4910-06-P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

49 CFR Part 214

[Docket No. FRA-2008-0086]

RIN 2130-AB89

Railroad Workplace Safety; Roadway Worker Protection Miscellaneous Revisions (RRR)

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

ACTION: Final rule; retrospective regulatory review (RRR).

SUMMARY: FRA is amending its Roadway Worker Protection (RWP) regulation to resolve interpretative issues that have arisen since the 1996 promulgation of that rule. In particular, this final rule adopts certain terms, resolves miscellaneous interpretive issues, codifies certain FRA Technical Bulletins, adopts new requirements governing redundant signal protections and the movement of roadway maintenance machinery over signalized non-controlled track, and amends certain qualification requirements for roadway workers. This final rule also deletes three outdated incorporations by reference of industry standards in FRA's Bridge Worker Safety Standards, and cross references the Occupational Safety and Health Administration's (OSHA) regulations on the same point.

DATES: This final rule is effective April 1, 2017. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of April 1, 2017. Petitions for reconsideration must be received on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Amtrak v. Railware, Inc.
IPR2023-01181
EX2001 - 001

Petitions for reconsideration will be posted in the docket for this proceeding. Comments on any submitted petition for reconsideration must be received on or before [INSERT DATE 95 DAYS AFTER DATE OF PUBLICATION THE IN FEDERAL REGISTER].

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I. Executive Summary

On August 20, 2012, FRA published a notice of proposed rulemaking (NPRM) proposing amendments to its regulation on railroad workplace safety to resolve interpretative issues that have arisen since the 1996 promulgation of the original RWP regulation. 77 FR 50324. As detailed in the NPRM, FRA based its proposed amendments, in large part, on recommendations of FRA's Railroad Safety Advisory Committee (RSAC).

Noteworthy RSAC recommendations that FRA is adopting in this final rule include: a job briefing requirement regarding the accessibility of the roadway worker in charge; the adoption of procedures for how roadway workers cross railroad track; a new exception for railroads conducting snow removal and weed spraying operations; a clarification of the existing "foul time" provision; three new permissible methods of establishing working limits on non-controlled track; the expanded use of individual train detection at controlled points; an amended provision governing train audible warnings for roadway workers; and, amendment of certain roadway worker training requirements.

FRA is also addressing other items on which RSAC did not reach consensus and certain miscellaneous other revisions proposed in the NPRM. Noteworthy among these items are: redundant signal protections; the electronic display of working limits authorities; amendments to the existing provision governing the qualification of roadway workers in charge; a new provision establishing minimum safety standards governing the use of "occupancy behind" or "conditional" working limit authorities; the phase-out of the use of definite train location and informational train line-ups; amendments to clarify the existing roadway worker protection and blue signal protection requirements for work performed within shop areas; the use of existing tunnel niches and clearing bays as a place of safety; and, the use of other railroad tracks as a place of safety. This final rule also deletes certain outdated incorporations by reference of personal protective equipment standards in FRA's Bridge Worker Safety Standards at subpart B of part 214, and instead cross references the relevant OSHA's regulations.

For the 20-year period analyzed, the estimated quantified costs to the railroad industry total $20,965,962, discounted to $11,491,330 (present value (PV), 7 percent) and

$15,832,099 (PV, 3 percent). For the same 20-year period, the estimated quantified benefits total $53,109,702, discounted to $28,132,247 (PV, 7 percent) and $39,506,913 (PV, 3 percent). Net benefits total $32,143,740, discounted to $16,640,917 (PV, 7 percent) and $23,674,814 (PV, 3 percent). Table 1 presents the estimated quantified costs and benefits broken down by section of the final rule.

Table 1. Summary of Quantified Costs and Benefits

Costs		**Year 1**	**2 - 20**	***Total 20 year***	***7% PV***	***3% PV***
214.315	Job Briefings	$179,468	$179,468	*$3,589,356*	*$1,901,284*	*$2,670,028*
214.318	Training for Locom. & Car Shop Areas	226,601	226,601	*4,532,015*	*2,400,612*	*3,371,247*
214.319	Working Limits, generally	611,658	509,091	*7,725,127*	*4,465,867*	*5,975,983*
214.339	Audible Warning from Trains	29,105	0	*29,105*	*27,200*	*28,257*
214.345	Training on Safe Crossing of Tracks	90,640	90,640	*1,812,806*	*960,245*	*1,348,499*
214.347	Training on Access to Manual	13,596	13,596	*271,921*	*144,037*	*202,275*
214.353	Training RWIC	150,282	150,282	*3,005,632*	*1,592,086*	*2,235,811*
Total		**$1,301,349**	**$1,169,678**	**$20,965,962**	**$11,491,330**	**$15,832,099**
Benefits		**Year 1**	**2 - 20**	***Total 20 year***	***7% PV***	***3% PV***
214.317	Track Snow Removal	367,093	367,093	*7,341,864*	*3,888,991*	*5,461,420*
214.318	Locomotive Service & Shop Areas	1,964,466	1,964,466	*39,289,322*	*20,811,582*	*29,226,295*
214.327	Inaccessible Track	255,946	255,946	*5,118,911*	*2,711,491*	*3,807,823*
214.337	ITD	67,980	67,980	*1,359,605*	*720,183*	*1,011,374*
Total:		**$2,655,485**	**$2,655,485**	***$53,109,702***	***$28,132,247***	***$39,506,913***
NET BENEFITS		**$1,354,136**	**$1,485,807**	**$32,143,740**	**$16,640,917**	**$23,674,814**

Note: *Dollars are discounted over a 20-year period.*

II. Executive Order 13563 Retrospective Review

Consistent with the requirements of Executive Order 13563, this final rule modifies the existing RWP requirements, in part, based on what FRA learned from its retrospective review of the existing regulation. Executive Order 13563 requires agencies to review existing regulations "that may be outmoded, ineffective, insufficient, or

excessively burdensome, and to modify, streamline, expand, or repeal them in accordance with what has been learned."[1] As a result of its retrospective review, FRA is deleting or sun setting several sections of the existing RWP regulation it believes to be outdated or superfluous (§§ 214.302, 214.305, 214.331 and 214.333), and is also increasing flexibility for compliance in several other sections (§§ 214.317, 214.327 and 214.337).

III. Rulemaking Authority and Background of the Existing RWP Rule

The Federal Railroad Safety Act of 1970, as codified at 49 U.S.C. 20103, provides that, "[t]he Secretary of Transportation, as necessary, shall prescribe regulations and issue orders for every area of railroad safety supplementing laws and regulations in effect on October 16, 1970." The Secretary's responsibility under this provision and the balance of the railroad safety laws have been delegated to the FRA Administrator. 49 CFR 1.89(a). As noted in the NPRM, in the field of railroad workplace safety, FRA has traditionally pursued a conservative course of regulation, relying upon the industry to implement suitable railroad safety rules and mandating in the broadest ways that employees be "instructed" in the requirements of those rules and that railroads create and administer programs of operational tests and inspections to verify compliance. This approach is based on several factors, including recognition of the strong interest of railroads in avoiding costly accidents and personal injuries, the limited resources available to FRA to directly enforce railroad safety rules, and the apparent success of management and employees accomplishing most work in a safe manner.

Over the years, however, it became necessary to codify certain requirements, either to remedy perceived shortcomings in the railroads' rules, emphasize the

[1] Executive Order No. 13563, 76 FR 3821, Jan. 21, 2011; available online at: http://www.gpo.gov/fdsys/pkg/FR-2011-01-21/pdf/2011-1385.pdf.

importance of compliance, or give FRA a more direct means of promoting compliance. A detailed description of the background and history of FRA's RWP regulation is found in the NPRM.

IV. RSAC Overview

As explained in the preamble to the NPRM, FRA's RSAC provides a forum for collaborative rulemaking and program development. The RSAC includes representatives from all of the railroad industry's major stakeholder groups, including railroads, labor organizations, suppliers and manufacturers, and other interested parties.[2] When appropriate, FRA assigns a task to the RSAC, and, after consideration and debate, the RSAC may accept or reject the task. If the task is accepted, the RSAC establishes a working group that possesses the appropriate expertise and representation of interests to develop consensus recommendations to FRA for action on the task. A working group may establish one or more task forces to develop facts and options on a particular aspect

[2] RSAC member groups are: American Association of Private Railroad Car Owners (AAPRCO); American Association of State Highway and Transportation Officials (AASHTO); American Chemistry Council; American Petroleum Institute; American Public Transportation Association (APTA); American Short Line and Regional Railroad Association (ASLRRA); American Train Dispatchers Association (ATDA); Association of American Railroads (AAR); Association of Railway Museums; Association of State Rail Safety Managers (ASRSM); Brotherhood of Locomotive Engineers and Trainmen (BLET); Brotherhood of Maintenance of Way Employees Division (BMWED); Brotherhood of Railroad Signalmen (BRS); Chlorine Institute; Federal Transit Administration (FTA);* Fertilizer Institute; High Speed Ground Transportation Association (HSGTA); Institute of Makers of Explosives; International Association of Machinists and Aerospace Workers; International Association of Sheet Metal, Air, Rail and Transportation Workers (SMART), including the Sheet Metal Workers' International Association (SMWIA) and United Transportation Union (UTU); International Brotherhood of Electrical Workers (IBEW); Labor Council for Latin American Advancement (LCLAA);* League of Railway Industry Women;* National Association of Railroad Passengers (NARP); National Association of Railway Business Women;* National Conference of Firemen & Oilers; National Railroad Construction and Maintenance Association (NRCMA); National Railroad Passenger Corporation (Amtrak); National Transportation Safety Board (NTSB);* Railway Supply Institute (RSI); Safe Travel America (STA); Secretaria de Comunicaciones y Transporte (Mexico);* Tourist Railway Association, Inc.; Transport Canada;* Transport Workers Union of America (TWU); Transportation Communications International Union/BRC (TCIU/BRC); and Transportation Security Administration (TSA).* *Indicates associate membership.

of a given task. The individual task force then provides that information to the working group for consideration.

When a working group comes to unanimous consensus on recommendations for action, the package is presented to the full RSAC for a vote. If the proposal is accepted by a simple majority of RSAC members, the proposal is formally recommended to the FRA Administrator. FRA then determines what action to take on the recommendation. Because FRA staff members play an active role at the working group level discussing the issues and options and drafting the consensus recommendation, FRA often adopts the RSAC recommendation.

FRA is not bound to follow the RSAC's recommendation, and the agency exercises its independent judgment on whether a recommendation achieves the agency's regulatory goal(s), is soundly supported, and is consistent with policy and legal requirements. Often, FRA varies in some respects from the RSAC recommendation in developing the actual regulatory proposal or final rule. FRA explains any such variations in the rulemaking. If RSAC is unable to reach consensus on a recommendation for action, the task is withdrawn and FRA determines the best course of action.

V. RWP RSAC Working Group

As detailed in the NPRM, on January 26, 2005, the RSAC formed the RWP Working Group (Working Group)[3] to consider specific actions to advance the on-track

[3] The Working Group included members representing the following organizations: Amtrak; APTA; ASLRRA; ATDA; AAR, including members from BNSF Railway Company (BNSF), Canadian National Railway Company (CN), Canadian Pacific Railway, Limited (CP), Consolidated Rail Corporation (Conrail), CSX Transportation, Inc. (CSXT), The Kansas City Southern Railway Company (KCS), Norfolk Southern Corporation railroads (NS), and Union Pacific Railroad Company (UP); Belt Railroad of Chicago; BLET; BMWED; BRS; FRA; Indiana Harbor Belt Railroad (IHB); Long Island Rail Road (LIRR); Metro-North Commuter Railroad Company (Metro-North); Montana Rail Link; NRC; Northeast

safety of railroad employees and their contractors engaged in maintenance-of-way activities throughout the general system of railroad transportation. FRA tasked the Working Group with reviewing the existing RWP regulation, technical bulletins, and a safety advisory dealing with on-track safety for roadway workers, and, as appropriate, to consider enhancements to the existing rule to further reduce the risk of serious injury or death to roadway workers.

The Working Group held 12 multi-day meetings and worked diligently to reach consensus on 32 separate items. The Working Group's consensus recommendations included adding or amending various provisions in the following sections in part 214, subpart C:

- § 214.7 - add two new definitions; revise an existing definition; and incorporate three other existing definitions from part 236.
- § 214.309 - revision to address on-track safety manual for lone workers and changes to the manual.
- § 214.315 - requirement that on-track safety job briefings include information concerning adjacent tracks and accessibility of the roadway worker in charge.
- § 214.317 - new paragraph to formalize procedures for roadway workers to walk across tracks; new paragraph for on-track weed spray and snow blowing operations on non-controlled track.
- § 214.321 - new paragraph to address the use of work crew numbers.

Illinois Regional Commuter Railroad Corporation (Metra); RailAmerica, Inc.; Southeastern Pennsylvania Transportation Authority (SEPTA); UTU; and Western New York and Pennsylvania Railroad (WNY&P).

- § 214.323 - clarification of foul time provision prohibiting roadway worker in charge or train dispatcher from permitting movements into working limits.
- § 214.324 - new section called “verbal protection” for abbreviated working limits within manual interlocking and controlled points.
- § 214.327 – three new paragraphs to formalize the following methods of making non-controlled track inaccessible: occupied locomotive as a point of inaccessibility; block register territory; and, the use of track bulletins to make track inaccessible within yard limits.
- § 214.335 - revision of paragraph (c) concerning on-track safety for tracks adjacent to occupied tracks. Key elements are the elimination of “large-scale” and the addition of a new requirement for on-track safety for tracks adjacent to occupied tracks for specific work activities (addressed in separate rulemaking proceeding as discussed below).
- § 214.337 - allow the use of individual train detection at controlled points consisting only of signals and a new paragraph limiting equipment/materials that can only be moved by hand by a lone worker.
- § 214.339 - revision of this section concerning train audible warnings to address operational considerations.
- § 214.343 - new paragraph to ensure contractors receive requisite training/and or qualification before engaged by a railroad.
- § 214.345 - lead-in phrase requiring all training to be consistent with initial or recurrent training, as specified in § 214.343(b).

- §§ 214.347, 214.349, 214.351, 214.353, and 214.355 - consistent requirements for various roadway worker qualifications and a maximum 24-month time period between qualifications.

On June 26, 2007, the full RSAC voted to accept the above recommendations presented by the Working Group. In addition to the above, the Working Group worked on a proposal to use electronic display of authorities as a provision under exclusive track occupancy. The Working Group developed lead-in regulatory text and agreed to some conceptual items. When circulated back to the Working Group prior to the full RSAC vote, however, technical issues were raised that could not be resolved in the time available. Accordingly, in the NPRM, FRA addressed the electronic display issue, and certain other issues the Working Group did not reach consensus on, and FRA is addressing certain of those items in this final rule. Other items the Working Group did not reach consensus on include:

- § 214.7 – new term and definition for a "remotely controlled hump yard facility."
- § 214.7 – revision to the definition for the term "roadway worker."
- § 214.317 – use of tunnel clearing bays.
- § 214.321 – track occupancy after passage of a train.
- § 214.329 – removal of objects from the track under train approach warning.
- § 214.336 – passenger station platform snow removal and cleaning.
- § 214.337 – consideration of allowance for the use of individual train detection at certain types of manual interlockings or controlled points.
- § 214.353 – qualification of employees other than roadway workers who directly provide for the on-track safety of a roadway work group.

As described further in either the preamble to the NPRM or below, FRA is not addressing all of these non-consensus items in this final rule. This rule does not address revisions to the terms "roadway worker" or "remotely controlled hump yard facility," the removal of objects from the track under train approach warning, the addition of a new "verbal protection" section, or passenger station platform snow removal and cleaning, but the remaining non-consensus items this rule does address are discussed in detail in the relevant Section-by-Section analyses below.

VI. Proceedings Concerning On-Track Safety Procedures for Adjacent Tracks

As mentioned above, the Working Group reached consensus on items that dealt specifically with adjacent-track on-track safety issues. In light of roadway worker fatality trends involving adjacent track protections, and to expedite lowering the safety risk associated with roadway workers fouling adjacent tracks, FRA undertook a rulemaking proceeding to separately address the adjacent-track safety issues the Working Group contemplated. FRA then published an NPRM addressing adjacent-track on-track safety on July 17, 2008 (73 FR 41214), but formally withdrew the NPRM on August 13, 2008 (73 FR 47124). FRA then published a revised NPRM on November 25, 2009 (74 FR 61633), and a final rule on November 30, 2011 (76 FR 74586). FRA received two petitions for reconsideration of the final rule, and five public comments on those petitions for reconsideration. See Docket No. FRA-2008-0059, available at www.regulations.gov. On December 27, 2013, FRA issued an amended final rule which made certain modifications to the adjacent track final rule in light of issues the petitions for reconsideration raised. 79 FR 1743. The final rule, as amended, became effective on July 1, 2014. The provisions in that rulemaking have limited interaction with the

miscellaneous revisions in this final rule amending subpart C. However, as a result of the adjacent track rulemaking, the subpart C section numbering in this final rule for the RSAC's consensus recommendations is slightly different from that recommended. Any relevant numbering changes are noted in the Section-by-Section analysis below.

VII. Proceedings in this Rulemaking to Date

On August 20, 2012, FRA published an NPRM in the Federal Register proposing nearly all the RSAC consensus recommendations the adjacent track rulemaking did not address and requesting public comment on a variety of other proposals. 77 FR 50324. Noteworthy consensus recommendations proposed in the NPRM include: a job briefing requirement regarding the accessibility of the roadway worker in charge; the adoption of procedures for how roadway workers walk across railroad track; a new allowance for railroad's conducting on-track snow removal and weed spraying operations; a clarification of the existing "foul time" provision; a new "verbal protection" provision; three new permissible methods of establishing working limits on non-controlled track; the expanded use of individual train detection at controlled points; an amended provision governing audible warnings by trains for roadway workers; and, clarification of training requirements for roadway workers.

The NPRM also addressed items on which the Working Group did not reach consensus and certain miscellaneous other revisions. These items include: electronic display of track authorities, NTSB Safety Recommendation R-08-06 (redundant signal protections), using certain tunnel niches as a place of safety for roadway workers; a new provision for the removal of objects from railroad track when train approach warning is used as the method of on-track safety; amendments to the existing provision governing

the qualification of roadway workers in charge (RWIC); a new section addressing passenger station platform snow removal; a new provision governing using "occupancy behind" or "conditional" working limit authorities; the phase-out of using definite train location and informational train line-ups, potential amendments to the existing RWP and blue signal protection requirements for work performed within shop areas, and, using other railroad track as a place of safety when train approach warning is used as the method of on-track safety. Finally, the NPRM also proposed to delete certain incorporations by reference of personal protective equipment standards in FRA's Bridge Worker Safety Standards at subpart B of part 214, and instead cross reference OSHA's regulations on the same point.

VIII. Public Comments Received

FRA received 14 comments in response to the NPRM. Commenters include: AAR, APTA, ASLRRA, BMWED and BRS (jointly; BMWED/BRS comment), Kimberly Clark Professional, Metro-North and LIRR jointly (MTA comment), New Jersey Transit (NJT), NTSB, Reflective Apparel Factory, SEPTA, and 3M Occupational Health and Environmental Safety Division (3M). FRA also received two comments from individuals, and an additional late comment from BMWED. Section VIII.A below contains a summary and analysis of the comments FRA received that FRA is not adopting in this final rule. Section VIII.B below addresses the effective date of the final rule. Section VIII.C below contains a discussion of the general comments FRA received in response to the NPRM. Section IX contains the Section-by-Section discussion of the final rule, and addresses comments received in response to the NPRM on each respective section of the regulation.

A. Comments on NPRM Proposals not Included in Final Rule

1. Passenger Station Platform Snow Removal and Cleaning

In the NPRM, FRA proposed a new § 214.338 addressing snow removal and cleaning on passenger station platforms. As proposed, under certain circumstances a single RWIC could oversee several "station platform work coordinators" each responsible for directing the on-track safety of a roadway worker or workgroup performing snow removal or cleaning at passenger stations. FRA intended the proposal to address issues associated with snow removal and routine maintenance operations, and to ensure roadway worker safety while facilitating railroads' ability to carry out these tasks on passenger stations platforms.

FRA received seven comments on this proposal. NTSB's comment opposed FRA's proposal, stating it would detract from safety. The BMWED/BRS comment also opposed the proposal, asserting it would weaken existing safety protections and that the existing regulation already facilitates timely removal of snow from passenger station platforms. AAR's comment indicated proposed § 214.338 is confusing and suggested changes to the proposal (including removal of the 79 mph speed limitation and increased exceptions for snow removal on crosswalks). APTA also opposed FRA's proposal, and specifically noted it disagreed with FRA's stated position that part 214 applies to routine passenger station maintenance activities. APTA and BMWED/BRS's comment also opposed this provision's related training section (proposed § 214.352). MTA opposed FRA's proposal, citing an alleged lack of benefits and implying FRA's NPRM preamble discussion attempted to expand the existing requirements of part 214. SEPTA commented that snow removal and maintenance activities do fall under the scope of

existing part 214's on-track safety requirements and supported the proposal. NJT commented that it successfully utilizes snow removal procedures like those proposed on the Northeast corridor, but stated the proposed 79 mph speed limit would impose financial burdens on the railroad with no resulting safety benefit.

After evaluating the issue and comments received, FRA is not adopting proposed § 214.338 in this final rule. After recent winters in which many States received heavy snowfalls, FRA's evaluation of this issue indicates the existing regulation is not problematic. Thus, FRA concludes the proposed amendments are not necessary. Further, several commenters opposed all or parts of FRA's proposal, with two commenters asserting that adopting the proposal would decrease safety. Because FRA is not adopting proposed § 214.338 in this final rule, FRA is not adopting that provision's related training at proposed § 214.352. Similarly, FRA is not adopting the proposed revisions to existing § 214.329(a) or to § 214.7's definition of the term "watchmen/lookouts" that both related to the sight distance exception of proposed § 214.338.

