-16 (Exhibit B, Item No. 63). FRA has an established program to audit compliance with 49 CFR 172.820 by visiting most, if not all, of the Class I railroads, as well as a select number of short line and regional railroads annually. To date, the audits show that carriers are operating in compliance with the regulation. More specifically, among regional and shortline railroads, the audits show that railroads not using the Rail Corridor Risk Management System or the H-TRAM use alternative methodologies to analyze the safety and security risks along routes subject to the route analysis requirements. Furthermore, FRA continues to collaborate with ASLRRA to promote the importance of performing a complete and thorough route analysis. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
66	10/22/2014	R-14-35	Work with the OSHA to establish clear guidelines for use by railroads and railroad workers detailing when and where OSHA standards are to be applied.	**Open – Unacceptable Response**. FRA has confirmed with the AAR and several shortlines that OSHA, as well as FRA, standards are incorporated into most railroads' rules. On March 6, 2017, FRA sent a letter to the NTSB asking them to close this recommendation.
67	10/22/2014	R-14-44	Assist the Federal Transit Administration (FTA) in establishing roadway worker protection rules, including requirements for job briefings.	**Open – Acceptable Response**. FRA consistently makes its staff available for assistance to FTA and will continue to do so. Despite the support FRA has provided to FTA, FRA ultimately does not have the regulatory authority to initiate or mandate the implementation of a rulemaking on behalf of FTA. *See* 49 CFR 601.23, *Initiation of rulemaking*; 601.29, *Additional rulemaking proceedings*; and 601.31, *Adoption of final rules*. While FRA personnel will continue to assist FTA, based upon the scope of FRA's authority and the actions it has taken to date, FRA considers its actions to have met the intent of the NTSB's recommendation. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
68	10/22/2014	R-14-48	Require equivalent levels of reporting for both public and private highway-rail grade crossings.	**Open – Unacceptable Response**. FRA published a final rule on January 6, 2015, that requires railroads to report new data elements to the USDOT National Highway-Rail Crossing Inventory (Inventory) for private highway-rail grade crossing. 80 FR 746. Railroads are required to submit information about previously unreported and new highway-rail and pathway crossings to the Inventory and to periodically update existing crossing data. In conjunction with the final rule, FRA also revised the Inventory Form (the FRA form used for submitting data to the Inventory), along with a revised Guide for Preparing Inventory Forms (Guide). The revised Guide directs railroads to submit data to the Inventory for private highway-rail grade crossings that railroads have not traditionally provided. The additional data includes, for example, current daily train counts for various types of train movements, maximum timetable speed over the crossing, typical speed range over the crossing, the number and types of track(s) through the crossing, type of train detection for automatic warning devices, track signals, and event recorder and health monitoring. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
69	2/2/2015	R-15-01	Revise 49 CFR 238.213 to require the existing forward-end cornerpost strength requirements for the back-end cornerposts of passenger railcars.	**Open – Unacceptable Response**. Based upon the limited number of accidents involving the ends of cars in the middle of a train, there is not enough statistical evidence to warrant the extension of the F-end (forward) strength requirements. Requiring all ends of all passenger cars to be designed to meet the F-end requirements for passenger-carrying locomotives is not cost efficient based upon the risk level for passenger cars in the middle of a train. FRA considered the function and placement of each car in a consist, and the types of operational conditions prevalent throughout, when developing the cornerpost requirements. Train accidents involving a substantial load impacting the middle of a train, as in the Metro-North Railroad accident from which the recommendation arose, make up a very small percentage of accidents, and requiring passenger railroads to enhance every passenger car currently in operation consistent with this recommendation would be a tremendous cost to the industry. The design variations for the F-end require more material, higher engineering costs, and higher production cost per car. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
70	2/2/2015	R-15-02	Revise 49 CFR Part 238 to incorporate a certificate of construction, similar to the one found at 49 CFR 179.5, and require that the certificate be furnished prior to the in-service date of the railcar.	**Open – Unacceptable Response**. FRA believes that the current compliance process provides an appropriate process. The certification program established under 49 CFR Part 179, Specifications for Tank Cars, does not involve an independent technical authority or a government regulatory program. Rather, the certification program is incorporated by reference and relies upon a railroad industry association program. Per 49 CFR 179.5, *Certificate of construction*, the party assembling the completed car (i.e., the manufacturer) is allowed to supply the AAR with Form AAR 4-2, showing compliance. At this time, there is no such railroad industry association program relating to passenger rail equipment. Moreover, a certification program, such as the one referenced, would need to be robust enough to address all design variations. Thus, the compliance process is more appropriate. A certification program of this magnitude would require a level of staffing and funding that is currently outside FRA's resources. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.
71	7/8/2015	R-15-26	Prohibit the use of a white light as a marking device on the rear of a train.	**Open – Unacceptable Response**. FRA's current regulations on end-of-train markings provide appropriate, comprehensive safety for train crews. Specifically, the regulations at 49 CFR 221.14(c)(3) allow the rear headlight of a locomotive to be illuminated on dim to serve as the required marker when the locomotive is operated singly or at the rear of a train. In fact, because of its elevated location, the headlight may be seen at a greater distance than a standard marker typically attached to a coupler. Further, while rear-end markers provide warning to train crews of the presence of another train on the same track ahead of their train, they are in addition to a long-standing, robust network of operational controls designed to provide safe separation between individual train movements on the same track. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