While FRA is not including the station platform snow removal and cleaning proposal in this final rule, FRA believes it is important to clarify that snow removal activities involving railroad employees or contractors fouling track are subject to the requirements of existing part 214. The definition of a roadway worker includes employees or contractors to a railroad who perform maintenance of roadway or roadway facilities on or near track, or with the potential of fouling a track, which includes snow removal activities. Whether a roadway worker sweeps snow from a switch, a signal appliance, or at a passenger station, if the roadway worker is fouling track (or could potentially foul the track), the risk of injury or death to the roadway worker is the same.

FRA recognizes the risks of fouling track may be somewhat mitigated when snow removal is conducted on elevated station platforms (railroad passengers safely occupy the same area where these activities occur). However, not all station platforms are high platforms, and often roadway workers face risks when they foul track with their bodies or equipment while removing snow or performing other routine maintenance activities (e.g., a roadway worker clearing snow from an outside station platform may foul the track with his or her shovel). Before receiving the comments, FRA believed industry understood part 214 applies to snow removal activities. For example, in 2011, Amtrak petitioned FRA for relief from part 214's definition of "fouling a track" when hand tools are used to remove snow from a station platform's tactile warning area. See Docket No. FRA 2011-0077, available at www.regulations.gov. As noted in BMWED/BRS's comment, FRA granted that waiver.

In the NPRM, FRA also requested comment on whether station platform work coordinators should be required to wear highly visible garments conforming to the standards of the American National Standards Institute/International Safety Equipment Association. In response, APTA, BMWED/BRS, 3M, Kimberly-Clark Professional, the Reflective Apparel Factory, and NTSB commented. The BMWED/BRS commented that individual railroads should determine the selection and their employees' use of highly visible protective equipment. NTSB commented that most railroads currently require roadway workers to wear highly visible vests, and, because of the low visibility conditions that typically exist during snow removal operations on station platforms, FRA should require highly visible safety apparel for all work performed in those conditions. APTA's comment supported using high visibility apparel to help differentiate passengers

on the platform from workers, but stated it did not support considering these workers "roadway workers." Kimberly-Clark Professional, the Reflective Apparel Factory, and 3M all expressed general support for a highly visible garment requirement for station platform work coordinators. As discussed above, FRA is not adopting proposed § 214.338 in this final rule. Accordingly, FRA is not adopting a highly visible garment requirement. As noted in NTSB's comment, FRA understands most railroads already require roadway workers to wear highly visible garments.

2. Verbal Protection

Consistent with a recommendation of the Working Group, in the NPRM, FRA proposed new § 214.324, designed to enable roadway workers to establish working limits using "verbal protection." In the NPRM, FRA explained that by proposing to adopt the Working Group's "verbal protection" recommendations, it intended to address discrepancies discussed by the Working Group regarding how on-track safety terminology and use varies in different parts of the country. As proposed, verbal protection nearly mirrored the requirements of foul time. For example, as proposed, if a RWIC established working limits utilizing either verbal protection or foul time, he or she would not have to copy a written authority and maintain possession of it while working limits were in effect. Instead, the RWIC would only have to correctly repeat back the applicable working limits information to the train dispatcher or control operator. The primary difference between verbal protection as proposed and the existing rule allowing establishment of working limits via foul time is that under verbal protection, a RWIC could authorize on-track equipment and trains to move into and within working limits. Under existing § 214.323, foul time can be utilized both within and outside of manual

interlockings or controlled points, but trains and on-track equipment are prohibited from moving into working limits until the roadway worker who obtained the foul time reports clear of the track.

In the NPRM, FRA requested comment on whether a RWIC using verbal protection to establish working limits should be required to make and maintain a copy of the working limits information. FRA noted that such a requirement would ensure a RWIC could reference a written document if any question regarding the working limits arose. FRA believes this would be particularly important when a RWIC utilizing verbal protection is asked to clear track to permit trains or other on-track equipment to move through his or her working limits and then resume work.

In response to this request for comment, FRA received comments from AAR, MTA, and the BMWED/BRS. AAR's comment stated the rule should not require a RWIC to make and maintain a written copy of working limits when using verbal protection, as there is no "significant opportunity for confusion if the procedures for verbal protection are followed." AAR further stated the use of a written authority would defeat the purpose of verbal protection. MTA's comment made the same point and added that requiring a RWIC to copy the information could potentially distract that RWIC. BMWED/BRS's comment indicated this proposal would exclude lone workers from being able to establish verbal protection working limits (due to § 214.7's proposed definition of the term "roadway worker in charge") and advocated requiring the RWIC to make a written copy of working limits authority via verbal protection. BMWED/BRS indicated that because an RWIC could authorize train and on-track equipment

movements into working limits authorized by verbal protection, a written document would enhance safety and eliminate mental errors regarding the working limits.

In light of the comments received, FRA again reviewed the records of the Working Group's discussions on verbal protection. Those records indicate the Working Group may have primarily intended verbal protection as a method for roadway maintenance machines to occupy and move through interlockings and controlled points and to perform short duration work as necessary. FRA notes that existing part 214 already accommodates these activities through the establishment of working limits via foul time (§ 214.323) and exclusive track occupancy (§ 214.321). Existing § 214.323 permits the establishment of foul time working limits within a manual interlocking or controlled point, and permits the working limits to be established verbally by the RWIC and dispatcher. Although part 214 does not specify any time limit on the duration of foul time, typically, foul time is used for short durations. If longer duration work needs to be performed, and a RWIC desires to let trains through working limits without giving up his or her authority, the RWIC can use the exclusive track occupancy procedures at existing § 214.321. Further, FRA notes that part 214 does not always require the establishment of working limits to move roadway maintenance machines through an interlocking or controlled point. Existing § 214.301(c) allows roadway maintenance machine movements in travel mode (not performing work such that working limits are required) to do so under the authority of a dispatcher or control operator. Because existing part 214 already provides the flexibility FRA intended the proposal for verbal protection to achieve, and consistent with AAR's comment, FRA believes requiring a RWIC to write

down his or her working limits information would make verbal protection somewhat indistinguishable from existing exclusive track occupancy procedures under § 214.321.

FRA also believes that in some instances using verbal protection could raise safety issues if not utilized as intended (e.g., a roadway work group's establishment of working limits within an interlocking to perform work requiring the group to repeatedly clear and then re-occupy track to let trains travel through working limits). After careful consideration of this issue, FRA strongly believes that if a work group wants to let trains or other on-track equipment travel through working limits without releasing its authority, the RWIC should have a written (or electronic) document to refer to containing all relevant information for that authority (e.g., the exact limits of the authority, track number(s)). The existing exclusive track occupancy procedures at § 214.321 provide for such a document for the work group to reference.

FRA understands the operating rules of railroads may utilize different terminology than exists in part 214 (e.g., some railroads' rules may refer to § 214.321's exclusive track occupancy requirements as "foul time"). FRA also understands some railroads' rules may differ from part 214 in not permitting using certain forms of working limits within the limits of an interlocking or controlled point. However, existing part 214 has no such restrictions. A new verbal protection section would not create any flexibility in establishing working limits within a manual interlocking or controlled point that part 214 does not already provide, and could potentially introduce safety concerns that do not currently exist if not used as the Working Group seems to have originally intended. Thus, FRA declines to adopt the proposed "verbal protection" section in this final rule.

3. Physical Characteristics Qualification for Watchmen/Lookouts and Lone Workers

Existing § 214.353 governs the qualification and training of RWICs and includes training on the "relevant physical characteristics of the territory of the railroad upon which the roadway worker is qualified." However, similar training and qualification is not required for lone workers or watchmen/lookouts. See §§ 214.347 and 214.349. In the NPRM, FRA requested comment on whether lone workers and watchman/lookouts should be trained and qualified on the physical characteristics of a territory similar to the qualification requirement for RWICs. Lone workers are similar to RWICs because they establish on-track safety, but only for themselves rather than for an entire roadway work group like an RWIC. FRA sought comment on this issue to determine if such a requirement could potentially improve the safety of lone workers and better enable watchmen/lookouts to provide effective train approach warning at particular locations.

BMWED/BRS, AAR, SEPTA, NJT, and MTA each commented on this proposal. The BMWED/BRS comment supported including physical characteristics qualification and training for lone workers, noting they must be able to establish working limits when necessary, and be familiar with their assigned territory. Both BMWED/BRS and SEPTA opposed physical characteristics training for watchmen/lookouts because such employees work under the supervision of a RWIC who must be qualified on the physical characteristics and have cost concerns. Noting the lack of accidents attributed to roadway workers lacking familiarity with the physical characteristics of a territory, AAR's comment opposed this proposal, stating there is no evidence to support the requirement and citing cost concerns. NJT's comment stated lone workers already have to be

qualified on physical characteristics to foul track. FRA agrees with NJT to the extent a railroad chooses to require physical characteristics training to consider a lone worker "qualified," as that term is defined at existing § 214.7. With regard to watchmen/lookouts, NJT's comment stated that physical characteristics qualification would not always help an employee determine proper sight distances and such a requirement would not significantly enhance safety. Rather, NJT suggested FRA should clarify job briefing requirements when roadway work groups utilize watchmen/lookouts. MTA's comment stated it does not believe watchmen/lookouts should be required to have physical characteristics qualification.

After evaluating the comments, FRA is not adopting either the lone worker or watchmen/lookouts physical characteristics qualification requirement. First, no commenters supported the proposal on watchmen/lookouts, pointing to cost prohibitions, the fact that each roadway work group is already required to have a RWIC qualified on the physical characteristics, and issues with logistics and efficiency. Although some commenters did support such a requirement applying to lone workers, FRA is not aware of accident data to offset the costs such a requirement might entail and does not believe that specifically mandating the physical characteristics qualification of lone workers would yield any real safety benefit. As a practical matter, as NJT's comment recognized, lone workers are often already qualified on the physical characteristics of a territory, as they need to be conversant in which type of protection (working limits versus individual train detection) is appropriate at any given work location. FRA also notes that under the existing RWP regulation lone workers always have the absolute right to establish working limits when fouling track, which eliminates safety concerns regarding the use of

individual train detection if the lone worker is not comfortable using that form of on-track safety at any location. See 49 CFR 214.337(b).

4. Removal of Objects by Hand Under Train Approach Warning

Consistent with the Working Group's consensus recommendation, in the NPRM FRA proposed to add new paragraph (g) to § 214.337. Paragraph (g) is adopted in this final rule and prohibits lone workers from utilizing individual train detection to provide on-track safety when using a roadway maintenance machine, equipment, or material that cannot be readily removed from the track by hand. As noted in the NPRM, the Working Group also discussed the use of train approach warning (§ 214.329) by roadway work groups using roadway maintenance machines, equipment, or material not easily removed from the track. Although the Working Group did not reach consensus on this point, because the existing RWP regulation is silent on this issue, FRA proposed in the NPRM new § 214.329(h). FRA intended paragraph (h) to prohibit using train approach warning as the form of on-track safety when a roadway work group is using equipment they cannot easily remove from the track and to clarify the establishment of working limits is necessary in such situations. FRA is not adopting proposed § 214.329(h) in this final rule for the reasons explained below.

NTSB and BMWED/BRS comments opposed adding proposed paragraph (h) to § 214.329. NTSB stated the purpose of existing § 214.329 governing train approach warning provided by watchmen/lookouts is to ensure roadway workers can occupy a place of safety not less than 15 seconds before a train arrives. Further, NTSB notes the section is intended to protect roadway workers by allowing them to immediately move to

occupy a place of safety when train approach warning is provided, not to allow the coordination of equipment removal.

Like NTSB's comments, BMWED/BRS commented that train approach warning is limited to warning persons to clear the track and is not intended to protect equipment fouling a track. BMWED/BRS noted that issues with removing equipment from track have not arisen in situations involving the train approach warning regulation. BMWED/BRS explained that if a roadway worker is holding a hand tool or a small handheld power tool, he or she will normally carry that tool with them to the place of safety. BMWED/BRS argued proposed paragraph (h) is unsafe, would increase the risk of roadway workers being struck by trains or on-track equipment, and that "FRA should not require roadway workers to do anything except immediately move to a predetermined place of safety upon receiving a train approach warning."

After FRA published the NPRM, on January 6, 2014, the rail industry's Fatality Analysis of Maintenance-of-Way Employees and Signalmen (FAMES) Committee[4] published a report analyzing fatal accidents which occurred under train approach warning.[5] The report noted that three of the 10 fatal accidents analyzed, which occurred when roadway workers used train approach warning to establish on-track safety, resulted from watchmen/lookouts not being fully focused on the task of detecting approaching trains. The FAMES report emphasized compliance with certain practices required by existing § 214.329. That existing regulatory provision requires watchmen/lookouts to

[4] The FAMES Committee consists of safety representatives from a cross section of railroad labor, railroad management, and federal regulators. FAMES analyzed all fatalities and selected related incidents to make recommendations to reduce the risk of future occurrences and eliminate fatalities to roadway workers.

[5] http://www.fra.dot.gov/eLib/Details/L04902.

devote their full attention to detecting the approach of trains and communicating the appropriate warnings to roadway workers. That section further prohibits assigning any other duties to the watchman/lookout while that individual is functioning as a watchmen/lookout. After careful consideration of the comments received and the findings of the FAMES report, FRA believes that emphasis on the existing requirements of § 214.329 and continued vigilant enforcement efforts are the best methods to ensure roadway worker safety when train approach warning is used to establish on-track safety. Accordingly, FRA is not adopting proposed paragraph (h) in this final rule. FRA believes the commenters raised valid points regarding the safety of roadway workers and that the regulation is intended to protect roadway workers, not equipment. FRA also agrees a roadway worker's first responsibility upon receiving train approach warning is to move to occupy a place of safety. While FRA intended this proposal to improve safety, it appears safety is best improved by reinforcing strict compliance with existing § 214.329. That section, if followed, provides for effective on-track safety for roadway workers.

B. Effective Date

In the NPRM, FRA requested comment regarding the appropriate effective date of this final rule. SEPTA, MTA, BMWED/BRS, and AAR submitted comments in response to this request. SEPTA agreed with the NPRM's preamble discussion noting that the effective date of this final rule should consider railroad training schedules. MTA commented that FRA should consider the time needed for the preparation of training materials to select an effective date. MTA's comment also indicated that if this final rule required certain employees to be trained on both part 218's blue signal protections and subpart C's roadway worker protections, additional time for developing training would be

necessary. FRA is not adopting a requirement that employees be trained on the protections in both part 218 (blue signal) and part 214 (on-track safety) in this final rule.

BMWED/BRS requested the effective date to be timed to coincide with the effective date of the adjacent track final rule. However, that rule already took effect on July 1, 2014. AAR's comment urged FRA to choose an effective date providing sufficient time to allow for the preparation of training materials for training classes.

In light of the comments received and consideration of the safety benefits to be gained from implementation of this rule, the effective date of this final rule is April 1, 2017. As this final rule is being published in the first half of 2016, railroads have adequate time to adjust training materials used for training classes to be conducted in the first quarter of 2017, or during the time period when annual training is typically conducted for roadway workers. Industry practice is for railroads to finalize their annual rules instruction programs in the fourth quarter of the calendar year, and then to actually instruct their employees in the first quarter of the next calendar year. Based on the implementation date chosen, railroads will not have to alter the timing of their instruction programs for the rule to take effect after the first quarter of 2017.

C. Discussion of General Comments Received

SEPTA recommended that FRA limit this rulemaking to issues the RSAC addressed. As noted in the NPRM and discussed above, the Working Group meetings that form the basis for much of this final rule took place between 2005 and 2007. Since these meetings, FRA focused its efforts and resources on the adjacent track rulemaking discussed above and other safety issues and Congressional mandates (most notably implementation of the Rail Safety Improvement Act of 2008 (Public Law 110-432,

Division A, 122 Stat. 4848) (RSIA), which required significant new FRA regulatory efforts). In the interim time, however, FRA continued to address safety issues related to roadway worker protection in general, including NTSB Safety Recommendation R-08-06. Therefore, issuing a regulation not taking into consideration the latest relevant developments and safety issues would be an inefficient and ineffective use of FRA's resources.

APTA requested that FRA publish specific proposed rule text to comment on so the public can appropriately focus their comments and increase the effectiveness of public comments. The Administrative Procedure Act (see 5 U.S.C. 553(b)(3)), does not require an agency to propose specific regulatory text in proposed rules, but instead allows an agency to provide "a description of the subjects and issues involved." Nevertheless, in the NPRM, FRA proposed specific regulatory text for almost all its proposals. In this final rule, FRA is adopting three of the items proposed without specific regulatory text (tunnel niches (§ 214.317(d)), blue signal allowances (§ 214.318), and redundant signal protections (§214.319(b)). FRA believes the public comments received addressing the benefits and/or drawbacks and potential burdens of these proposals sufficiently inform FRA's reasonable regulatory decisions, particularly in light of the past RSAC discussions. Further, on certain proposals, such as whether FRA should permit using blue signal protections for certain maintenance performed within locomotive and car shop areas, FRA reasonably sought comments broadly addressing how best to implement the proposals if adopted in a final rule (see new § 214.318 below). Last, AAR commented that the NPRM's accompanying cost-benefit analysis relied on business benefits. AAR stated that where NPRM proposals would impose burdens on the railroad

industry, to adopt those provisions in a final rule, the proposals must be modified if there are no offsetting safety benefits. FRA addresses this comment further in the Regulatory Impact Analysis (RIA) accompanying this rule.

IX. Section-by-Section Analysis

Section 214.7 Definitions.

In the NPRM, FRA proposed amending the existing part 214 definitions to add both new definitions and revise existing definitions. In this final rule, FRA is adding new definitions for the following terms: controlled point; interlocking, manual; maximum authorized speed; on-track safety manual; and roadway worker in charge (RWIC). FRA is also amending part 214's existing definitions for "effective securing device" and "watchman/lookout."

Consistent with the consensus recommendation of the Working Group, in the NPRM, FRA proposed to add the same definition of "controlled point" to part 214 as in FRA's signal regulations at 49 CFR 236.782. In this final rule, FRA is adopting the definition as proposed. As explained in the NPRM, a definition of "controlled point" in part 214 is necessary because existing § 214.337 prohibits using individual train detection by a lone worker inside the limits of a "controlled point." See § 214.337(c)(3). However, the term "controlled point" is not defined in the existing RWP regulation. As also explained in the NPRM, in 2005, in response to interpretation issues, FRA issued Technical Bulletin G-05-29. Technical Bulletin G-05-29 adopted § 236.782's definition of "controlled point" and that definition is used in the RWP regulation today.

AAR and BMWED/BRS commented on this proposal. AAR expressed concern that under the proposed definition any location with a remote controlled power switch

would be considered a controlled point. AAR stated that absolute signals are not always at these locations (e.g., dual-control switches that may be manipulated either by hand or remotely, typically by a train dispatcher or control operator) in non-signaled track warrant control territory. In addition, AAR stated the practical effect of this definition would be that railroads could not use individual train detection where there is a remote controlled power switch since it only permits using individual train detection outside the limits established by a controlled point. AAR also expressed concern that switch heaters, snow blowers, signal call lights, blue signal protection, electric switch locks, and bridges can be "controlled" by dispatchers via the control system, but these locations are not considered "controlled points" as commonly understood in the industry. AAR urged FRA to delete the words "and/or other functions of a traffic control system" from the definition of "controlled point" in this final rule.

BMWED/BRS expressed concern about allowing roadway workers to use individual train detection at power-operated switches. BMWED/BRS asserted that power-operated switches can be manipulated by a train crew from a distance resulting in injury to a roadway worker performing work on such a switch while relying on individual train detection as his or her means of on-track safety. BMWED/BRS urged FRA to prohibit lone workers from using individual train detection as a method of on-track safety while working on power-operated switches.

FRA agrees with AAR's comments to the extent that FRA did not intend to include most of the mechanisms AAR listed in the definition of "controlled point" (switch heaters, blue signal protection, snow blowers, etc.). FRA disagrees, however, with regard to remote-controlled power switches and to bridges that are moveable via a

control machine (by train dispatcher or control operator). FRA does intend to include those mechanisms in the definition. Under the existing regulation, a lone worker working on a moveable bridge that is a controlled point is always required to establish working limits because a lone worker using individual train detection as his or her form of on-track safety is not required to notify a train dispatcher or control operator of the work they are performing. If a lone worker used individual train detection on a moveable bridge "controlled point," the dispatcher or control operator may be unaware of the roadway worker's presence and could remotely move the bridge with the roadway worker on it, creating risk of injury or death to the roadway worker. Accordingly, FRA does not agree with AAR's comment regarding movable bridges has merit.

In the NPRM, FRA explained that power-operated switches are not generally considered interlockings or controlled points when the switches have wayside indication devices that convey the position of a switch and are operated by train crews. However, FRA further noted that if a power operated switch can be remotely operated by a control operator or dispatcher, it may be considered a "controlled point." See 77 FR 50333. The Working Group specifically contemplated whether to expand the allowable use of individual train detection in the otherwise prohibited "controlled point" locations, but did not reach consensus on this issue, largely for safety reasons. FRA agrees with the Working Group's concerns and does not believe it prudent to expand use of individual train detection to "controlled points" consisting of remote-controlled power switches. As explained in the original 1996 RWP final rule, using individual train detection is appropriate only in very limited circumstances. 61 FR 65959, 65971.

In response to the BMWED/BRS comment, in the NPRM, FRA addressed power-operated switches (77 FR 50333), explaining that use of individual train detection by a lone worker at power-operated switch installation locations is permitted if:

- The signals at these installations do not convey train movement authority; and
- The switch installation is not controlled by a train dispatcher or control operator, and is not part of a manual interlocking or controlled point.

FRA does not believe it prudent to expand the definition of "controlled point" to include all power-operated switches. Rather, the longstanding guidance described above from FRA Technical Bulletin G-05-11 regarding which power-operated switches constitute "controlled points," will continue to control. Lone workers performing work at these installations, or at any other location where individual train detection use is permitted, maintain the absolute right to use a form of on-track safety other than individual train detection. See § 214.337(b). Thus, a blanket expansion of the definition to address all power-operated switches is not justified. Upon the effective date of this final rule, the definitions of "controlled point" and "interlocking, manual" (discussed below) adopted in this rule supplant FRA Technical Bulletin G-05-29.

Consistent with the Working Group recommendation, in the NPRM FRA proposed amending the existing definition of "effective securing device" to incorporate the contents of Technical Bulletin G-05-20. In this final rule, FRA is adopting the revised definition as proposed. FRA intended to clearly identify effective securing devices and to prevent railroad employees from being injured attempting to operate a secured device. Therefore, FRA proposed to specify in the definition of "effective

securing device" that any such device must be equipped with a "unique tag" clearly indicating to other railroad employees that the switch is secured by roadway workers.

AAR, BMWED/BRS, and an individual submitted comments on FRA's proposed amendment to this definition. BMWED/BRS advocated for a tag affixed to an effective securing device to be either a generic or a unique tag if the tag clearly indicates inaccessible track working limits and the railroad's rules prohibit operating in those limits except as the RWIC permits. AAR similarly commented that FRA should clarify the meaning of "unique" tag. AAR stated unique tags should be craft-specific, and not unique to an individual employee. AAR also stated that requiring an individual employee to sign the tag would be unnecessary and burdensome. Finally, an individual commenter asked if an RWP-specific tag would suffice or whether FRA's proposed amendment would require an additional "unique" tag.

FRA is adopting the revised definition as proposed. In response to the comments received, FRA clarifies that the tag does not have to be "unique" to a specific person or work gang. Rather, a craft-specific tag is considered unique.

In this final rule, as proposed in the NPRM and consistent with BMWED/BRS's comment supporting the proposal, FRA is adopting the Working Group's recommended definition for the new term "interlocking, manual." This definition mirrors the existing definition for the same term in FRA's signal and train control regulation (§ 236.751).

Because we are not making substantive revisions in this final rule to the proposals in the NPRM for the definitions of "controlled point" or "interlocking, manual," for ease of reference, below, FRA is duplicating the table included in the NPRM, summarizing the applicability of individual train detection on various types of track arrangements:

Track Arrangement	Individual Train Detection permitted
Controlled point/manual interlocking with switches, crossings (diamonds), or moveable bridges	No
Controlled point with signals only – see §214.337(c)(3)	Yes
Manual interlocking	No
Automatic interlocking	Yes
Power-operated switch installations	See discussion above

In this final rule FRA is adopting the new definition for the term "maximum authorized speed" proposed in the NPRM. Existing § 214.329(a) requires that train approach warning be given in sufficient time for a roadway worker to "occupy a previously arranged place of safety not less than 15 seconds before a train moving at the maximum speed authorized on that track can pass the location of the roadway worker." Existing § 214.337(c) contains a similar requirement for lone workers. However, no definition for "maximum authorized speed" exists in the current RWP regulation. Accordingly, the Working Group recommended that FRA define the term "maximum authorized speed" as the speed designated for a track in a railroad's timetable, special instructions, or bulletin. The Working Group agreed that using a temporary speed restriction as the basis to determine the appropriate train approach warning distance could pose inherent dangers. That danger can occur when someone removes a temporary restriction from a particular segment of track without notifying the roadway work group or lone worker using that temporary speed restriction so they can determine the appropriate train approach warning distance.

In response to the NPRM proposal, both NJT and BMWED/BRS comments agreed temporary speed restrictions should not be used to determine appropriate train approach warning distances and supported the proposed definition. Therefore, FRA is

adopting the new definition as proposed. FRA notes this new definition also applies to the RWP requirements in the adjacent track rulemaking. See § 214.336.

Consistent with the consensus recommendation of the Working Group, in the NPRM, FRA proposed to define "on-track safety manual." FRA intended the proposed definition to provide clarity. FRA is adopting the definition substantially as proposed, with minor clarifying language suggested by BMWED/BRS.

As noted in the NPRM, existing § 214.309 requires each RWIC and lone worker to have with them a manual containing the rules and operating procedures governing track occupancy and protection. To clarify the materials that must be included in such a manual, FRA proposed to define the term "on-track safety manual," in part, as "the entire set of instructions designed to prevent roadway workers from being struck by trains or other on-track equipment." BMWED/BRS suggested that the definition require "the entire set of on-track safety rules and instructions" to be in the manual and to expressly state the on-track safety rules and instructions must be maintained together in one manual. FRA agrees with both of BMWED/BRS's suggestions. First, BMWED/BRS's suggested reference to "the entire set of on-track safety rules and instructions" more accurately captures the manual's required contents. Second, consistent with the existing RWP regulation, FRA intended to require that the "on-track safety manual" be a single manual. As discussed in the NPRM preamble, and in the 1996 final rule preamble BWMWED/BRS quoted in their comment, that single manual may be divided into binders (separate sections where appropriate), rather than requiring railroads to issue new manuals each time it amends a rule or issues a new rule. For example, the manual could

be broken into separate sections addressing on-track safety rules, good faith challenge procedures, roadway maintenance machine procedures, and other relevant issues.

As discussed in the NPRM, FRA Technical Bulletins G-05-12 and G-05-25 both address concerns regarding the requirement to maintain on-track safety manuals. Because this final rule's adoption of a definition for "on-track safety manual" alleviates the need for Technical Bulletins G-05-12 and G-05-25, those Technical Bulletins are supplanted upon the effective date of this final rule.

Next, in the NPRM FRA proposed a definition for the term "roadway worker in charge" (RWIC). The term is used in existing § 214.321, and is also described interchangeably throughout the existing regulation as the "roadway worker responsible for the on-track safety of others," the "roadway worker designated by the employer to provide for on-track safety for all members of the group," the "roadway workers in charge of the working limits," and other similarly descriptive terms. The Working Group's consensus recommendations for this rulemaking also used the term "roadway worker in charge" in several places. However, that term is not defined in the existing regulation, and the Working Group did agree on a recommended definition of the term.

The NPRM's proposed definition of RWIC mirrored the existing definition for the term in FRA's Railroad Operating Practices Regulation (see § 218.93). FRA also proposed to amend numerous sections of part 214 to substitute the term "roadway worker in charge" for the wide variety of terms currently used to describe the roadway worker who is in charge of a roadway work group and establishes on-track safety for that group.

In its comments on FRA's proposed definition of RWIC, BMWED/BRS recommended that FRA revise the proposed definition to include lone workers.

BMWED/BRS supported including lone workers in the definition of "roadway worker in charge" to permit a lone worker to establish on-track safety for his or her self (without unnecessary regulatory text referring to both RWICs and lone workers). Specifically, BMWED/BRS suggested adding the words "and lone workers qualified in accordance with § 214.347 for the purpose of establishing on-track safety for themselves" to the end of the proposed definition.

FRA concurs with the BMWED/BRS comment, and, in this final rule, is adopting a slightly different definition of RWIC than the suggested language. FRA is defining "roadway worker in charge" as "a roadway worker who is qualified under § 214.353 of this part to establish on-track safety for roadway work groups, and lone workers qualified under § 214.347 of this part to establish on-track safety for themselves." Under the current regulation, lone workers can establish on-track safety for their own protection, either via individual train detection or by establishing working limits. In the NPRM, FRA did not intend to prohibit lone workers from establishing working limits for their own protection. FRA emphasizes, however, that consistent with the existing regulation, a lone worker who is qualified under § 214.347 may establish the appropriate form of on-track safety for his or herself. However, if a lone worker is establishing on-track safety for any other roadway workers, he or she must be qualified under § 214.353 as a RWIC.

Finally, FRA noted in the preamble of the NPRM that a RWIC may only perform watchman/lookout duties if the requirements of § 214.329 are met. Section 214.329(b) requires that watchmen/lookouts "shall devote full attention to detecting the approach of trains and communicating warning thereof, and shall not be assigned any other duties while functioning as watchmen/lookouts." Thus, a RWIC could not perform any other

duties, such as providing direction to a roadway work group, while simultaneously serving as a watchmen/lookout. The limitation on performing other tasks while simultaneously serving as a watchman/lookout severely limits the instances when a RWIC may permissibly fill both roles.

In the NPRM, FRA proposed to amend the definition of "watchman/lookout" to account for the proposed use of station platform work coordinators and requested comment on potentially amending the existing definition to more accurately reflect the training and qualification requirements for a watchman/lookouts. In this final rule, FRA is not adopting the proposed station platform work coordinators provisions. Thus, the proposed revision to the watchman/lookout definition is unnecessary. With regard to watchman/lookout training and qualification requirements, the existing regulation defines a watchman/lookout, in part as, "an employee who has been annually trained and qualified to provide train approach warning to roadway workers of approaching trains or on-track equipment." See §214.7. However, as discussed below in the Section-by-Section analysis for § 214.347, the current regulation does not specify the frequency of "periodic" qualification requirements for specific roadway worker qualifications (e.g., lone worker, watchman/lookout, flagman, or RWIC qualification). Existing § 214.349(b) states that "[i]nitial and periodic qualification of a watchman/lookout shall be evidenced by demonstrated proficiency," mirroring the other existing additional roadway worker qualification sections. FRA requested comment on whether it should remove the word "annually" from the existing definition of "watchman/lookout" so the definition more accurately reflects both the current and any future RWP refresher qualification and

training requirements and is consistent with the other existing roadway worker qualification definitions.

BMWED/BRS submitted a joint comment in response to the proposal, and BMWED, submitted its own additional late comment. Noting that the Working Group reached consensus on annual training and qualification requirements for roadway workers, in their comments, BMWED/BRS opposed removing the word "annual" from the definition of watchman/lookout.

After consideration of BMWED/BRS's comment, in this final rule FRA is removing the word "annually" from the definition of "watchman/lookout." As stated above, removing the reference to "annual" is for consistency with the definitions of the other roadway worker qualifications, and because the "periodic" qualification requirement is not considered an "annual" requirement under the RWP regulation. FRA's longstanding position since the RWP rule became effective in 1997 is that roadway worker training is an annual requirement (see Section-by-Section analysis discussion for §§ 214.343, 214.345, 214.347, 214.349, 214.351 and 214.353). As discussed in the Section-by-Section analysis for the roadway worker training sections below, the RSAC consensus recommendation was for a 24-month "periodic" re-qualification requirement, and the training standards rulemaking at 49 CFR part 243 requires a minimum three-year qualification interval. FRA is not amending the annual training requirement for watchmen/lookouts or for roadway workers generally. However, as discussed in the Section-by-Section analysis for the training sections below, FRA is adopting a definite interval for periodic re-qualification in this final rule.

The BMWED's later comment expressed concern that some railroads are not providing watchmen/lookouts with any audible or visual warning devices to provide appropriate train approach warning. The comment points out the existing definition of the term "watchman/lookout" in § 214.7 states, in part, that roadway workers acting as watchmen/lookouts "shall be properly equipped to provide visual and auditory warning, such as whistle, air horn, white disk, red flag, lantern, fusee." The comment urges FRA to clarify in this final rule that use of such audible and/or visible warning devices are mandatory to provide train approach warning under § 214.329. FRA concurs with the BMWED. Both the definition of watchman/lookout, and the operative train approach warning regulation at § 214.329(c) and (g), provide that watchmen/lookouts must be properly equipped to provide train approach warning. As explained in the preamble to the 1996 final rule implementing subpart C:

> [t]his section further imposes a duty upon the employer to provide the watchman/lookout employee with the requisite equipment necessary to carry out his on-track safety duties. It is intended that a railroad's on-track safety program would specify the means to be used by watchmen/lookouts to communicate a warning, and that they be equipped according to that provision.

61 FR 65970, Dec. 16, 1996. Thus, FRA emphasizes that under the existing RWP regulation, a railroad must properly equip a watchman/lookout with the equipment specified by the railroad's on-track safety program to properly communicate a warning. Except in limited circumstances (e.g., a watchman/lookout assigned to provide train approach warning for a single welder and who is located immediately next to the welder to provide a warning), if a railroad does not provide equipment with the specified auditory or visual warning capabilities to the roadway workers a watchman/lookout is protecting, the railroad is in violation of § 214.329. If an on-track safety program fails to

specify the "requisite equipment necessary" for a watchman/lookout to provide on-track safety for a roadway work group, the program also is not compliant with part 214.

Subpart B—Bridge Worker Safety Standards

In the NPRM, FRA proposed to delete the existing incorporations by reference of certain outdated industry standards for personal protective equipment (PPE) in subpart B of part 214 (Bridge Worker Protection). Specifically, §§ 214.113, 214.115, and 214.117 incorporate by reference certain American National Standards Institute (ANSI) standards governing head, foot, eye, and face protection, respectively. FRA originally promulgated those sections in 1992 and they reference standards from 1986. 57 FR 28116, Jun. 24, 1992. Although the regulatory requirements have not been substantively updated in some time, ANSI has updated the standards themselves. Employers and employees may not be able to obtain PPE manufactured using the older standards currently incorporated by reference. As such, FRA proposed to (1) amend these existing sections to reflect the updated ANSI standards, (2) allow the continued use of any existing equipment which meets the standards currently incorporated by reference in part 214, and (3) allow the use of equipment meeting updated versions of those standards. FRA received no comments on these NPRM proposals and is adopting the revisions to §§ 214.113, 214.115, and 214.117 as proposed. For a detailed discussion of these amendments, see the preamble to the proposed rule at 77 FR at 50335-36.

Subpart C—Roadway Worker Protection

Section 214.301 Purpose and scope.

Section 214.301 sets forth the purpose and scope of subpart C of part 214. Existing paragraph (c) states subpart C "prescribes safety standards related to the

movement of roadway maintenance machines when such movements affect the safety of roadway workers" and that subpart C "does not otherwise affect movements of roadway maintenance machines that are conducted under the authority of a train dispatcher, a control operator, or the operating rules of the railroad." To clarify the paragraph's meaning, FRA proposed regulatory text explicitly stating that while roadway maintenance machines are traveling under the authority of a train dispatcher, a control operator, or the operating rules of the railroad, the operator is not required to establish on-track safety under part 214. FRA did not intend this proposed amendment to be substantive but rather to clarify the existing meaning of paragraph (c) consistent with FRA Technical Bulletin G-05-14. Technical Bulletin G-05-14 explains that the regulation does not affect movements of roadway maintenance machines over non-controlled track being made under the operating rules of the railroad, but, those same machines, while actually conducting work, must establish on-track safety. After careful consideration of the issue and comments received, FRA concluded the meaning of paragraph (c) is already well understood and the proposed amendment is unnecessary. Thus, in this final rule, FRA is not adopting this proposed amendment to paragraph (c).

However, FRA is adding a reference in paragraph (c) to new § 214.320 adopted in this final rule. Section 214.320 pertains to the NPRM's proposed revisions to § 214.301 on the movement of roadway maintenance machines over non-controlled track equipped with automatic block signal (ABS) systems where trains are permitted to travel at greater than restricted speed. The discussion of that issue, and of the comments received, appears below in the Section-by-Section analysis for new § 214.320.

As a result of the amendments this final rule makes to §§ 214.301, 214.320, and 214.329, and as noted in the NPRM, upon the effective date of this final rule Technical Bulletin G-05-14 is supplanted.

Section 214.302 Information collection requirements.

FRA received no comments in response to this proposal. Therefore, as proposed in the NPRM, FRA is deleting this existing section from part 214. For a detailed summary of the information collection requirements, please see the Paperwork Reduction Act discussion in Section X of the preamble below.

Section 214.305 Compliance dates.

As proposed in the NPRM, FRA is deleting existing § 214.305, because the compliance dates in the section are obsolete. FRA received no comments in response to this proposal.

Section 214.307 On-track safety programs.

Existing § 214.307 requires a railroad to notify FRA in writing at least one-month in advance of its on-track safety program becoming effective, and sets forth FRA's formal review and approval process for such programs. In the NPRM, FRA proposed to amend this section by: (1) rescinding the requirement that railroads provide FRA advance notice of the effective date of their on-track safety programs; and (2) modifying the existing on-track safety program formal approval process. Instead, FRA proposed to review railroads' on-track safety programs upon request. FRA proposed these amendments intending to alleviate burdens as part of its retrospective review of subpart C. Related to this proposed revision, FRA proposed a new paragraph (b) mirroring other provisions FRA recently adopted in the Federal railroad safety regulations (see 49 CFR

220.313). In new paragraph (b), FRA proposed that the FRA Associate Administrator for Railroad Safety and Chief Safety Officer could disapprove a program for cause stated, and proposed requiring a railroad to respond to any such disapproval within 35 days by either (1) amending its program and submitting the amendments for approval, or (2) providing a written response in support of its program. As proposed, FRA's Associate Administrator for Railroad Safety and Chief Safety Officer would subsequently render a decision in writing either approving or disapproving the program. Under this proposal, FRA would consider a failure to submit an amended program or provide a written response as the section requires a failure to implement a program under this part. Finally, in the NPRM, FRA proposed removing the outdated reference to the compliance dates of § 214.305.

BMWED/BRS submitted comments recommending that FRA retain and clarify the advance notification requirement of the section, and additionally suggested language clarifying the requirement for railroads to maintain an on-track safety program approved by FRA. BMWED/BRS also recommended requiring railroads amending or adopting an on-track safety program notify FRA one month prior to the effective date of any amendments to a program or implementation of a new program.

FRA agrees with BMWED/BRS's comment regarding the retention of the advance notification requirement. FRA is retaining that existing provision but moving it to paragraph (b) of this section. FRA agrees it should continue to have advance notice so it can review new on-track safety programs (or railroads' amendments to existing FRA-approved programs). FRA is, however, amending this section to eliminate the required formal review process for each new program and each amendment to existing FRA-

approved programs. Specifically, FRA is amending paragraph (a) of this section to require railroads to maintain and make their programs available to FRA upon request. This amendment will enable FRA to better utilize its limited resources to focus on addressing legitimate safety concerns with railroads' on-track safety programs, rather than conducting mandatory formal reviews of programs that, in some instances, been established and approved by FRA for many years.

As proposed in the NPRM, FRA is also amending this section to eliminate reference to the compliance dates in § 214.305, because as explained above, those dates are obsolete and this final rule deletes § 214.305. Given the deletion of § 214.305, however, FRA is amending paragraph (a) of § 214.307 to specifically state "railroads must have an on-track safety program in effect by the date on which operations commence." Finally, FRA is adopting proposed paragraph (b), but is re-designating it as paragraph (c) in this final rule.

Section 214.309 On-track safety manual.

Existing § 214.309, titled "On-track safety program documents," mandates, in part, that rules and operating procedures governing track occupancy and protection be maintained together in one manual and be readily available to all roadway workers. In the NPRM, FRA proposed amendments to this section consistent with the consensus language recommended by the Working Group. In this final rule, FRA is amending this section to incorporate the definition for the new term "on-track safety manual" (see discussion of § 214.7 above for background on this newly-defined term). As proposed in the NPRM, FRA is also amending the title of this section to reflect the new term "on-track safety manual." As proposed in the NPRM, new paragraph (a) of this section

incorporated the term "on-track safety manual," and then repeated the current existing text of § 214.309. In response to this proposal, for consistency with the new term "roadway workers in charge," BMWED/BRS suggested that FRA add the words "in charge" to the second sentence of this paragraph (so that the sentence would require RWICs responsible for the on-track safety of others and lone workers to have and maintain a copy of the on-track safety manual). FRA concurs, and, in final rule, is amending paragraph (a) consistent with BMWED/BRS's suggestion.

In the NPRM, FRA intended new paragraph (b) to address the difficulty a lone worker, such as a signal maintainer or a walking track inspector, might experience carrying a large on-track safety manual. FRA proposed that a railroad must provide an alternate process for a lone worker to obtain on-track safety information. As proposed, the alternate process could include use of a phone or radio for a lone worker to contact an employee who has the on-track safety manual readily accessible. In response to this proposal, BMWED/BRS suggested FRA remove the reference to situations where it is impracticable for a lone worker to "carry" the on-track safety manual, and instead refer to situations where it is "impracticable for the on-track safety manual to be readily available" to a lone worker. FRA agrees BMWED/BRS's proposed language more accurately captures the requirement with regard to access to the on-track safety manual, and is adopting that change in this final rule.

Related to the "alternative access" provision of paragraph (b), FRA is also adopting the Working Group's recommendation to require each railroad's lone worker training program to include training on the on-track safety manual alternative access requirement (see discussion of § 214.347 below).

As proposed, new paragraph (c) of this section provides for the temporary publication of changes to a railroad's on-track safety manual in bulletins or notices carried along with the on-track safety manual. This proposed change recognizes that railroads often need to make temporary or permanent changes to on-track safety rules and procedures and to publish and distribute those new or revised requirements on an as-needed basis. While any permanent amendments to a railroad's on-track safety program must be incorporated into the on-track safety manual, existing § 214.309 does not allow for the temporary nature of some documents or the practical difficulties with incorporating permanent changes immediately after issuance.