FRA Item No.	Issue Date	Rec. No.	Open NTSB Recommendation	NTSB Classification and Actions Taken by FRA
72	9/29/2015	R-15-36	Enhance your medical standards by identifying a list of medications whose use disqualifies employees for safety-sensitive positions because of the medications' potential for negatively affecting rail safety.	**Open – Awaiting Response**. FRA believes a list of these medications is best maintained by the Food and Drug Administration. FRA sent a response to the NTSB on November 18, 2016, and is still awaiting the NTSB's response. In the 2nd Quarter of FY18, FRA will send a letter to the NTSB requesting that they close this recommendation.

Exhibit C: Open Rail Safety Recommendations by the Office of Inspector General (OIG) to the Federal Railroad Administration (FRA) (as of December 31, 2017)[1]

Item No.	Report & Rec Nos.	Report Title	Recommendation	Actions Taken by FRA	Actions Needing to Be Taken by FRA
1	ST-2017-045 No.4	FRA Has Taken Steps to Improve Safety Data Reporting but Lacks Standard Procedures and Training for Compliance Audits	Develop and implement procedures for tracking 49 CFR Part 225 audits of non-Class I railroads and identifying entities exempt from 49 CFR Part 225 reporting requirements.	FRA developed and implemented procedures for tracking audits of non-Class I railroads and identifying entities exempt from reporting requirements.	FRA implemented the recommendation and requested the OIG close the recommendation on December 21, 2017.
2	ST-2017-045 No.5	FRA Has Taken Steps to Improve Safety Data Reporting but Lacks Standard Procedures and Training for Compliance Audits	Establish a risk-based prioritization for auditing non-Class I railroads every 5 years. Part of the prioritization process should include determining whether any higher-risk non-Class I railroads should be audited more frequently.	FRA established a risk-based prioritization for auditing non-Class I railroads.	FRA implemented the recommendation and requested the OIG close the recommendation on December 21, 2017.

[1] The OIG closed Exhibit C, Item Nos. 1 and 2 on January 15, 2018, shortly after the end of the calendar year. However, these recommendations remain in the report as they were open as of December 31, 2017.

Item No.	Report & Rec Nos.	Report Title	Recommendation	Actions Taken by FRA	Actions Needing to Be Taken by FRA
3	ST-2017-045 No.6	FRA Has Taken Steps to Improve Safety Data Reporting but Lacks Standard Procedures and Training for Compliance Audits	Formalize the 49 CFR Part 225 audit process and written guidance that identifies basic procedures, standards of evidence, and common sources of information, along with a process to update these standards and reevaluate audit priorities or scope when necessary.	Guidance is developed and is moving through the FRA review process.	Complete the review and finalize the guidance.
4	ST-2107-045 No.7	FRA Has Taken Steps to Improve Safety Data Reporting but Lacks Standard Procedures and Training for Compliance Audits	Develop and initiate regular training to FRA staff responsible for 49 CFR Part 225 audits and establish a procedure to update the training when necessary.	Training is developed and will be updated to reflect the final guidance. Procedures to update the training are being developed.	Finalize the training and procedures.