In response to this proposal, consistent with their recommendation in paragraph (b) of this section and noting that bulletins and notices are not always literally "carried" by a RWIC or lone worker, the BMWED/BRS suggested that FRA not require temporary bulletins and notices to be "carried" with the on-track safety manual, but rather any temporary publications be "retained" with the on-track safety manual. FRA concurs with this suggestion and is adopting this change in the final rule.

In response to proposed paragraph (c), BMWED/BRS also suggested that to prevent "an open-ended process where stacks of 'temporary' notices will ultimately supplant" a railroad's on-track safety manual, FRA should require employers to update their on-track safety manual at least annually to incorporate any relevant changes. FRA declines to adopt an annual update requirement because the RSAC did not recommend the requirement, FRA did not propose the requirement in the NPRM, and FRA data does not demonstrate a pattern of problems or accidents resulting from a lack of updates to railroads' on-track safety manuals. Even so, FRA encourages railroads to regularly

update their on-track safety manuals to ensure roadway workers have clear access to the most current on-track safety rules.

Section 214.315 Supervision and communication.

Existing § 214.315 mandates that railroads provide job briefings to roadway workers assigned duties requiring the worker to foul a track. Section 214.315 sets forth certain communication requirements between members of a roadway work group, and, in the case of a lone worker, between that lone worker and his or her supervisor or other designated employee. The Working Group recommended FRA add new requirements to this existing section, mainly addressing job briefing terminology and the substance of the required job briefings. FRA addressed most of these consensus recommendations in the adjacent track rulemaking. 74 FR 74614. One recommendation FRA did not address in the adjacent track rulemaking is the Working Group's recommendation to require job briefing's to include information regarding the accessibility of the RWIC to individual roadway workers and alternative procedures if the RWIC is not accessible to members of the roadway work group. In the NPRM, FRA proposed the Working Group's recommended consensus language requiring employers to designate a substitute employee with the relevant qualifications to serve as RWIC when a roadway work group's original RWIC departs a work site for an extended period of time. FRA is adopting that language in this final rule.

SEPTA commented on this proposed amendment noting the inconsistency of the proposal with FRA Technical Bulletin G-05-07. Specifically, SEPTA noted that Technical Bulletin G-05-07 states "'when a RWIC departs a work site for an extended period, a substitute employee with relevant qualifications may be designated.' Emphasis

added." SEPTA specifically took exception to FRA's use of the word "must" in the NPRM's preamble rather than the word "may" used in the technical bulletin.

An RWIC is the person who establishes and directs the on-track safety for a roadway work group, and it is critical that each roadway worker in a roadway work group have access to the RWIC. Access is necessary when a member of the group invokes a good faith challenge, or when he or she has questions concerning the established on-track safety protection. As discussed in FRA Technical Bulletin G-05-07, generally a RWIC must be located in the immediate vicinity of the work activity, but it may be necessary for a RWIC to depart a work location for a short period to travel to another area encompassing the same work activity (e.g., to conduct on-track safety checks throughout a large mechanized production activity). When an RWIC is away from a work site for a short period, it is imperative the roadway work group have a readily available means to communicate with that person. When a RWIC departs a work site for an extended period and is not readily available to communicate with members of the roadway work group, the roadway work group members effectively do not have a RWIC, as he or she is not at the work group's location and cannot communicate with the group.

After carefully considering SEPTA's comment, FRA finds that "must" is correct. The RWIC is responsible for ensuring the on-track safety of members of a roadway work group and must be readily available to communicate with members of the group. Thus, FRA is adopting this recommended consensus item as the NPRM proposed.

In the NPRM, FRA also proposed minor changes to existing paragraphs (b), (c), and (d) to reflect that roadway work groups often include multiple roadway workers and to ensure consistent use of the term "roadway worker in charge" and "on-track safety job

briefing" throughout subpart C. FRA received no comments on these minor proposed amendments and is adopting them in this final rule. For more background on these amendments see the discussion in the preamble to the NPRM. 77 FR 50338.

Section 214.317 On-track safety procedures, generally.

Existing § 214.317 generally requires employers to provide on-track safety for roadway workers by adopting on-track safety programs compliant with §§ 214.319 through 214.337. In the NPRM, FRA proposed adopting two substantive amendments to this section recommended by the Working Group. The first recommendation would impose requirements for roadway workers who walk across railroad track in new paragraph (b), and the second recommendation would provide new exceptions for roadway workers conducting snow removal or weed spraying operations on non-controlled track in new paragraph (c). FRA also requested comment on whether it should amend subpart C to address using tunnel niches or clearing bays less than four feet from the field side of the near rail. After consideration of comments received, FRA is adopting a slightly modified new paragraph (b), paragraph (c) substantially as proposed, and a new paragraph (d) to address the use of certain tunnel niches and clearing bays. FRA is also redesignating the existing text of § 214.317 as paragraph (a) of the section to account for new paragraphs (b), (c), and (d).

In the NPRM, FRA proposed new paragraph (b) in this section to require roadway workers to (1) stop and look before crossing track and (2) move directly and promptly across tracks. Proposed paragraph (b) would also require railroads to adopt rules governing how roadway workers determine if it is safe to cross track and clarify the section is not a substitute for required on-track safety when roadway workers are required

to foul the track to perform roadway worker duties. As explained in the NPRM, this proposal addresses the practical reality that roadway workers often need to walk across tracks while not directly engaged in activities covered by the existing RWP regulation. For example, a roadway worker might incidentally walk from a work site on a track in which working limits are in effect to a vehicle adjacent to the right of way. While walking to the vehicle, a roadway worker may have to cross over other "live" tracks where working limits or another form of on-track safety is not in effect. Proposed paragraph (b) is intended to prevent roadway workers from being struck by trains or other on-track equipment when incidentally crossing track, while at the same time recognizing the need for procedures enabling roadway workers to cross tracks safely without formal on-track safety in place.

As proposed, paragraph (b) would have required roadway workers to first stop and look in all directions a train or other on-track equipment could approach from before starting across a track to ensure they could safely clear the track before the arrival of any train or other on-track equipment. FRA intended the proposal to provide an opportunity for roadway workers to physically stop what they are doing and consider the on-track circumstances before crossing live track.

SEPTA, BMWED/BRS, NJT, and AAR submitted comments in response to this proposal. SEPTA's comment opposed a requirement that roadway workers stop before crossing each track, explaining that a person who would attempt to cross a track without proper sight distance or in a high traffic area is not likely to stop and look in all directions anyway, so the utility of such a provision would be minimal. NJT's comment supported the requirement that roadway workers look in both directions before crossing a track.

BMWED/BRS supported requiring roadway workers to look in all directions before starting across track, but opposed requiring roadway workers to "stop" before crossing. The labor organizations stated a requirement to stop: (1) is unnecessary; (2) would cause delays; (3) could lead to increases in slips, trips, and falls; (4) is over-prescriptive; and (5) could subject roadway workers to abuse by managers or FRA inspectors conducting safety audits. AAR also opposed the requirement to "stop" before crossing, stating there could be no expectation such a requirement would regularly be followed, and railroads would then be liable for such noncompliance.

After evaluating the comments, in this final rule FRA is not adopting the proposed requirement that roadway workers stop and look in all directions before crossing track. Commenters expressed unanimous opposition to the proposed requirement and FRA recognizes it would be very difficult to enforce. FRA believes stopping and looking before crossing railroad track is also a matter of common sense and a necessary reality roadway workers are already faced with. Thus, while in this final rule FRA is not adopting the proposed language requiring roadway workers to stop and look before crossing tracks, FRA is adopting the remaining portions of proposed paragraph (b). New paragraph (b) requires roadway workers to move directly and promptly across tracks and railroads to adopt rules governing how roadway workers determine if it is safe to cross track. Consistent with the proposal in the NPRM, as adopted in this final rule, paragraph (b) also clarifies the requirements of the paragraph are not a substitute for required on-track safety when roadway workers are required to foul the track to perform roadway worker duties. For further background on when on-track safety is required for roadway workers, see the discussion in the preamble to the NPRM. 77 FR 50339-50340.

FRA is also adopting the Working Group's recommendation to require a railroad's safety rules governing walking across railroad tracks to be included in all roadway worker training. As proposed in the NPRM, FRA has adopted this recommended training requirement in the roadway worker training provision at § 214.345 (discussed below).

New paragraph (c) of this section addresses the Working Group's recommendation for on-track snow removal and weed spraying on non-controlled track. As proposed, paragraph (c) permits on-track snow removal and weed spraying operations on non-controlled track without requiring the track to be made inaccessible under § 214.327. FRA intends the provision to alleviate the difficulty of establishing working limits on non-controlled track for operating equipment moving over long distances, and where roadway workers are conducting limited to no on-ground work activities.

After careful consideration of comments responding to proposed paragraph (c), in this final rule, FRA is adopting the paragraph substantially as proposed. Paragraph (c) allows weed spraying and snow removal operations under § 214.301, with the limitations and/or conditions listed in paragraphs (c)(1)-(c)(4) of the paragraph. AAR's comments advocated expanding this provision to allow inspection activities under the same circumstances, but noted the Working Group did not discuss this possibility. Because the Working Group did not discuss this possibility, and FRA did not propose it, FRA declines to include inspection activities in the activities covered by paragraph (c). Also, FRA believes allowing expansion of this exception to include inspection activities would present safety risks as "inspection activities" may entail many different roadway worker activities, and are not of the specialized and more limited nature of the specific snow

removal and weed spray operations the Working Group addressed. Further, § 214.301 already covers certain inspection activities while roadway maintenance machines are in "travel" mode, and hi-rail inspection activities are also already subject to certain on-track safety exclusions under § 214.336. Thus, FRA is retaining the existing on-track safety requirements for work activities other than the specific snow removal and weed spray operations the Working Group addressed.

Paragraph (c)(1) requires railroads to adopt and comply with procedures for on-track snow removal and weed spraying operations if the allowances under paragraph (c) are utilized. Paragraphs (c)(1)(i)-(c)(1)(iv) set minimum standards for what those procedures must include. Paragraph (c)(1)(i) requires all on-track movements in the area where on-track snow removal or weed spraying operations are occurring be informed of those operations. AAR's comment opposed this requirement, stating it is unnecessary and problematic in areas without radio reception. In response, FRA notes that in areas without radio reception it may be likely there are no other persons conducting on-track movements in the "affected area" required to be notified. Further, there are communication methods other than radio if a railroad wishes to utilize the exception in § 214.317(c) in an area without radio reception. FRA also emphasizes paragraph (c) is an exception to the requirement to establish on-track safety, and FRA anticipates that in the majority of instances this exception can be utilized for, radio reception will not be an issue. If radio reception is an issue and there is no other way to inform others making on-track movements in the area of snow removal or weed spraying operations, railroads will have to follow existing methods of establishing on-track safety to perform the work.

As proposed in the NPRM, paragraph (c)(1)(ii) of this final rule requires railroads' procedures to ensure all weed spraying and snow removal operations conducted under paragraph (c) operate at restricted speed defined in § 214.7; except on other than yard tracks and yard switching leads, where movements may operate at no more than 25 miles-per-hour (mph) and must be prepared to stop within one-half the range of vision. Paragraph (c)(1)(iii) requires the procedure adopted by a railroad to ensure there is a means of communication between on-track equipment conducting snow removal and weed spraying operations and any other on-track movements in the area.

Paragraph (c)(1)(iv) prohibits remotely controlled hump yard facility operations from being in effect while snow removal or weed spraying operations are in progress and also prohibits the kicking of cars unless agreed to by the RWIC of the snow removal or weed spraying operation. The prohibition on kicking cars is intended to help ensure there is no free rolling equipment near on-track snow removal or weed spraying operations. Thus, before machines can operate under this provision in remotely controlled hump yard facilities, humping operations must be suspended. As explained in the NPRM, in proposing to prohibit weed spraying and snow removal operations when hump yard operations are "in effect," FRA considered AAR's post-RSAC recommendation to instead prohibit weed spraying and snow removal operations when hump operations are "in progress." BMWED's post-RSAC comment stated it favored "in effect," because that term is more inclusive as hump operations might be "in effect" but not actually "in progress" (e.g., cars not literally being humped right at the moment that weed spraying operations begin). FRA agreed with the BMWED's position, and proposed the initial

Working Group's consensus wording of "in effect," but requested further comment on this issue from all interested parties.

In response to the NPRM proposal, the BMWED/BRS comment reconfirmed the labor organizations' support for the term "in effect" for the status of hump yards. BMWED/BRS stated if "hump yard operations are not 'in effect', that would mean that humping operations have been suspended until released back to the hump by the RWIC." The labor organizations objected to using the term "in progress" because hump operations are not suspended just because humping may not actually be "in progress" at a particular moment.

After considering these additional comments, FRA continues to agree with BMWED/BRS's recommendation to prohibit snow removal and weed spraying operations when hump yard operations are "in effect." This language makes clear FRA's intent for no humping operations to take place until a roadway work group utilizing this section reports clear of hump yard tracks that present the possibility of being struck by humped cars. Thus, FRA is adopting the language it proposed in the NPRM.

FRA does not intend that the only way the exceptions in this section may be utilized is to shut down an entire classification yard. Rather, FRA's intent is the hump operations must not be in effect for the tracks (or group of tracks) that would be affected by snow removal or weed spray operations. For example, under this section it is permissible for a block to be placed on a group of tracks within a classification yard where snow blowing activities are taking place, such that equipment could not be humped into those tracks until the roadway work group utilizing this section reports clear of those tracks.

Paragraph (c)(2) provides that roadway workers engaged in snow removal or weed spraying operations retain an absolute right to utilize the provisions of § 214.327 (inaccessible track). FRA is adopting this provision as proposed.

Paragraph (c)(3) provides that roadway workers engaged in snow removal or weed spraying operations subject to § 214.317 can line switches for the machine's movement without establishing a form of on-track safety under §§ 214.319 through 214.337, but may not engage in any roadway work activity. In its comments, AAR recommends amending this provision to include the lining of derails. FRA agrees with AAR's recommendation as applied to derails lined via switch stands. The lining of derails by switch stand does not typically require fouling the track. FRA does not agree with AAR's recommendation for derails not operated via switch stands. These derails require roadway workers to bend down onto the rail (or directly adjacent to and in the foul of the rail) to operate the derail. Thus, FRA is adding the words "or derails operated by switch stand" to this provision. For derails not operated by switch stand, a method of on-track safety complaint with subpart C is required.

As proposed and adopted in this final rule, paragraph (c)(4) contains the consensus recommendation of the Working Group for the roadway equipment utilized under this provision. Paragraph (c)(4) requires that each machine engaged in snow removal or weed spraying operations under § 214.317(c) be equipped with: (1) an operative 360-degree intermittent warning light or beacon; (2) an illumination device, such as a headlight, capable of illuminating obstructions on the track ahead in the direction of travel for a distance of 300 feet under normal weather and atmospheric conditions; (3) a brake light activated by the application of the machine braking system,

and designed to be visible for a distance of 300 feet under normal weather and atmospheric conditions; and, (4) a rearward viewing device, such as a rearview mirror. If a machine is utilized in snow removal or weed spraying operations conducted during the period between one-half hour after sunset and one-half hour before sunrise, or in dark areas such as tunnels, that machine must also be equipped with work lights, unless equivalent lighting is otherwise provided. AAR commented that paragraph (c)(4) does not address what happens when there is an equipment failure, such as if a machine's headlight burns out. AAR suggested that railroads be permitted to operate the equipment under § 214.317 for seven days after learning of a failed component. FRA declines to adopt AAR's suggested amendment. As noted above, § 214.317(c) is designed as an exception to the current requirement to establish on-track safety while certain roadway work activities are performed. FRA believes under the provisions of this paragraph the specified activities can be conducted safely. When equipment fails, such as a headlight in AAR's example, the safety of the operation is potentially compromised. Accordingly, when equipment required by this section fails, railroads must default to part 214's existing on-track safety requirements until the equipment is repaired and operating.

Finally, in the NPRM, FRA requested comment on using certain existing tunnel niches (also referred to as clearing bays) as places of safety for roadway workers. As explained in detail in the NPRM (77 FR 50331), some existing railroad tunnels have niches built into the sidewalls that roadway workers occupy as places of safety while performing work in tunnels (typically inspection work). Some of the niches may, by design, be slightly less than four feet from the field side of the near rail. Because existing subpart C does not address using tunnel niches as places of safety, the use of niches less

than four feet from the field side of the near rail as a place of safety technically violates the existing regulation because a roadway worker occupying the niche would be "fouling a track" as defined by § 214.7. The Working Group discussed this issue but did not reach consensus. The Working Group did, however, decide against modifying the definition of "fouling a track" to accommodate using tunnel niches. Working Group discussions indicated tunnel niches outside the clearance envelope, but less than four feet from the field side of the rail, existed on a small number of railroads, primarily in the Eastern United States, and those railroads have a long history of safely utilizing the niches.

FRA did not propose specific regulatory text regarding the use of tunnel niches, but requested comment on whether, and how, to address the issue in a final rule. FRA listed certain items it anticipated a regulatory provision allowing using tunnel niches would need to include (e.g., railroad designation of niches, time for a roadway worker to move into a niche upon the approach of a train, that niches must be free from debris).

In response to its request for comments on tunnel niches, FRA received comments from SEPTA, MTA, BMWED/BRS, APTA, and AAR. SEPTA's comment stated that using tunnel niches as a safe place should be allowed if individuals using the niches are not at risk of being struck by moving on-track equipment. MTA's comment supported using niches as a safe place for roadway workers, and indicated railroads should review each niche location before designating it as a safe place. BMWED/BRS's comment opposed using tunnel niches less than four feet from the near running rail as a place of safety. Citing the presence of debris, vagrants, rats, spiders, mice, raccoons and other hazards, and noting that conditions such as claustrophobia could cause roadway workers to panic and jump out of a tunnel niche into the path of an oncoming train,

BMWED/BRS indicated its members typically establish working limits before entering tunnels with close side clearances. BMWED/BRS also expressed concern about roadway work groups exceeding the capacity of a tunnel niche, potentially resulting in one or more roadway workers being left out in the foul with no ability to reach an alternative place of safety.

In its comments, AAR disagreed with BMWED/BRS noting that, particularly in the Northeast United States, railroads have safely used tunnel niches for a century. AAR specifically noted Amtrak's use of tunnel niches as places of safety for inspectors and argued that given the decades of experience demonstrating that tunnel niches can be safely used, FRA should permit Amtrak to continue to use tunnel niches.

APTA's comment indicated that tunnel niches, clearing bays on bridges, and passenger platforms all provide appropriate clearance of the envelope of train and equipment passage and all are safe places with "no historical incident data" supporting the need for FRA to establish additional regulatory provisions to improve their safety. Finally, APTA recommended FRA allow using tunnel niches, clearing bays on bridges, and platforms as designated places of safety and require analysis of any related potential safety issues under FRA's future risk reduction and system safety regulations.

After further evaluating this issue and considering the comments received, in this final rule FRA is adopting new paragraph (d) in § 214.317 authorizing, subject to certain conditions, the use of existing tunnel niches or clearing bays less than four feet from the nearest rail as places of safety for roadway workers. Although FRA recognizes some railroads have successfully used tunnel niches and clearing bays as designated places of safety for roadway workers for some time, existing subpart C technically prohibits such

use. New paragraph (d) of § 214.317 sets minimum standards for the use of such existing niches to ensure their continued safe use. Consistent with existing § 214.337(b) applicable to lone workers and § 214.317(c)(2) adopted in this final rule for certain snow removal and weed spraying operations, paragraph (d) also makes clear RWICs and lone workers maintain the absolute right to designate a place of safety in a location other than a tunnel niche or to establish working limits if appropriate.

Paragraph (d) authorizes only using tunnel niches and clearing bays that have a place of safety less than four feet from the field side of the near rail in existence on the effective date of this final rule, if the conditions of paragraphs (d)(1) and (2) are met. Paragraph (d)(1) requires RWICs or lone workers to inspect each tunnel niche or clearing bay prior to determining the niche is suitable to use as a place of safety. Consistent with the requirements of §§ 214.329 and 214.337, paragraph (d)(2) requires a RWIC or lone worker to determine if there is adequate sight distance to permit roadway worker(s) to occupy the place of safety in the niche or clearing bay at least 15 seconds prior to the arrival of a train or other on-track equipment at the work location.

Finally, like existing § 214.337's provision providing lone workers with the absolute right to establish alternate methods of on-track safety, paragraph (d)(3) gives the RWIC or lone worker the absolute right to designate a place of safety in a location other than a tunnel niche or clearing bay, or to establish working limits if appropriate.

Compliance with this new paragraph will ensure the continued safe use of existing tunnel niches, as the RWIC or lone worker is required to visually inspect each niche and determine the proper sight distance to utilize each niche before designating the niche a safe place. Moreover, by providing RWICs and lone workers the absolute right to

designate a place of safety other than a tunnel niche which might be less than four feet from a running rail, or to utilize another method of establishing on-track safety, FRA believes BMWED/BRS's safety concerns are alleviated.

Section 214.318 Locomotive and car shop repair track areas.

In the NPRM, FRA requested comment on potentially amending subpart C and/or the existing blue signal regulations in part 218, subpart B to provide a limited exception from part 214's on-track safety requirements for using blue signal protections for certain incidental work performed by mechanical employees within the limits of locomotive servicing and car shop repair track areas (shop areas). FRA did not propose specific regulatory text on this issue, but indicated it might adopt a provision addressing this topic in a final rule. For the reasons explained below, in this final rule FRA is amending subpart C by adding a new § 214.318 addressing incidental work performed in locomotive servicing and car shop repair track areas. This amendment allows "workers," as defined by § 218.5, to utilize blue signal protections in place of subpart C's on-track safety procedures.

As discussed in the NPRM, subpart C currently requires "roadway workers" performing work with the potential to foul a track within a locomotive servicing or car shop repair track area (including performing work on signals or structures within those areas that may involve fouling track) to utilize the on-track safety procedures of subpart C. Conversely, any "workers," as defined by § 218.5 (typically mechanical department employees), performing work involving the inspection, testing, repairing, or servicing of rolling equipment within locomotive servicing or car shop repair track areas are required to do so in compliance with the blue signal regulations. Because certain incidental duties

"workers" under § 218.5 typically perform in shop areas often technically meet the definition of the type of work a "roadway worker" would do (e.g., mechanical department employee performing work on the overhead door of a locomotive maintenance building when such work involves fouling a track), questions arose over what protections are appropriate within shop facilities for certain types of "incidental" work performed by mechanical department employees (i.e., "workers" under § 218.5).

FRA's Technical Bulletin G-08-03 addresses this issue, and explains FRA will not take enforcement action for "incidental" work performed in shop areas similar to roadway worker duties (e.g., sweeping a shop floor or changing a light bulb in an inspection pit). Despite Technical Bulletin G-08-03, many railroads argue shop personnel ("workers" under § 218.5) are already trained on the blue signal regulations and believe FRA should exempt certain work within shop areas from the subpart C on-track safety requirements. Railroads argue shop employees perform the work safely utilizing the blue signal protections they are trained on and most familiar with. Railroads further argue that training shop personnel on two different protection regimes is both costly and confusing for the employees. Thus, railroads argue the requirement to require using the on-track safety protections of subpart C by "worker" in shop areas is detrimental to safety.

In the NPRM, FRA requested comment on potential amendments to the existing part 214 or 218 to address this issue. Because contractor employees are subject to part 214 but not part 218's blue signal requirements, FRA also specifically asked how best to address applying these requirements to contractor employees.

FRA received six comments in response to this request from APTA, AAR, BMWED/BRS, ASLRRA, MTA, and SETPA. According to APTA, the existing blue signal and RWP regulations are adequate for work performed in shop areas and there is no accident history supporting concerns about this issue. AAR's comment acknowledged the controversy, but noted that for decades blue signal protection has proven to be an effective way to provide for the safety of employees in shop areas. AAR reasoned if blue signal protection adequately protects employees when working on rolling stock, it also will adequately protect employees performing other incidental activities in shop areas. From a safety perspective, AAR stated employees should be permitted to utilize the method of protection they are most familiar with -- for mechanical employees within shop areas, that is blue signal protection (part 218), and for roadway workers it is roadway worker protections under part 214, subpart C. AAR also recommended FRA treat contractors the same as railroad employees.

AAR also asserted significant additional costs would result if FRA does not permit mechanical employees who might foul track while performing their duties inside a shop area to utilize blue signal protection as opposed to RWP protection, and noted certain potential drug and alcohol testing implications. AAR explained costs would be incurred for: (1) providing additional training; (2) placing RWICs in shop areas; and (3) purchasing additional switch locks. AAR indicated one large railroad estimated initial costs at $1.2 million, and costs of $700,000 in subsequent years. AAR proposed specific rule text for parts 214 and 218 to permit employees in shop areas to use blue signal protections under part 218, instead of complying with the RWP requirements of part 214.

In its comments, ASLRRA disagreed with FRA's explanation in the NPRM of certain activities within shop areas being subject to the on-track safety regulations of part 214. ASLRRA said FRA's position, consistently applied, would require railroads to use blue signal protection to repair a roadway maintenance machine irrespective of the repair location. ASLRRA urged FRA to not change the regulations.

BMWED/BRS's comment stated the type of work being performed governs whether the blue signal regulations or the RWP regulations apply and argued against any change eliminating the distinction between the two different forms of protection.

Noting the existing blue signal protection requirements provide a proven level of Safety, SEPTA's comment indicated the railroad industry would be better served if mechanical department employees could perform certain facility-maintenance work within the limits of shop areas using blue signal protection rather than the on-track safety requirements of part 214. Further, SEPTA stated any inconsistency in the forms of protection employees utilize increases the potential for confusion and reduces safety. SEPTA also questioned if the original RWP rulemaking even considered applying the on-track safety requirements in shop areas and expressed doubt that the intended scope of the original RWP regulation even covered work in shop areas.

MTA's comment indicated the primary consideration in deciding what protections to follow in shop areas should be whether employees are adequately protected while performing their assigned duties. MTA asserted it would be overly prescriptive to require employees to be familiar with different types of protection and recommended individual railroads determine the appropriate type of protection employee's should use based on the specific task being performed.

FRA believes the assertion that part 214 as it currently exists does not apply in shop areas is without merit. FRA notes the discussion in the NPRM preamble titled "RWP and Blue Signal Protection in Shop Areas" (77 FR 50329-50330) did not, as AAR and ASLRRA suggested in their comments, attempt to expand the scope of the existing RWP and blue signal regulations. Rather, the discussion described the existing state of interplay between the two regulations. FRA is puzzled by AAR's comment asserting estimated additional costs would be incurred to comply with the requirements of the RWP regulation in place since 1997. FRA agrees it is not in the best interests of safety to apply the requirements of part 214 to certain activities in shop areas not involving work on, under, or between rolling equipment. FRA notes, however, the existing regulations do not allow certain work to be conducted in shop areas without on-track protection under part 214. Thus, compliance with the existing regulation could not impose additional new costs to railroads as AAR's comment states.

FRA also disagrees with the ASLRRA comment asserting "[i]f one were to apply FRA's logic consistently . . . every time a roadway maintenance machine broke down and had to be repaired on any track, blue signal protections would have to be applied, whether in a yard or on a main track." FRA cannot envision how the existing regulations could require blue signal protections be applied to repair of roadway maintenance machines as ASLRRA's comment asserted. The existing blue signal protection regulation (part 218, subpart B) applies to work performed on, under, or between "rolling equipment." The part 218 definition of the term "rolling equipment" (locomotives and cars), and the corresponding definition of the term "locomotive," do not include roadway maintenance machines. Repairs to roadway maintenance machines are specifically covered by the

definition of “roadway worker” in part 214. Therefore, the literal application of the regulations would not require blue signal protections be applied to repair of roadway maintenance machines as ASLRRA’s comment asserted.

FRA generally agrees with the comments of BMWED/BRS, SEPTA, and MTA and believes allowing railroad employees and contractors to utilize the procedures they are trained on and most familiar with provides clear direction and consistency and will actually eliminate confusion and increase safety. FRA agrees with SEPTA’s comment that the original RWP rule did not specifically discuss maintenance work performed in shop areas. BMWED/BRS argued against FRA eliminating any distinction between RWP protection and blue signal protection and warned doing so could present unforeseen consequences. FRA does not believe providing railroads with the flexibility to use blue signal protection or RWP protection in certain instances within shop facilities in any way eliminates a distinction between the two forms of protection. Finally, FRA believes new § 214.318 addresses both SEPTA and MTA’s stated concerns as “workers” in shop areas will be permitted to utilize blue signal protections in most instances to ensure they are protected while performing their assigned duties.

For all the reasons discussed above, in this final rule, FRA is amending part 214 to permit “workers” (as defined by § 218.5), in certain instances, to utilize the blue signal protections of part 218, subpart B (as opposed to the on-track safety requirements of part 214) in locomotive servicing and car shop repair track areas when fouling track while performing duties incidental to inspecting, testing, servicing, or repairing rolling equipment. FRA believes this is the reasonable and logical application of parts 214 and 218 in locomotive servicing and car shop repair track areas. Although FRA is not

adopting the specific regulatory language amending both parts 214 and 218 AAR suggested, FRA believes new § 214.318 accomplishes the same goal.

As noted by several commenters, for decades "workers" have successfully used blue signal protections in shop areas. In general, when blue signal protections are applied on a track, the regulations prohibit: (1) the movement of equipment on the track (except under the very specific conditions described in § 218.29); (2) coupling to any equipment on the track; and (3) rolling equipment from passing a blue signal. These requirements ensure worker safety by prohibiting the movement of equipment on a protected track. As SEPTA's comments noted, the conditions in shop areas (where mechanical employees repair rolling equipment secured from movement) are different than situations the RWP regulation typically addresses (e.g., maintenance-of-way workers working along the railroad right-of-way where trains and other on-track equipment pass). FRA does not believe safety is improved by mandating that a railroad employee be trained on, and comply with, the requirements of the blue signal regulation to safely tighten a bolt on a locomotive, and also be trained on and apply the differing requirements of the RWP regulation while standing in the exact same location to perform the incidental work of tightening a bolt on an overhead door. Such a literal approach to the regulations introduces the potential for confusion and the misapplication of the differing requirements, and is also not cost effective, efficient, or reasonable.

Accordingly, new § 214.318(a) reasonably allows "workers" (as defined by § 218.5) within the limits of locomotive servicing and car shop repair track areas (as also defined by § 218.5) to utilize a railroad's blue signal protection procedures to perform duties incidental to their work on, under, or between rolling equipment while fouling a

track protected by blue signal(s). If a railroad chooses to allow "workers" to use blue signal protections authorized by this new section, paragraph (a) also requires the railroad rules address how those protections apply to the incidental duties "workers" perform. By "incidental" duties, FRA means duties within the shop area such as working on a shop door, sweeping excess ballast off a shop floor or away from a work area, cleaning up fluid spills in the gage of the track in a work area, or performing electrical work in a locomotive shop to an appliance such as an exhaust hood above a track. FRA emphasizes that for this new section to apply, all work must be performed on a track protected by blue signals as required by part 218, subpart B.

This new section does not require railroads to use blue signal protections instead of part 214 on-track safety procedures where applicable inside shop areas. Instead, this new section only gives railroad's the option to decide the appropriate form of protection for "workers" in shop areas. Roadway workers still must comply with part 214 when fouling track within a shop area. For example, if a signal department employee fouls a track in a shop area while performing work on an electronic system controlling the blue signal display within the shop area, that employee must comply with part 214's on-track safety requirements because as a signal department employee, he or she is not a "worker" under § 218.5 who inspects, tests, services, or repairs rolling equipment. Similarly, bridge and building department employees required to foul track while building a structure within a shop area also still must establish on-track safety under part 214 because bridge and building department employees are clearly not "workers" under part 218 (they do not inspect, test, service, or repair rolling equipment).

Paragraph (b) of this section addresses how this section applies to contractor employees. As discussed in the NPRM, although the on-track safety requirements of part 214 apply to contractor employees, FRA's blue signal regulations do not. Typically, however, railroad rules require contractors to follow the railroad's blue signal procedures when performing work within shop areas. As noted above, AAR recommended FRA treat contractors the same as railroad employees for purposes of what protections apply to those employees while performing the same work as railroad employees. FRA agrees, but because contractor employees do not meet part 218's definition of "workers," FRA cannot enforce part 218's requirements on contractors. Accordingly, in paragraph (b), FRA is extending application of paragraph (a) of this section to contractor employees, but only if the contractor employee's work is supervised by a railroad employee qualified on the railroad's rules and procedures implementing the requirements of part 218, subpart B. Thus, if a railroad elects to use the exception in paragraph (a), a contractor within a shop area performing duties incidental to those of inspecting, testing, servicing, and repairing rolling equipment may perform the work utilizing the railroad's blue signal protections, if the contractor employee is supervised by a railroad employee qualified (as defined by § 217.9) on the railroad's blue signal rules

For example, if a railroad elects to use the exception in paragraph (a) of this section, a contractor employee servicing a shop building's exhaust hood above idling locomotives on a track protected by blue signals may do so under the supervision of a blue signal-qualified railroad employee. If a railroad does not elect to use the exception in paragraph (a), or the contractor employee is not supervised by a blue-signal qualified railroad employee, the contractor would be subject to the RWP requirements of subpart C

of part 214 when servicing the exhaust hood because the employee would be a "roadway worker," under § 214.7.

Similarly, if a railroad elects to use the exception in paragraph (a), and implements rules governing its use, if a contractor employee vacuums water from a switch in a locomotive shop on track protected by blue signals and his her work is supervised by a blue signal-qualified railroad employee, the contractor need only comply with the railroad's blue signal requirements. If the contractor employee is not supervised by a blue signal-qualified employee while performing this duty, the contractor must comply with the on-track safety requirements of part 214 because the work performed makes the contractor a "roadway worker" per existing § 214.7.

Paragraph (c) of this new section requires compliance with part 214, subpart C for any work performed within a shop area requiring the presence of a person qualified under § 213.7 of FRA's Track Safety Standards. FRA intends this paragraph to make clear traditional inspection, construction, maintenance, or repair of railroad track affecting the ability of rolling equipment to move safely over that track continues to be governed by the on-track safety requirements of part 214, regardless of the craft of a particular employee (or whether the employee(s) are railroad employees or contractors) performing the work. FRA intends this provision to prevent situations where "workers" who are not qualified to perform maintenance-of- way duties perform such duties in a shop or locomotive repair area, potentially affecting the safe movement of rolling equipment over track structures.

To determine if railroad employees or contractors working in shop areas are "workers" under § 218.5 (and can use blue signal protection) or roadway workers under §

214.7 (and required to establish on-track safety under part 214), FRA will look to the employee's primary duties and the primary purpose of the work performed (whether the work is performed on, under, or between rolling equipment or incidental to work performed on, under, or between rolling equipment). Examples include:

- A mechanical department employee whose primary duty is performing electrical work on locomotives, but to access part of a locomotive to perform such work, fouls a track while shoveling snow from the gauge of the track on which the locomotive is located (and on which blue signal is applied). This mechanical department employee's primary duties involve the inspection, testing, repair, or servicing of rolling equipment. As such, shoveling snow off the track to access the locomotive is performing duties incidental to his or her primary duties. FRA would consider this employee a "worker" under § 218.5, and if the railroad elected to utilize the paragraph (a) exception in this section, the employee could use the railroad's blue signal procedures as opposed to establishing on-track safety under part 214.

- A railroad engineering department employee who is assigned to repair a switch in a locomotive shop area is a "roadway worker" who requires on-track safety compliant with part 214 because the primary duties of engineering department employees do not typically include testing, inspecting, servicing, or repairing rolling equipment. Rather, the primary duties of engineering department employees typically involve the maintenance and repair of railroad track.

- A railroad employee replacing concrete in front of the doors of a shop to ensure an adequate flangeway for the wheels on rolling stock must establish on-track safety under part 214, because such duties are not "incidental" to work on, under, or

between rolling equipment and because the work likely requires the presence of a person qualified under § 213.7.

FRA understands not all examples will be so obvious, particularly on smaller railroads where one employee may fill many roles. In such instances FRA would look to the primary purpose of the work being performed, and whether such work was related to that performed on, under, or between rolling equipment. As a practical matter, if an employee of a small railroad routinely performs varying jobs' functions involving both maintenance-of-way work, work traditionally thought of as mechanical work on rolling equipment, the employee already must be trained the on-track safety requirements of part 214 when performing "roadway worker" duties, and likewise, must be trained on blue signal protection under part 218 when working on, under, or between rolling equipment.

In developing this final rule, FRA considered adopting a requirement for RWICs of roadway work groups performing work within the limits of locomotive shop or car shop repair track areas to notify the person in charge of workers in the shop prior to beginning work. FRA believes such a notification procedure may be useful in situations where unknown to the person in charge of the workers in the shop area, a roadway work group uses derails or other protections to establish working limits in the shop area. Due to cost considerations, FRA is not adopting such a notification requirement in this rule. However, FRA encourages railroads, as circumstances may warrant, to adopt such a procedure. FRA will continue to monitor this issue and may implement such a notification requirement in a future rulemaking.

Upon the effective date of this final rule, FRA Technical Bulletins G-05-21 and G- 08-03 are supplanted. Those technical bulletins are no longer valid in light of the adoption of new § 214.318 here.

Section 214.319 Working limits, generally.

Existing § 214.319 sets forth the requirements for establishing working limits consistent with subpart C. FRA is making several changes to this section in the final rule. First, FRA redesignated the last sentence of the existing introductory text of this section paragraph (a), and redesignated existing paragraphs (a)-(c) of this section paragraphs (a)(1)-(a)(3). This amendment is only structural and not intended to be substantive in nature to accommodate adding new paragraph (b) of this section (discussed below).

As proposed in the NPRM, FRA is replacing "roadway worker" in newly designated paragraphs (a)(1) and (a)(2) with "roadway worker in charge." These revisions are consistent with the use of the new term "roadway worker in charge" discussed in the Section-by-Section analysis of that term in § 214.7 and clarify that only a "roadway worker who is qualified in accordance with § 214.353 . . . can establish or have control over working limits for the purpose of establishing on-track safety."

In the NPRM, FRA also proposed amending the introductory paragraph of § 214.319 to reference the "verbal protection" method of establishing working limits proposed in new § 214.324. However, as explained above, in this final rule FRA is not adopting the proposed "verbal protection" provision, so the reference to that section is no longer necessary.

Next, FRA is adding new paragraphs (b) and (c) to this section. In the NPRM, in response to NTSB Safety Recommendation R-08-06, FRA asked if railroads should be

required to utilize redundant forms of working limits protection when a roadway work group depends on a train dispatcher or control operator to provide signal protection when working limits are established in signalized controlled track territories. NTSB issued Safety Recommendation R-08-06, after a 2007 accident near Woburn, Massachusetts in which two Massachusetts Bay Transportation Authority (MBTA) maintenance-of-way employees died. At the time of the accident, MBTA's rules required roadway workers to shunt track circuits to provide redundant signal protections to prevent trains or other rolling equipment from entering working limits. NTSB found the roadway work group involved in the accident did not comply with that rule and cited two probable causes of the accident: (1) the roadway work group's failure to apply a shunting device under the railroad's rule; and (2) the train dispatcher's failure to maintain blocking that provided signal protection for the track segment occupied by the working group.[6] In Safety Recommendation R-08-06, NTSB recommends that FRA "[r]equire redundant signal protection, such as shunting, for maintenance of way work crews who depend on the train dispatcher to provide signal protection." In 2013, NTSB reiterated Safety Recommendation R-08-06 to FRA after an accident in which a Metro-North maintenance-of-way employee was struck and killed by a train in Connecticut.[7]

FRA notes that both the 2007 MBTA and the 2013 Metro-North accidents involved violations of the existing requirements of subpart C. In both instances the train dispatchers did not maintain the required blocking devices, allowing train movements

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[6] See NTSB Accident Report NTSB/RAR-0801, "Collision of Massachusetts Bay Transportation Authority Train 322 and Track Maintenance Equipment near Woburn, Massachusetts, January 9, 2007;" available online at: http://www.ntsb.gov/doclib/reports/2008/RAR0801.pdf.

[7] http://www.ntsb.gov/doclib/recletters/2013/R-13-17.pdf .

into the roadway work groups' established working limits without the relevant RWIC's knowledge. See, e.g., § 214.321(d). Despite the fact that FRA's regulations already prohibit the actions that led to these accidents, FRA recognizes more can be done to try to prevent these types of mistakes from causing future tragedies.

In response to FRA's request for comment regarding a potential redundant protection requirement, AAR, NTSB, SEPTA, BMWED/BRS, APTA, MTA, NJT, and an individual, submitted comments. NTSB urged FRA to add a provision in this final rule requiring using redundant forms of protection such as shunting. AAR urged FRA not to adopt such a provision, indicating it would be counterproductive from a safety perspective. AAR stated such a provision would be counterproductive because shunting cannot be relied on due to: (1) the characteristics of track infrastructure that lead to periodic loss of shunt for certain equipment; (2) the susceptibility of shunts to work only intermittently when used near signal islands; and (3) the lack of reliability of individual locomotives or roadway maintenance machines to shunt. AAR's comment pointed to the safety issues shunting presents in some circumstances, specifically grade crossing warning device malfunctions and signal system interference, and to concerns related to cost, training, and the practicality of shunting requirements (e.g., trying to shunt as a roadway worker conducts walking track inspections or mobile weed spray operations). BMWED/BRS supported using redundant forms of protection, if it does not interfere with grade crossing warning devices. BMWED/BRS also indicated a requirement for roadway workers to use shunts would necessitate additional training to ensure using shunts did not interfere with grade crossing warning devices or signal systems' operation.

In its comment, SEPTA recommended that the use of redundant protections be left up to individual railroads because each railroad is in the best position to evaluate the using such a requirement on its property. NJT commented a requirement to use shunts could pose a problem when work is performed within the limits of an interlocking containing a moveable bridge, because if a roadway work group planned to let a train(s) pass through the group's working limits, the shunts would have to be removed and replaced for each train to allow the signal system to clear to permit the bridge operator to open or close the bridge. MTA commented shunting can result in unintended consequences, including grade crossing malfunctions and signal system disruptions. Citing a discussion in the preamble to a 2003 FRA rule (68 FR 44388, 44390) addressing roadway maintenance machines (RMMs), individual commenters expressed support for a redundant protection requirement. Noting that RMMs do not reliably shunt signal systems, these commenters stated a uniform requirement for protection beyond those provided by a dispatcher would improve safety.

Subsequent to publication of the NPRM and NTSB issuing Safety Recommendations R-08-06 and R-13-17, on December 4, 2015, the President signed into law the Fixing America's Surface Transportation Act, Public Law 114-94, 129 Stat. 1686 (Dec. 4, 2015) (FAST Act). Section 11408 of the FAST Act (Section 11408) addresses redundant signal protections and requires FRA (as the Secretary of Transportation's delegate) to promulgate a rule requiring railroads, whenever practicable and consistent with other safety requirements, to implement redundant signal protections for roadway work groups who depend on train dispatchers to provide signal protection. Section 11408 also requires FRA to consider exempting from any redundant signal protection

requirements each segment of track for which operations are governed by a PTC system. Thus, to fulfill the mandates of Section 11408 and address the NPRM's request for comment, FRA is adopting new paragraphs (b) and (c) of this section. Paragraph (b) requires Class I and II railroads and intercity passenger and commuter railroads utilizing controlled track working limits in signalized territory to establish on-track safety to adopt redundant signal protection procedures. Paragraph (c) explains the procedures to request an exemption from the redundant signal protections for segments of track governed by a functioning PTC system.

Under the discretion Section 11408 affords, FRA is not specifically requiring railroads to utilize shunting as a redundant signal protection. Consistent with the views of several commenters, including BMWED/BRS and AAR, FRA is concerned that in many instances shunting presents new risks. As the NTSB stated in its report on the 2007 MBTA accident at Woburn, shunting by maintenance-of-way crews is not a common practice in the railroad industry. Track shunts have traditionally been designed as a tool to test signal systems rather than to provide protection to roadway workers. Shunting procedures can be disruptive to signal systems and grade crossing warning systems (improper use may violate 49 CFR parts 234 and 236) and, in certain situations, employees applying shunts may be unnecessarily exposed to electrical hazards and other environmental hazards along the railroad right-of-way. Shunts are also not failsafe and do not guarantee the signal system will protect a roadway work group. FRA is concerned a mandatory shunting requirement nationwide could increase certain railroad safety risks involving highway-rail grade crossing warning devices and railroad signal systems. Further illustrating the risks shunting can present, FRA is currently investigating a

fatality that occurred in February 2016 when a railroad employee was attempting to install shunts to conduct an operational test and was struck by a train.

In developing this final rule, FRA conducted a preliminary cost-benefit analysis of a nationwide requirement to shunt, or to otherwise adopt a redundant signal protection involving manipulating the signal system or implementing a technology-based solution allowing roadway work groups to prevent train incursions into established working limits. FRA's analysis indicates the costs of a specific shunting or similar requirement would significantly outweigh the potential benefits and would cost the railroad industry well in excess of $100 million annually.

For the above reasons, FRA concurs with SEPTA's comment that an individual railroad is in the best positon to determine what method of providing redundant signal protections is appropriate for its own operations. Thus, paragraph (b) requires Class I or II and passenger railroads that establish on-track safety using controlled track working limits (§§ 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. Varying signal systems, physical characteristics, equipment, operating rules, and other factors make a one-size fits all Federal mandate to shunt, or to adopt a specific form of redundant signal protection, impractical and not the safest course of action.

After railroads conduct the required evaluation, paragraph (b) requires them to adopt (if such procedures are not currently in place) an appropriate method of redundant signal protections in their on-track safety program by January 1, 2018, and to comply with the adopted procedure(s). FRA may object to a railroad's method of providing

redundant signal protections under the review procedures specified in § 214.307, or may take other appropriate enforcement action if a railroad neglects to evaluate, adopt, and comply with appropriate redundant protection procedures.

Paragraph (b)(1) explains that for purposes of this section, the term "redundant signal protections" means "risk mitigation measures or safety redundancies adopted to ensure the proper establishment and maintenance of signal protections for controlled track working limits until such working limits are released by the roadway worker in charge." In other words, "redundant signal protections" are intended to protect against dispatchers or control operators unintentionally or mistakenly allowing train or other on-track movements into working limits before a roadway work group has released its authority (e.g., by removing a signal blocking device). Redundant signal protections could include various individual risk mitigation measures (or a combination of measures) such as technology, training, supervision, or operating-based procedures; or could include use of redundant signal protection such as shunting, designed to prevent signal system-related incursions into established controlled track working limits.

Permissible redundant signal protections under new paragraph (b) do not have to require members of the roadway work group or the RWIC to manipulate the signal system. Instead, redundant protections under this section could involve redundant actions by the control operator or train dispatcher operating the signal system. As noted above, NTSB cited apparent errors by the train dispatchers involved in both the 2007 MBTA and 2013 Metro-North accidents as probable causes of the accidents. Thus, FRA intends that appropriate redundant procedures required of the dispatcher involving operation of the signal system could also fulfill the requirement of new paragraph (b).

FRA notes a railroad is free to utilize shunting procedures to comply with paragraph (b) if the railroad's evaluation identifies such procedures as an appropriate way to provide redundant protections. FRA believes many railroads have already implemented redundant protections other than shunting procedures meeting the requirements of new paragraph (b). For example, at least one Class I railroad utilizes a technology-based procedure in its dispatching system that, if implemented properly, could satisfy the requirements of paragraph (b). FRA understands that dispatching system will not allow a dispatcher to release controlled track working limits until the RWIC affirmatively indicates via an electronic prompt that he or she is releasing working limits authority. Other railroads use extended job briefing procedures between the RWIC and dispatcher before a dispatcher may remove a blocking device, and/or monitor dispatcher job performance with extra operational tests and audits involving the removal of blocking devices. As an example of an additional briefing procedure (via radio communication) that would be an appropriate component of a railroad's redundant signal protections, a railroad could adopt in its railroad rules a prohibition on dispatchers releasing working limits and removing blocking devices until the RWIC confirms all roadway workers and equipment are clear of the track to be released. Similarly, a railroad rule requiring an additional member of the roadway work group to make the same confirmation to the dispatcher that the track to be released is clear of roadway workers and equipment could also be one component of a railroad's procedures adopted to comply with this new redundant signal protections requirement.

As additional background, on November 25, 2014, FRA published Safety Advisory 2014-02 (Advisory) regarding clear communication, compliance with existing

rules and procedures, and ensuring appropriate safety redundancies are in place. 79 FR 70268; correction published at 79 FR 71152, Dec. 1, 2014. The Advisory recommended, in part, that railroads monitor their employees for compliance with existing applicable rules and procedures and examine their train dispatching systems, rules, and procedures to ensure appropriate safety redundancies are in place in the event of miscommunication or error. Id. at 70270. FRA issued the Advisory in response to then-open NTSB Safety Recommendation R-08-05, open Safety Recommendation R-08-06, and other incidents where roadway workers were either outside of working limits authority, or where working limits were no longer protected due to dispatcher error. The Advisory discussed available technologies to establish redundant signal protections for roadway work groups (not involving shunting) that, depending on a railroad's specific operating situation, could serve as appropriate forms of redundant protection under new paragraph (b) of this section. Specifically, the Advisory discussed the Enhanced Employee Protection System (EEPS). Id. at 70269. FRA understands certain railroads are deploying the EEPS system. And, the NTSB deemed Metro-North's response to Safety Recommendation R-13-17 (redundant signal protections recommendation to Metro-North specifically) as "Closed-Acceptable Action" after Metro-North implemented EEPS on its system.[8] FRA encourages railroads to use new technologies such as EEPS as they become available to provide redundant signal protections for roadway work groups and to comply with new paragraph (b). As is FRA's practice, it polled railroads to evaluate what, if any, actions railroads took to address the recommendations in the Advisory. A review of responses indicates many railroads' existing procedures already comply with new paragraph (b), as

[8] http://www.ntsb.gov/investigations/_layouts/ntsb.recsearch/Recommendation.aspx?Rec=R-13-017.

redundancies currently exist within their train dispatching procedures and procedures governing the release of controlled track working limits in signalized territory. FRA is also aware that in addition to these existing safety redundancies, many railroads' roadway maintenance machines are being equipped with modern shunting devices that more effectively shunt track while operating.

Each railroad subject to paragraph (b) must conduct the required evaluation of its on-track safety program by July 1, 2017. This evaluation must be completed even if the railroad believes its existing on-track safety program already provides appropriate redundancies. A railroad's on-track safety program must specifically identify and implement any redundancies by January 1, 2018. FRA believes this amount of time is adequate for each railroad to conduct the evaluation required by paragraph (b), formulate any necessary additions to the on-track safety program, and train roadway workers, train dispatchers, and control operators on any new redundant protections a railroad adopts.

Given operational and practicability considerations, new paragraph (b), requiring redundant protections, applies only to Class I and II railroads and intercity passenger and commuter railroads. By limiting the applicability of this requirement to these larger railroads, FRA is addressing nearly all of the controlled, signalized track in this country, and not imposing an unnecessary burden on smaller entities (Class III railroads). For purposes of this final rule, FRA considers carriers providing "intercity rail passenger transportation" and "commuter rail passenger transportation" to be the same as those defined at 49 U.S.C. 24102 (definitions of passenger railroads required to install PTC systems under 49 U.S.C. 20157(a)).

FRA must evaluate the costs and benefits of all new regulatory requirements and the burdens of those requirements on small businesses. In short, the safety issues requiring the redundant signal protections contemplated by paragraph (b) of this section are not typically present on the smallest railroads. Generally, Class III railroads do not have signalized controlled track where the redundant protections provision of paragraph (b) would even apply and Class III railroad operations are typically lower speed operations as compared to passenger and Class I or II railroad operations. The accidents NTSB's Safety Recommendation R-08-06 and R-13-07 address both occurred on commuter railroads and the more recent notable accidents described in the Advisory all occurred on either Class I or commuter railroads. Regarding the costs/burden of this new requirement, as discussed above, FRA polled the Class I and II railroads and certain passenger railroads to determine what actions railroads have taken to implement the recommendations in the Advisory. Most railroads that responded indicated they had redundant protections in place prior to FRA issuing the Advisory through their existing dispatching and on-track safety procedures. FRA does not believe there will be prohibitive costs to implement this new requirement, particularly with the flexibility that this final rule provides. A more detailed discussion of the estimated costs and benefits of this new provision is in the RIA accompanying this final rule.

New paragraph (c) of § 214.319 implements the "alternative safety measures" provision of Section 11408 paragraph (b). That paragraph requires FRA to consider exempting from the redundant signal protections requirements "a segment of track for which operations are governed by a [PTC] system certified under [49 U.S.C. 20157], or any other safety technology or practice that would achieve an equivalent or greater level

of safety in providing additional signal protection." Paragraph (c) establishes how railroads may request FRA consideration of such an exemption for a segment of track.

FRA's regulations governing the implementation of PTC systems are in 49 CFR part 236, subpart I. Among other safety protections, part 236 requires PTC systems to prevent incursions into established roadway worker working limits. 49 CFR 236.1005(a)(1)(iii). To comply with this requirement, railroads generally have numerous system design options. In FRA's 2010 initial final rule on PTC, however, FRA explained it would scrutinize a railroad's PTC development and safety plans to determine if the plans left any opportunity for a single point human failure with regard to incursions into work zones (e.g., any opportunity for a dispatcher to remove a blocking device in error as occurred in the 2007 MBTA accident described above). 75 FR 2598, 2613. As noted in that rule, FRA funded the development of a portable terminal allowing an RWIC to control the entry of trains (and restrict train speed) into established working limits, and prohibiting a dispatcher from releasing working limits in the absence of verification of a desired release from the RWIC. Id. In the 2010 final rule, FRA strongly recommended railroads utilize terminals with such functionality in implementing PTC. Id.

FRA believes a PTC system involving dual protections for roadway work groups (such as described above) would improve roadway worker safety and be consistent with allowing an appropriate PTC exemption from the redundant protection requirements in paragraph (b) of this section. However, without knowing the particular PTC system a railroad is using at a given location, and to ensure this type of dual protection system is successfully implemented, FRA cannot provide a universal exemption without performing a detailed review of each PTC system's working limits' incursion protections.

Moreover, a railroad may use a solution to the PTC standard that is not necessarily redundant and would not fulfill the FAST Act's signal protections mandate.

Thus, new paragraph (c) requires a railroad seeking to exempt a segment of track governed by a PTC system from the redundant signal protections requirement of paragraph (b) to submit a written request for exemption to FRA's Associate Administrator for Railroad Safety and Chief Safety Officer. The written request for approval must include all relevant details regarding how the PTC system at a given location prevents train incursions into established working limits, and discuss how such a PTC system eliminates a single point human failure in the enforcement of established working limits. Paragraph (c) specifies that FRA will provide notice of approval or disapproval of a railroad's request within 90 days, and will specify the basis for FRA's decision if the request is disapproved. Of course, a railroad may choose to implement appropriate redundant signal protections under new § 214.319(b) on segments of track governed by an operative PTC system to provide an extra measure of safety for roadway workers.

Both MBTA and Metro-North (the railroads that experienced the accidents which led NTSB to issue Safety Recommendation R-08-06) are required to install PTC. FRA already accounted for the cost of PTC installation and the corresponding benefits of preventing other types of unintended work zone incursions in the final PTC rule. 75 FR 2598; see accompanying FRA RIA, Docket No. 2008-0132-0060; available online at www.regulations.gov. The Advisory discussed above also reiterated the probability of certain types of work zone incidents occurring as a result of non-compliance with existing rules and regulations could be significantly reduced by effective implementation

of PTC systems. FRA believes paragraph (b)'s new redundant protections provision, along with implementation of PTC systems under part 236, will greatly reduce the likelihood of future injuries and deaths resulting from incursions into controlled track working limits in signalized territory. However, FRA will continue to evaluate this issue, and, as new technologies evolve, may revisit the topic of redundant signal protections.

Section 214.320 Roadway maintenance machine movements over signalized non-controlled track.

In the NPRM, FRA proposed to amend § 214.301 to address a potential safety issue resulting from roadway maintenance machine movements under that section on non-controlled track. Section 214.301 allows train or on-track equipment movements on non-controlled track without authorization from a train dispatcher or control operator.[9] Typically, movements on non-controlled track are governed by railroad operating rules limiting movements to speeds not exceeding restricted speed. Section 214.7 defines restricted speed as "a speed that will permit a train or other equipment to stop within one-half the range of vision of the person operating the train or other equipment, but not exceeding 20 miles per hour, unless further restricted by the operating rules of the railroad." The requirement to stop within one-half the range of vision prevents collisions between any equipment operating on the same non-controlled track. As such, under existing § 214.301(c), operations at restricted speed allow roadway maintenance machines to safely travel over non-controlled track without having to establish working limits. However, some non-controlled track is equipped with automatic block signal (ABS) systems. ABS systems are designed to prevent collisions while allowing trains to

[9] Section 214.7 defines "non-controlled track" as "track upon which trains are permitted by railroad rule or special instruction to move without receiving authorization from a train dispatcher or control operator."

operate at speeds greater than restricted speed. As discussed in the NPRM, this scenario is problematic for purposes of the movement of roadway maintenance machines on non-controlled track under existing paragraph (c) because roadway maintenance machines do not all shunt track circuits. Absent the establishment of inaccessible track working limits or other protections, nothing in existing part 214 prevents a train operating on non-controlled ABS-signaled track at greater than restricted speed from colliding with roadway maintenance machines traveling on the same track that do not shunt the signal system (no authority is needed to occupy non-controlled track and trains are not required to stop within one-half their operator's range of vision).

As noted in the NPRM, one Class I railroad had a significant stretch of ABS non-controlled track and a train traveling at greater than restricted speed struck a hi-rail vehicle.[10] To address this safety concern, in the NPRM, FRA proposed allowing roadway maintenance machine movements on signalized non-controlled track under § 214.301(c) (i.e., without establishing working limits) only if train and locomotive speeds on the track are limited to speeds at or below restricted speed.

With the exception of block register territories (addressed in proposed § 214.327(a)(7) below), FRA believes railroad operations over most non-controlled track are already limited to restricted speed. For example, FRA understands yard track is typically non-controlled track with operations limited to restricted speed. Thus, FRA did not believe this proposed requirement would represent a cost burden to the industry. To provide additional flexibility on this point, however, in the NPRM FRA also proposed

[10] Another Class I railroad with non-controlled, signaled track, moves roadway maintenance machines over the track by creating working limits via a dispatcher controlling the signals at either end of the non-controlled limits to make the track inaccessible.

allowing the movement of roadway maintenance machines over non-controlled track without establishing working limits under operating rules other than restricted speed that are demonstrated to provide an equivalent level of protection as restricted speed rules. This proposal only referred to train and locomotive speeds on non-controlled track, and not to the speeds at which roadway maintenance machines are authorized to travel over non-controlled track. Existing § 214.341 already requires each railroad's on-track safety program to address the spacing between machines and the maximum working and travel speeds for machines depending on weather, visibility, and stopping capabilities. Roadway maintenance machines typically have stopping capabilities far in excess of that of trains. FRA intended this proposal to address situations where trains and locomotives are not required to stop within one-half the range of vision on non-controlled track, and could collide with roadway maintenance machines in travel mode under railroad operating rules that do not shunt signal systems.

AAR commented on this proposal. AAR's comment suggested altering FRA's proposed language by specifying that "restricted speed" would permit train and equipment movements at up to 25 miles per hour (mph). AAR also suggested specific rule text for alternate procedures if FRA allowed speeds greater than restricted speed (versus the NPRM proposal requiring FRA approve or disapprove of any alternative procedures adopted by railroads). AAR's comment estimated a cost of $297 million over a 20-year period for one railroad "if no other relief were granted."[11]

[11] FRA notes the calculation in AAR's comment incorrectly indicates AAR's $ 297 million estimated cost relates to the NPRM's proposed RSAC consensus definition of the term "controlled point" (see the title of Attachment B to AAR's comment). In reviewing AAR's comment, however, it is clear the $ 297 million cost estimate actually pertains to FRA's proposal to amend existing § 214.301(c) to address a safety risk that occurs when roadway maintenance machines travel over signalized non-controlled track.

In this final rule, FRA is adding new § 214.320 addressing the movement of roadway maintenance machines on non-controlled track without establishing working limits. For purposes of this new section, FRA defines restricted speed as movements prepared to stop within one-half the range of vision but not exceeding 25 mph. The 25-mph maximum speed is consistent with the meaning of restricted speed for purposes of new § 214.317(c) (discussed above) in which FRA adopted an RSAC-consensus provision allowing on-track roadway maintenance machines to conduct snow removal and weed spraying operations while traveling over non-controlled track without establishing working limits. The 25-mph maximum speed is also consistent with AAR's recommended revisions and will minimize the potential costs, if any, of this new paragraph. This new section requires roadway workers moving roadway maintenance machines over non-controlled track equipped with an ABS signal system, and over which trains are permitted to operate at speeds over restricted speed (above 25 mph), to establish working limits under § 214.327. Because no control operator or dispatcher controls movements over non-controlled track, and roadway maintenance machines may not shunt the track while traveling over it, this new section helps prevent roadway maintenance machines from colliding with trains or other on track equipment where movements are made at speeds in excess of restricted speed on non-controlled track.

To address this situation, AAR suggested specific rule text requiring dispatchers or control operators to provide permission for a train to move into or within non-controlled track. By definition, however, FRA believes this would make the track "controlled track." See § 214.7 definition of "controlled track". If track is "controlled track," then this provision as proposed and as adopted in new § 214.320 would not even

apply. FRA also notes AAR's recommended procedure is very similar to the procedures in new § 214.327(a)(8) adopted in this final rule for establishing working limits on non-controlled track. Thus, a railroad may choose to comply with new § 214.327(a)(8) if it does not want to comply with the restricted speed provision of new § 214.320 or an FRA-approved alternate procedure under that section.

In this new section, FRA provides flexibility for railroads to adopt alternate procedures to move roadway maintenance machines over non-controlled track and to utilize those procedures instead of establishing working limits or restricting on-track movements to restricted speed. With the new methods of establishing working limits on non-controlled track discussed below in § 214.327, the flexibility provided in this new § 214.320, and the small number of situations when § 214.320 will apply, FRA believes railroads have sufficient flexibility to conduct train movements at track speed over signalized non-controlled track, while at the same time providing for the safe movement of non-shunting roadway maintenance machines traveling over the same non-controlled track.

AAR's comment estimated one railroad would incur costs of $297 million as a result of this provision. FRA disagrees with AAR's calculation. According to AAR, this one railroad identified 13 locations covered by the NPRM proposal. The railroad then estimated 252 trains operating over those 13 locations daily, with an additional 126 "opposing trains delayed" per day at these locations, for a total of 378 trains affected daily. AAR then estimated delay costs for each of the 378 trains, for every single day of the year, for a 20-year period. AAR stated the delay costs are due to trains being delayed as a result of having to travel at restricted speed.

AAR's calculation is flawed. Nothing in the NPRM or this final rule requires trains to travel at restricted speed at any of the identified 13 locations. This provision merely requires roadway workers, at the periodic times when roadway maintenance machines travel over non-controlled track, to establish working limits under § 214.327. If a railroad does not want to require its roadway workers to establish working limits under these circumstances, new § 214.320 allows railroads to adopt alternative procedures providing an equivalent level of protection to restricted speed protections. These alternative procedures, once demonstrated to provide an equivalent level of safety as restricted speed protections and approved by FRA, would permit roadway maintenance machines to travel over these locations without establishing working limits.

AAR's basis for its train delay estimate is also unfounded because as mentioned above, neither the NPRM nor this final rule require any trains to travel at restricted speed. This provision only requires roadway workers to establish working limits if no alternative procedures are adopted, which would only affect a fraction of train traffic at these 13 locations. If for some reason a railroad chooses not to adopt alternative procedures providing an equivalent level of protection for roadway maintenance machines movements, FRA is unsure any of these trains would be affected, because even under the existing railroad rules, trains permitted to operate at greater than restricted speed on non-controlled track already have to somehow yield to roadway maintenance machine movements travelling over the same track to avoid colliding with the machines. As explained in the accompanying RIA, FRA does not believe new § 214.320 will impose any significant costs. FRA understands the one railroad estimating costs for this NPRM provision revised its procedures to designate some track in question "controlled track"

and is now using new procedures that may already comply with this section. Thus, via existing industry practices, FRA does not believe there are any large costs to implement this provision. FRA believes this final rule will, at most, only impose de minimis costs in light of the additional methods of establishing working limits via § 214.327 proposed in the NPRM that are akin to AAR's proposal in its comment discussed above. Also, as explained above, FRA has specified restricted speed is a maximum of 25 mph (stopping within one-half the range of vision) for purposes of this provision, per the request made in AAR's comment. This further alleviates any stated cost concerns.

Section 214.321 Exclusive track occupancy.

Existing § 214.321 sets forth the requirements for establishing working limits on controlled track through exclusive track occupancy procedures. In the NPRM, FRA proposed several amendments to this section, including both Working Group consensus items and non-consensus items. FRA proposed to replace the words "roadway worker" in existing paragraphs (a) and (b) with "roadway worker in charge." As discussed previously, this change is intended to clarify the existing variety of generic references to roadway workers in charge and, in this section in particular, to clarify that an authority for exclusive track occupancy must be communicated to the "roadway worker in charge," as opposed to the to a "roadway worker" as currently stated in existing paragraph (b) of this section (per existing § 214.319, only a roadway worker in charge can establish working limits).

Next, existing paragraph (b) of this section states a "data transmission" may be used to transmit an exclusive track occupancy authority to a roadway worker (i.e., a roadway worker in charge). However, existing paragraph (b)(2) states only that the

roadway worker in charge must maintain possession of a "written or printed authority" while the authority for working limits is in effect, and does not currently account for authorities conveyed via data transmission displayed on the screen of an electronic device. In the NPRM, FRA proposed to amend paragraph (b)(2) to clarify that an authority displayed on an electronic screen may be used in place of the "written or printed" authority existing § 214.321(b)(2) requires. FRA is adopting this amendment in this final rule. FRA notes that electronic authorities must also comply with the requirements of new § 214.322, discussed in the Section-by-Section analysis below.

The Working Group recommended consensus language requiring exclusive track occupancy authorities to specify a unique roadway work group number, an employee name, or other unique identifier. In the NPRM, FRA proposed language consistent with this Working Group recommendation as new paragraph (b)(4) to § 214.321.

AAR and NJT submitted comments about this proposal. AAR supported this proposal, but noted an inconsistency between the preamble discussion and proposed rule text. AAR noted the preamble discussion implied using an employee name to identify an exclusive track occupancy authority when conveying working limits would not be permitted, but the proposed rule text allowed using an employee name. FRA agrees and notes that as proposed and as adopted in this final rule, paragraph (b)(4) of this section permits using an employee's name to identify an exclusive track occupancy authority.

NJT requested clarification of the language in paragraph (b)(4) which stated that "[a] railroad shall adopt procedures that require precise communication between trains and other on-track equipment and the roadway worker in charge or lone worker controlling the working limits in accordance with § 214.319." Specifically, NJT asked if

the language was meant to require a train to communicate with every piece of on-track equipment in a roadway work group, in addition to communicating with the RWIC, when seeking to pass through working limits. NJT indicated that if this proposal required such communication, both locomotive engineers and roadway work groups could become distracted due to excessive sounding of the locomotive horn as the train passed through working limits. FRA clarifies this language, as proposed in the NPRM and adopted in this final rule, is intended to require a train or other on-track equipment to communicate only with the RWIC (or lone worker) of the working limits through which the train or on-track equipment seeks to enter or travel through. FRA addresses NJT's comment on potential excessive sounding of the locomotive horns in these circumstances in the Section-by-Section analysis for § 214.339 below.

Next, as proposed, FRA is amending existing paragraph (d) to refer to the "roadway worker in charge" rather than to the "roadway worker" having control over the working limits. As discussed elsewhere in this preamble, FRA is making similar changes in multiple locations in this final rule to replace the varying existing language generically referring to the "roadway worker in charge" throughout subpart C. Existing paragraph (d) of this section requires the movement of trains and other on-track equipment within exclusive track occupancy working limits be made only under the direction of the RWIC. As discussed in the preamble to the NPRM, in 2005 FRA issued Technical Bulletin G-05-22 addressing paragraph (d) and recognizing there may be times, such as during an emergency, when a RWIC cannot be contacted by a train or other on-track equipment seeking to move into or through the RWIC's working limits. In this final rule, FRA intends new paragraph (b)(4) to work in conjunction with the requirements of existing

paragraph (d). New paragraph (b)(4) requires railroads to adopt procedures governing communications between trains and RWICs. FRA expects railroads to adopt procedures addressing what actions employees must take if there is an emergency and a RWIC cannot be contacted by a train crew or the operator of other on-track equipment. Upon the effective date of this final rule, Technical Bulletin G-05-22 is supplanted.

In addition, as explained in the NPRM, the existing text of the beginning of the second sentence of paragraph (d) currently reads that "[s]uch movements shall be restricted speed." FRA proposed to amend that text to instead state "[s]such movements shall be made at restricted speed." (Emphasis added.) For clarity and readability, FRA is adopting this proposed revision.

Finally, in the NPRM, FRA proposed adding new paragraph (e) to this section This paragraph proposed minimum safety requirements when an exclusive track occupancy authority is given to a RWIC (or lone worker) before the roadway work group (or lone worker) is to occupy the limits, or when train(s) may be occupying the same limits. As explained in the NPRM, these authorities are referred to as "occupancy behind," "conditional," or "do not foul the limits ahead of" authorities[12] and enable a train dispatcher or control operator to issue an authority allowing a roadway work group (or lone worker) to occupy a track, if such occupancy only occurs after certain trains or other on-track equipment pass. At the time occupancy behind authorities are issued to roadway work groups (or lone workers), trains may still be ahead of the point the roadway worker(s) will be occupying, or in some cases may be past the point to be

[12] FRA notes 49 CFR 220.61 requires issuing "mandatory directives" via radio transmission for both trains and on-track equipment. Exclusive track occupancy authority to establish working limits granted by a train dispatcher or control operator to a RWIC are sometimes also considered "mandatory directives" under that section. The existing requirements in § 214.321 are in addition to the requirements of existing § 220.61.

occupied but still within the working limits. Railroads have a history of using "occupancy behind" authorities and expressed to FRA using such authorities is crucial for efficient railroad operations. The Working Group discussed potential problems with miscommunications involving "occupancy behind" authorities, but did not reach consensus on recommended regulatory text addressing the issue. However, FRA believes it is necessary to adopt minimum safety requirements for using such authorities when RWICs (or lone workers) are establishing exclusive track occupancy working limits.

As proposed, paragraph (e)(1) requires the RWIC or lone worker to confirm affected train(s) are past the point the roadway worker(s) intend to occupy or foul before working limits may be established under paragraph (e). Paragraph (e)(2), as proposed, requires a railroad's operating rules to include procedures prohibiting affected train(s) from making reverse moves into the limits roadway worker(s) are authorized to foul or occupy when a RWIC or lone worker confirms the passage of affected train(s) by visually identifying the train(s). Paragraph (e)(3), as proposed, requires the RWIC or lone worker, after confirming the affected train(s) had passed the point the roadway worker(s) intended to occupy or foul, to record "on the authority" the time the train(s) passed and locomotive number(s) of the affected train(s). As proposed, paragraph (e)(4) prohibits roadway workers located between the rear end of the last affected train and the RWIC, or who are still located ahead of any affected train, from fouling or occupying the track until the RWIC confirms and records affected train(s) passed under paragraphs (e)(1) and (e)(3) and provides the roadway worker(s) permission to occupy or foul the track.

NTSB, SEPTA, BMWED/BRS, and AAR commented on this proposal. After careful consideration of each of these comments, in this final rule, FRA is adopting

paragraphs (e)(1) to (e)(3) as proposed and paragraph (e)(4) with slight modifications from that proposed. FRA believes adoption of this paragraph's minimum standards for establishing "occupancy behind" working limit authorities codifies best practices and will help ensure safety. A detailed discussion of FRA's responses to comments received on to new paragraph (e) is below.

NTSB indicated its awareness of the perceived benefits of "occupancy behind" track authorities, but cited four train accidents occurring between 1996 and 2004 involving the use of these types of authorities. NTSB urged FRA not to adopt the proposed changes in a final rule, indicating such changes would diminish safety. FRA appreciates and understands NTSB's point of view on this issue, but FRA believes adopting minimum safety standards for "occupancy behind" authorities will improve safety. The use of conditional authorities, such as those contemplated by paragraph (e), currently occurs in the railroad industry. The existing on-track safety regulations of subpart C do not address this practice. By adopting paragraph (e) in this final rule, FRA is establishing minimum Federal safety requirements for this practice and believes these standards will further improve track-related safety issues, as roadway workers and dispatchers will continue to be able to maximize the time available for roadway workers to perform quality track inspections as required by 49 CFR part 213. If FRA prohibited using occupancy behind authorities, the time available for roadway workers to conduct track inspections in busy rail corridors would likely decrease as authorities for roadway workers to occupy or foul track could not be issued until after all trains passed the point the roadway worker(s) need to occupy or foul track. FRA believes more frequent and

quality track inspections will improve railroad safety, as track-caused derailments are one of the leading causes of railroad accidents.

SEPTA requested clarification of the requirements in proposed paragraphs (e)(3) and (e)(4). SEPTA asked how, under proposed paragraph (e)(3), a RWIC could confirm in writing the train passed if the roadway worker received the authority through a data transmission. SEPTA also asked if under proposed paragraph (e)(4) every roadway worker between the RWIC and the affected train(s) would have to be qualified to the level of a RWIC, or whether each additional work group would be required to have an employee qualified as a RWIC.

In response, FRA clarifies that if an authority is conveyed electronically, a RWIC or lone worker may, under paragraph (e)(3), record the time of passage and engine numbers of trains passing the point to be occupied or fouled in one of two ways. First, a railroad could program its system to issue electronic authorities so roadway workers can enter the required information electronically onto the authority and maintain access to that information while the authority is in effect. Second, as discussed in the NPRM, an RWIC could write the time of passage and engine numbers on a paper and maintain that paper while the authority is in effect. This written information is considered part of the authority, and must be kept by the RWIC while the authority is in effect.

In response to SEPTA's request for clarification of paragraph (e)(4), in this final rule, FRA is amending the text to clarify the paragraph refers to separate roadway work groups. FRA intended this provision to allow separate roadway work groups (or lone workers) located between the rear end of affected trains and the RWIC to have a roadway worker qualified under § 214.353 communicate with the RWIC holding the authority.

BMWED/BRS opposed amending the regulations to accommodate issuing "conditional authorities" to establish working limits. Noting the Working Group did not reach consensus on this point, the labor organizations stated working limits should only be in effect after all trains and on-track equipment have reported clear of the working limits. BMWED/BRS indicated that if conditional authorities such as those proposed are permitted, all trains and on-track equipment traveling within working limits must be required to operate at restricted speed.

In response, FRA notes that in many instances, particularly in high-volume corridors, the potential economic costs of requiring all trains to travel at restricted speed within authority limits in occupancy behind situations would likely outweigh the economic benefits of such a requirement. FRA also reiterates that in the absence of FRA action in this final rule, occupancy behind authorities would continue to be used regularly by the railroad industry without this final rule's minimum safety requirements addressing such use. Thus, FRA believes this provision improves safety.

AAR's comment stated paragraph (e)(3)'s requirement that the RWIC record the time of passage and engine numbers of a train after the train has passed is problematic and unnecessary. AAR asked where a RWIC should record such information if an electronic authority is used. AAR also stated it is unaware of an instance where the information regarding time of passage and train engine numbers would have been useful.

AAR's comment also stated that paragraph (e)(4)'s requirement regarding additional RWICs could be costly, as a RWIC might have roadway workers acting under his or her working limits authority located miles apart. AAR asserted this requirement could necessitate additional communication within a roadway group, and could lead to

confusion in large work gangs accustomed to a single source for confirmation regarding whether it is safe to foul a track. Finally, AAR's comment questioned what constitutes a separate roadway work group under paragraph (e)(4), stating the reasonable approach is that when all the workers are engaged in a common task only one employee qualified as a RWIC should be required.

In response to AAR's first question regarding where a roadway worker who is utilizing an electronic authority should copy the time of passage and engine numbers of a passing train, FRA refers to the response to SEPTA's similar inquiry above, and to the NPRM's discussion regarding a separate written document. 77 FR 50344. The RWIC can copy that information in writing so it can be compared to the information in the electronic authority. The written information must be kept by the RWIC while the authority is in effect under § 214.321(b). 77 FR 50344. FRA believes roadway workers must copy this information, because if a dispatcher gives a roadway worker authority behind or after the passage of a train(s), the engine numbers are a simple check to ensure the train that has passed the RWIC's location is indeed the train the dispatcher had intended would pass before roadway workers fouled track. FRA staff is aware of situations when there was confusion over whether the roadway workers could occupy a track after a particular train passed. This provision helps eliminate any confusion, and, in some instances, will save time by alleviating the need for additional dispatcher communication to verify the appropriate trains have passed the point to be occupied.

Regarding paragraph (e)(4)'s requirement addressing an additional RWIC for roadway work groups that might piggyback within the working limits of the RWIC named on the authority, FRA also refers to the response to SEPTA's comment above.

Consistent with FRA's intent in the NPRM, FRA is clarifying in this final rule that this requirement only applies to separate roadway work groups at a location away from the RWIC listed on the authority. Regarding AAR's inquiry about what constitutes a separate roadway work group, FRA agrees a roadway work group is composed of roadway workers ". . . organized to work together on a common task" as stated in the definition of the term "roadway work group" at existing § 214.7. In this regard, roadway workers who are part of the same group will continue to follow the instructions of the RWIC when fouling track, as is required in all instances under the existing regulation. So, a large roadway work group that might be spread out over some distance will not be permitted to foul the track in question until the RWIC indicates the members of the roadway work group may do so (and after the passage of the trains listed on the authority).

In this final rule, FRA retains the NPRM's text addressing a RWIC of a roadway work group away from the location of the initial group. If a second roadway work group wishes to "piggyback" on an occupancy behind authority, the RWIC of the second group must also have a copy of the authority and confirm the affected trains have passed the group's location before the group occupies the track. As an example, if the RWIC of a tie gang establishes working limits authority under paragraph (e), and a bridge gang two miles away wishes to piggyback on that authority, the bridge gang must have its own RWIC communicate with the tie gang's RWIC before permitting the bridge gang to foul the track. In many regards, this is the same way roadway work groups are used under another RWIC's authority under existing part 214. FRA notes this procedure is not limited to two roadway work groups, but multiple groups may be involved.

FRA believes that from a safety perspective these requirements are necessary. Where an additional roadway work group is located a distance from the RWIC listed on the authority, the only safe way for that additional roadway work group to ensure affected trains have passed their location is to make the required confirmation of train engine numbers. This is necessary because a second roadway work group may have arrived at location either before or after an affected train listed on the authority has already passed that location. Meaning, unless confirmation is made by each roadway work group, the group may not know how many affected trains have already passed (or if a train exited the track to be occupied, or stopped, before reaching a roadway work group's location). If the RWIC listed on an authority is not physically present at a separate roadway work group's location, which may be some distance away, he or she cannot know whether a train has actually passed that other location to be able to tell an additional roadway work group it is safe to foul the track yet. The RWIC at the particular location where the piggybacking group wishes to foul track must make that determination. This procedure is necessary to avoid miscommunications between separate roadway work groups on an occupancy behind authority, and addresses safety concerns regarding occupancy behind authorities discussed by the Working Group. Such qualification is necessary to ensure the RWIC of a separate work group utilizing another group's authority has been trained on, and can apply, the rules regarding occupancy behind procedures. It also ensures a RWIC is present to recognize whether appropriate on-track safety measures are in place and to address any potential good faith challenges.

As mentioned above, FRA is slightly amending the rule text of (e)(4) based on further evaluation of this issue, to more clearly account for situations where additional

roadway work groups are located at the same place as the RWIC listed on the authority. In that instance, the RWIC who obtained authority may confirm the passage of affected train(s), and may communicate to an additional roadway work group it is safe to foul the track (without need for an additional RWIC to have a copy of the authority). If the RWIC can see the affected trains are past a separate roadway work group's location, the RWIC of the authority can verbally inform the other roadway work group it is permissible to foul the track without need for that second group to have a copy of the authority per (e)(4)(i)-(ii).

With regard to the requirements and application of new paragraph (e) as a whole, paragraph (e)(1) states an authority is only in effect after the RWIC or lone worker confirms affected train(s) have passed the point to be occupied or fouled by the roadway work group or lone worker. This is necessary because in many instances the train(s) listed in the roadway worker in charge's authority may still be ahead of (i.e., may have not yet reached and traveled past) the point to be occupied or fouled. The text permits such confirmation to be made in three ways: (1) by visually identifying the affected train(s); (2) by direct radio contact with a crew member of the affected train(s); or (3) by receiving information about the affected train(s) from the dispatcher or control operator.

Paragraph (e)(2) states that when such confirmation is made by the RWIC visually identifying the affected train(s), the railroad's operating rules must include procedures to prohibit such trains from making a reverse movement into the limits being fouled or occupied (this provision, in addition to the requirements of proposed § 214.321(e)(4) below, protects roadway worker(s) located ahead of the point to be occupied who intend to "piggyback" on a RWIC's exclusive track occupancy authority).

FRA believes this is necessary, as this confirmation method does not require the RWIC to actually talk to the crew of the affected train(s) (or for the train dispatcher to talk with the crew or verify that that train is beyond the point to be occupied), such that the crew may not be cognizant of the working limits or point to be occupied. In this final rule, FRA has also added the word "within" to this provision, as whether a reverse movement is made into, or within the working limits, by a train after having passed the point to be occupied presents the same risk to a roadway work group that will be fouling the track.

Paragraph (e)(3) requires that after confirmation of the passage of affected train(s) is made, the RWIC must record on the authority document (or display) both the time of passage and the engine (locomotive) numbers of the affected train(s). If passage confirmation is made via radio communication with the train crew, the time of that communication along with the engine numbers must be recorded on the authority. When confirmation of the passage of the affected train(s) is made via the train dispatcher or control operator, the time of such confirmation and the engine numbers must be recorded on the authority. If the time and engine numbers are not recorded on the authority itself, as explained above (and in the NPRM), FRA considers a separate written document used to record information regarding passing trains to be a component of the authority. That separate document must be maintained with the authority while it is in effect.

Paragraph (e)(4) states separate roadway work groups who are located away from the RWIC listed on the authority may only foul track under an occupancy behind authority after receiving permission to do so from the RWIC who received the authority and after the RWIC fulfilled the provisions of proposed § 214.321(e)(1) and (e)(3). As explained above in response to the AAR and SEPTA comments, FRA has amended the

NPRM's reference to "roadway workers" in paragraph (e)(4) to instead refer to a "separate roadway work group." FRA's intent was that each additional roadway work group piggybacking on the initial roadway work group's authority would also have its own roadway worker qualified under § 214.353. For the reasons explained above, the RWIC of another roadway work group piggybacking on an occupancy behind authority is also required to have a copy of such authority and fulfill the requirements of § 214.321(e)(1) and (e)(3) before working limits may be occupied or fouled at a particular location. The authority information may be verbally transmitted by the RWIC to the additional roadway work group utilizing the working limits.

FRA removed what was proposed paragraph (e)(5) in the NPRM from this final rule. Proposed (e)(5) would have reiterated that lone workers who wished to utilize this occupancy behind procedure must comply with the same procedures a RWIC of a roadway work group is required to adhere to under paragraph (e). This paragraph was unnecessary, however, as paragraph (e)(1) and the amended definition of "roadway worker in charge" already account for lone workers utilizing the procedures under this paragraph.

New paragraph (e)(5) (formerly proposed paragraph (e)(6)) establishes any train movements within working limits after passage of the affected trains listed on the authority will continue to be governed by existing § 214.321(d), or under the direction of the RWIC.

Section 214.322 Exclusive track occupancy, electronic display.

Existing § 214.321(b) permits an exclusive track occupancy authority to be issued via data transmission from the train dispatcher or control operator to the RWIC. Certain

railroads utilize electronic devices to display such authorities received via data transmission. FRA anticipates that using such electronic devices to display working limits authorities will continue to grow, especially with the implementation of PTC systems. As such, the Working Group considered this topic, and contemplated minimum requirements for using such electronic displays. The Working Group agreed in principle to basic concepts for using electronic display for working limits. However, the Working Group did not agree to consensus language.

Paragraph (a), as proposed in the NPRM, contained the items agreed to in principle by the Working Group, and established that an electronically displayed authority must be readily viewable by the RWIC while such authority is in effect. Proposed paragraph (a)(1) stated that when a device malfunctions or fails, or cannot otherwise display an authority in effect (e.g., batteries powering the electronic device displaying the authority lose charge), the RWIC must instruct all roadway workers to stop and occupy a place of safety until a written or printed copy of the authority can be obtained, or another form of on-track safety can be established. FRA requested comment regarding whether to first allow the RWIC the opportunity to obtain a written copy of an authority before requiring the members of the roadway work group to stop work and occupy a place of safety (and if a written authority could not immediately be obtained, then requiring the work group to occupy a place of safety).

Paragraph (a)(2), as proposed in the NPRM, stated the RWIC must conduct an on-track job safety briefing to determine the safe course of action with the roadway work group. Proposed paragraph (a)(2) attempted to provide flexibility in situations where an electronic display fails and the RWIC cannot communicate with the train dispatcher via

radio, which might occur in a deep rock cut or a tunnel, and a roadway work group may have to move within established working limits to a location where they can occupy a place of safety and/or re-establish communication with the dispatcher.

FRA received comments from BMWED/BRS, AAR, and SEPTA about proposed paragraph (a). The BMWED/BRS comment supported proposed paragraph (a)'s requirement that, in the event of an electronic display failure, roadway workers must stop and occupy a place of safety until a copy of the authority could be obtained or another form of on-track safety could be established. The comment indicated there is no reason to delay the order to occupy a place of safety while the RWIC tries to get access to the authority or establish another form of on-track safety.

AAR's comment stated a RWIC should have an opportunity to obtain a written copy of the authority expeditiously before work is required to stop, indicating there is no reason to stop work immediately when a momentary lapse in the visibility of the authority occurs. AAR stated the display failure will have no effect if a written copy of the authority is obtained without delay. AAR also stated that a roadway worker having a written copy of the authority at all times (either paper or on an electronic display) is inconsistent with authorization of verbal protection (as was proposed in the NPRM but not adopted in this final rule). AAR also questioned what would constitute a place of safety for a worker on a bridge or in a tunnel if the electronic display failed.

The SEPTA comment disagreed with the proposed requirement that roadway workers stop work and occupy a place of safety until a written copy of the authority is obtained or another form of on-track safety is obtained. SEPTA stated that as long as the working limits are not released, the roadway workers would be no less safe than they

were before the display failure. Rather than require a work stoppage, SEPTA suggested the RWIC should have an opportunity to obtain an alternate copy of the authority, stating that there is no logical reason to stop work unless the actual work conditions change.

After evaluating this issue and the comments received, FRA decided to consolidate proposed (a)(1)-(a)(2) into a single paragraph (b). FRA decided to allow the RWIC an opportunity to obtain a written or printed copy of an authority without delay before requiring roadway workers to occupy a place of safety. FRA believes that as long as an authority is still in effect, and the only issue is the display failure, in many instances the track on which working limits have been established is the safest place for a roadway worker to occupy. However, FRA is specifying that any moving roadway maintenance machines must stop if an electronic display fails, so if there is a question about the limits of an authority, there is no risk of roadway workers traveling outside of protected working limits on a moving machine. If a new authority cannot be obtained or another form of on-track safety cannot be established, work must stop and roadway workers are required to occupy a place of safety. A job safety briefing must then be conducted with the roadway work group to determine the safe course of action. FRA believes this is the appropriate course from a safety perspective when a new authority cannot be obtained, because if questions arise regarding the on-track safety being provided, the working limits authority cannot be referenced or amended if necessary. Of course, a method to prevent this situation from even occurring is for a RWIC to also print a copy of the authority after it is issued via data transmission. If a display fails, a copy of the authority is then already available for reference.

FRA added the words "without delay" to describe how the RWIC must obtain another version of the authority if an electronic display fails. This means the RWIC must contact the dispatcher or obtain new authority directly upon noticing a display failure. If, for example, the dispatcher responds by instructing the RWIC to call back at a later time to obtain a new authority, then the roadway work group would have to stop work and occupy a place of safety until an authority can be obtained. If a dispatcher or control operator does not respond to contact attempts by the RWIC, the work group must stop work and occupy a place of safety. In response to AAR's comment about a tunnel or bridge and what constitutes a place of safety, FRA understands the track on which working limits have been established may be the best, or only, place of safety in such instances. As such, FRA would not take exception to such situations, and expects the on-track job safety briefing following a display failure to be used to determine the safest course of action for the group, even if the safest course of action is to continue to occupy the track on which working limits had been established. In this final rule, FRA also added reference to hi-rail vehicles in paragraph (b), as FRA recognizes a hi-rail vehicle on track is not always considered an "on-track roadway maintenance machine" as defined by § 214.7 if used to inspect track. Thus, this provision also applies to an electronic authority being used by a roadway worker(s) occupying track in a hi-rail vehicle.

Paragraphs (c)-(h) (proposed as paragraphs (b)-(g)) address technical attributes of the electronic display of exclusive track occupancy authorities, and are safety and security-related. FRA is largely adopting the rule text proposed as discussed below. FRA received comment on these proposals from the BMWED/BRS. Their comments supported these security provisions, but suggested four changes. The comment stated

FRA should add a provision on display survivability, addressing the ability of an electronic device to stand up to environmental conditions such as heat and cold. The comment also suggested a provision regarding readability by a roadway worker, indicating the display must be legible in all environmental conditions and appearing in text, with supplemental graphic displays allowed. The comment next suggested that authorities transmitted electronically must be retained for one year (versus the proposed 72 hours) and the authority must be available for review, recall, and printing by the requesting employee during that time. Last, the comment suggested roadway workers should have the absolute right to speak to the dispatcher via voice communications rather than via data transmission to ensure proper on-track safety is in place.

FRA is declining to adopt these suggested revisions. First, FRA believes the environmental requirements are unnecessary, as FRA has established requirements to provide for roadway worker safety if a display fails. Also, because of continuous improvement in technology, such technical standards for a display device would quickly become outdated, and also might be so costly they could not be justified economically. Nevertheless, FRA expects railroads to take into account the environment such devices will be subject to during use. As noted in the NPRM, railroads are always allowed to implement more restrictive security requirements provided the requirements do not conflict with Federal regulation.

FRA also believes that regulation text requiring electronic authorities to be in text and the RWIC to have an absolute right to talk to a dispatcher via voice communication instead of via data transmission are unnecessary. Under existing § 214.313(c), roadway workers are already required to ascertain that on-track safety is being provided before

fouling a track. If there is any question regarding on-track safety, FRA urges roadway workers to clarify the extent of the working limits (or any other questions that may arise), and notes § 214.313(d) already provides for a good faith challenge procedure. If roadway workers are required to foul track while uncertain of the extent of the on-track safety being provided, FRA urges roadway workers to raise a good faith challenge and to not foul track until those questions have been resolved. Further, the required on-track job safety briefing required to take place before track is fouled is also a tool to resolve any potential questions regarding the on-track safety being provided.

With regard to the BMWED/BRS suggestion that all authorities be retained for one-year, FRA believes such a requirement is unnecessary. First, FRA is already specifying that for electronic devices used to obtain an authority where an accident is then involved, such authority data must be kept for one year, and for 72 hours in the absence of an accident. FRA notes there are no similar requirements for written authorities under the sections in part 214 addressing working limits. For cost reasons, FRA chose not to adopt any similar requirements for written authorities (though 49 CFR part 228's requirements apply to certain dispatcher-created records), and also because traditionally FRA has not had issue obtaining copies of written authorities after an accident, and can review dispatcher records and radio recordings. As such, FRA is not certain what utility a one-year electronic retention requirement in the absence of an accident would provide, and is not reasonably certain any utility would outweigh potential costs.

With regard to application of new § 214.322, paragraphs (c) and (d) require identification and authentication of users. A user is the RWIC and train dispatcher or

control operator, as they are most often involved in an exclusive track occupancy authority transaction. A user could also be a process or a system that accesses or attempts to access an electronic display system to perform tasks or process an authority. Identification is the process through which a user presents an identifier uniquely associated with that user to gain access to an electronic authority display system.

Authentication is the process through which an individual user's identity is validated. Most authentication techniques follow the "challenge-response" model by prompting the user (the challenge) to provide some private information (the response). Basic authentication factors for individual users could involve information an individual knows, something an individual possesses, or something an individual is (e.g., personal characteristics or "biometrics" such as a fingerprint or voice pattern).

Paragraph (d) requires any authentication scheme utilized to ensure the confidentiality of authentication data and protect that data from unauthorized access. Such schemes must utilize algorithms approved by the Federal government's National Institute of Standards and Technology (NIST), or any similarly recognized standards body.[13] This requirement parallels a similar requirement for PTC systems at 49 CFR 236.1033(b),[14] and is intended to help prevent deliberate "spoofing" or "man in the middle" attacks on exclusive track occupancy authority information communicated and displayed via electronic device.

Paragraph (e) addresses transmission, reception, processing, and storing exclusive track occupancy authority data, and is proposed to help ensure the integrity of such data. Data integrity is the property of data not being altered since the time data was created,

[13] NIST is responsible for defining cryptographic algorithms for non-Department of Defense entities.
[14] 75 FR 2598, 2676, Jan. 15, 2010.

transmitted, or stored, and generally refers to the validity of the data. This paragraph establishes that new electronic authority display systems placed into service on or after July 1, 2017 are required to utilize message authentication codes (MACs) to ensure data integrity. Similar to the requirements of paragraph (d), MACs would have to utilize algorithms approved by NIST or a similarly recognized standards body. Unlike Cyclical Redundancy Codes (CRCs), MACs protect against malicious interference. Paragraph (e) permits the use of systems implemented prior to July 1, 2017 to utilize CRCs, but requires that the collision rate for the CRCs' checks utilized be less than or equal to 1 in 2^{32} (i.e. two to the 32nd power). This collision rate helps provide reasonable protection against accidental or non-malicious errors on channels subject to transmission errors, and is based on a Department of Defense standard. Existing systems using CRCs that do not meet this minimum standard must be retired and replaced with systems that utilize MACs not later than July 1, 2018. Paragraph (e)(2) requires that MACs' or CRCs' checks only be used to verify the accuracy of a message, and that an authority must fail if the checks do not match.

Paragraph (f) requires the actual electronic device used to display an authority issued via data transmission to retain any authorities issued for a minimum of 72-hours after expiration of such authority. This minimum requirement is primarily for investigation purposes, as it gives railroad safety investigating bodies such as FRA or the NTSB an opportunity to study authority data in non-reportable accident/incident situations, and to compare it to a dispatcher or control operator's corresponding electronic authority transmission records. This requirement will also be helpful for compliance audits.

Paragraph (g) is the same as 49 CFR 229.135(e) of FRA's Railroad Locomotive Safety Standards. Section 229.135(e) governs preserving data from locomotive event recorders or other locomotive mounted recorders if there is an accident. Paragraph (g) requires railroads to preserve data from any electronic device used to display an authority for one year from the date of a reportable accident/incident under 49 CFR part 225, unless FRA or the NTSB notifies the railroad in writing the data is desired for analysis.

Paragraph (h) requires new electronic display systems implemented on or after July 1, 2017 to provide Level 3 assurance as defined by the August 2013, version of NIST Special Publication 800-63-2, "Electronic Authentication Guideline." NIST is the Federal agency that works with industry to develop and apply technology, measurements, and standards. FRA is incorporating by reference this NIST Special Publication into this paragraph. NIST Special Publication 800-63-2 provides technical guidelines for widely used methods of electronic authentication, and is reasonably available to all interested parties online at http://nvlpubs.nist.gov/nistpubs/SpecialPublications /NIST.SP.800-63-2.pdf, or by contacting NIST via the contact information in new § 214.322(h). Additionally, FRA will maintain a copy available for review.

The incorporation of NIST Special Publication 800-63-2 is a change from the NPRM proposal that referenced the earlier version of the same standard, which was issued in December 2011 (NIST Special Publication 800-63-1). The updated standard incorporated by reference in this paragraph is a limited update, and substantive changes are made only in section 5 of the document. FRA understands the changes in the more updated version are related to improvement in issuing credentials.[15]

[15] http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-63-2.pdf.

Systems implemented prior to July 1, 2017 must provide at least Level 2 assurance as described in NIST Special Publication 800-63-2, and systems that do not provide Level 2 assurance or higher must be retired or updated to provide such assurance no later than July 1, 2018. These assurance levels govern the elements of the authentication process. Level 2 assurance requires some identity proofing and passwords are accepted (but not PINS). Level 3 assurance requires more stringent identity proofing and multi-factor authentication, typically a password or a biometric factor used in combination with a software or hardware token.

In the NPRM, FRA requested comment on whether existing electronic display systems in use already comply with the above requirements, to include potential cost on information. FRA received no comments in response to that request.

Section 214.323 Foul time.

Existing § 214.323 sets forth the requirements for establishing working limits on controlled track using foul time. In the NPRM, FRA proposed several amendments to this section. First, FRA proposed to add the words "or other on track equipment" to existing paragraph (a), which currently provides that foul time may be provided only after the relevant train dispatcher or control operator has withheld authority "of all trains" to move into or within the working limits. This change is only for consistency within this existing section, as existing paragraph (c) prohibits the movement of both trains and on-track equipment from moving into working limits while foul time is in effect. This revision also acknowledges that the incursion of on-track equipment into or within working limits while foul time is in effect presents the same safety risk to roadway workers as train movements into or within working limits.

Consistent with the revisions made throughout this final rule, FRA also proposed to amend the reference to "roadway worker" in existing paragraph (b) to "roadway worker in charge."

In the NPRM, FRA also proposed to add a new paragraph (d) to this section. As proposed, paragraph (d) would prohibit the RWIC from permitting the movement of trains or other on-track equipment into or within working limits protected by foul time.

BMWED/BRS recommended paragraph (d) include lone workers in addition to RWICs, as lone workers are also permitted to establish foul time working limits. FRA concurs, and, as discussed above, the definition of "roadway worker in charge" in this final rule includes lone workers who establish working limits to provide on-track safety for themselves.

Although not proposed in the NPRM, in this final rule FRA is also adding "or track identifier" to paragraph (b) of this section. Existing paragraph (b) requires an RWIC receiving foul time verbally to "repeat the track number, track limits and time limits" of the foul time to the issuing employee for confirmation before the foul time is effective. FRA believes railroads and roadway workers understand existing subpart C allows them to use "a track identifier" (in addition to the track number and track limits) to positively identify the track(s) where working limits are being established. As discussed in the NPRM, AAR's post-RSAC comments to proposed § 214.324 addressing "verbal protection" also suggested adding "track identifier," and proposed § 214.324 shared much of the same language as existing § 214.323. FRA is adding "track identifier" in this section. Other than BMWED/BRS's comment, FRA received no other comments on its proposed revisions to § 214.343, so this final rule adopts the revisions to this section.

Section 214.325 Train coordination.

In the NPRM, FRA proposed a minor amendment to existing § 214.325. Section 214.325 governs the establishment of working limits on controlled track by train coordination (direct coordination between the RWIC or lone worker and a train crew). Unlike the other controlled track working limits provisions (§§ 214.321 and 214.323), the existing text of § 214.325 does not state it applies to working limits established on controlled track. Therefore, FRA proposed to add "on controlled tracks" to the first sentence of the introductory paragraph in § 214.325. Consistent with revisions made elsewhere in this final rule, FRA also proposed to add the words "in charge" after "roadway worker" in the first sentence of the introductory paragraph. FRA received no comments on this NPRM proposal, other than the BMWED/BRS comment recommending the definition of "roadway worker in charge" include "lone workers." For the reasons explained above and in the NPRM, in this final rule, FRA is adopting the proposed amendments to § 214.325.

Section 214.327 Inaccessible track.

Section 214.327 governs the establishment of working limits on non-controlled track.[16] To establish working limits on non-controlled track, § 214.327 requires the track to be made physically inaccessible and provides five methods to do so. In the NPRM, consistent with the recommendations of the Working Group, FRA proposed to add three new methods for making non-controlled track physically inaccessible.

[16] "Non-controlled track" means "track upon which railroads are permitted by railroad rule or special instruction to move without receiving authorization from a train dispatcher or control operator." 49 CFR 214.7.

First, proposed new paragraph (a)(6) would allow using a manned locomotive (with or without cars coupled to it) to establish a point of inaccessibility into working limits. In this final rule, FRA is adopting paragraph (a)(6) as proposed. To establish a locomotive as a point of inaccessibility under proposed § 214.327(a)(6)(i), a RWIC must communicate with the train crew in control of the locomotive and determine that: (1) he or she can see the locomotive; and (2) the locomotive is stopped. Once this initial communication and determination is made, proposed paragraph (a)(6)(ii) prohibits further movement of the locomotive except as permitted by the RWIC.[17] Paragraph (a)(6)(iii) prohibits the crew of the locomotive from leaving the locomotive unattended or going off duty unless the crew communicates with the RWIC and the RWIC establishes an alternate means of on track-track safety. As noted in the NPRM, "attended" means the crew is in a position to readily control the locomotive (the locomotive engineer does not need to remain at the control position for the entire time working limits are in effect). See 49 CFR § 232.103(n).[18] Finally, paragraph (a)(6)(iv) applies if cars are coupled to a locomotive being used to make a track inaccessible under this section. As proposed, this paragraph requires cars coupled to the end of the locomotive nearest the roadway workers to be connected to the train's air brake system, and the air brake system must be charged with air to initiate an emergency brake application in case of unintended uncoupling.

[17] As FRA noted in the NPRM, these proposed requirements parallel the existing requirements of § 214.325's train coordination provision, but this proposed procedure differs from train coordination because it is way to establish working limits on non-controlled track (and as such additional trains could move into the same segment of track at any time).

[18] A remote control locomotive may be used to provide working limits under this proposal. If a remote control locomotive is used, the remote control operator must attend to (be on or near) the remote control locomotive while it is used to provide working limits.

Cars coupled to the locomotive on the opposite end of the roadway workers must have sufficient braking capability to control movement.

In response to proposed paragraph (a)(6), MTA suggested that FRA not limit this proposed provision to use of locomotives only and instead allow the use of other types of on-track equipment to render track inaccessible. After considering this request, for several reasons, FRA declines to adopt MTA's suggestion. First, the Working Group did not recommend it. Second, using other on-track equipment that may weigh substantially less than a locomotive, and might not have a similar level of positive air brake protection as provided by a locomotive, will not provide as much resistance to rolling equipment as a locomotive would. Third, another piece of on-track equipment adjacent to a roadway work group is likely part of the roadway work group and likely being used to perform roadway maintenance duties. FRA does not want to require an equipment operator engaged in the performance of substantive work to also be required to provide for the on-track safety of a roadway work group by serving as a physical block. FRA believes this could diminish the safety of the roadway workers being protected by the physical block and lead to confusion.

Consistent with the Working Group's consensus recommendation, paragraph (a)(7) proposed to allow using a railroad's block register territory rules as a method to render track inaccessible and establish working limits on non-controlled track.[19] In this final rule, FRA is adopting paragraph (a)(7) substantially as proposed, but is specifying a

[19] As discussed in the NPRM, block register territory is generally considered non-controlled track, but when a train dispatcher or other employee must authorize occupancy or movement on a track in block register territory, the track becomes controlled track and proposed paragraph (a)(7) would not apply. Instead, the on-track safety methods for controlled track under subpart C would apply (§§ 214.319, 214.321, 214.323 or 214.325)

RWIC or lone worker maintains the absolute right to render track physically inaccessible by an alternative method authorized by this section.

Generally, in block register territory a train can occupy a block of track only after its crew reviews a log book or register to ensure no other trains or equipment are occupying that block. After verifying that no other trains are occupying a block, a train crew wishing to occupy a particular block would then indicate in the log book their train is occupying the block. Upon exiting the block, the crew would indicate in the log book, that their train cleared the block. The Working Group recommended a RWIC or lone worker be allowed to utilize a railroad's procedures governing block register territory to establish working limits on non-controlled track. Existing § 214.313(a) requires roadway workers to follow a railroad's on-track safety rules and procedures.

Under this new paragraph (a)(7), working limits are established when a RWIC or lone worker complies with all applicable railroad procedures for occupying a block register territory (including making the required log entries to indicate the block is occupied). When the log indicates a roadway worker or work group is occupying a track, the railroad's operating rules must prohibit the entry of any other trains or other on-track equipment into the block. Proposed paragraph (a)(7) provided the RWIC or lone worker with the absolute right to choose to use the procedures in paragraphs (a)(1) through (a)(6) of this section (any of the five existing methods of establishing working limits on non-controlled track or the proposed method allowing for the use of a locomotive to make a track inaccessible) as opposed to a railroad's block register procedures. FRA requested comment on if newly proposed paragraph (a)(8) (providing for the establishment of working limits by bulletin on non-controlled main track within yard limits or restricted

limits) should be included in that list, as proposed paragraph (a)(8) would be another method to establish inaccessible track working limits authorized by § 214.327. In response, BMWED/BRS's comment stated the regulation must allow RWICs to render non-controlled block register territory and main tracks within yard limits or restricted limits (the tracks affected by proposed paragraph (a)(8)) physically inaccessible. FRA agrees, and has adopted in this final rule a provision providing a RWIC or lone worker with the absolute right to use any other provision of § 214.327 to make track in a block register territory inaccessible if, for any reason, they choose to do so. This amendment provides the flexibility for the RWIC or lone worker to utilize paragraphs (a)(1)-(6) or paragraph (a)(8) of this section to establish working limits rather than utilizing this block register territory procedure.

As recommended by the Working Group, proposed paragraph (a)(8) of this section addressed establishing working limits by bulleting on non-controlled main tracks within yard and restricted limits. As proposed, paragraph (a)(8) would require railroad operating rules to ensure train or engine crew or operators of on-track equipment are notified of any working limits in effect on main track in yard limits or restricted limits before entering the limits. Under paragraph (a)(8), railroad operating rules must prohibit movements on main track within yard limits or restricted limits unless the crew or operator of the on-track equipment is first required to receive notification of any working limits in effect. Before occupying the track where any notification of working limits are in effect, the crew or operator must receive permission from the RWIC to enter the working limits. The Working Group intended this provision to apply to planned work activities (activities railroads know about and plan for in advance enabling railroads to

produce bulletins or other forms of notification ahead of time to be issued to train crews or operators).

As proposed, if the maximum authorized speed is restricted speed (as defined by § 214.7), paragraph (a)(8) requires the display of red flags or signs at the limits of the roadway worker(s) working limits. As noted in the NPRM, this requirement provides an extra measure of safety by providing train crews notice to stop their movement unless they have the RWIC's permission to enter the working limits. Where restricted speed is in effect, proposed paragraph (a)(8) requires train crews or operators to stop their movement within one-half the range of vision (one-half the distance to the flag). Where the maximum authorized speed is over restricted speed, proposed paragraph (8) requires advance warning flags or signs, as physical characteristics permit to ensure an approaching crew or operator is able to stop his or her train or other on-track equipment short of the working limits.

In response to this proposal, BMWED/BRS's submitted comments opposing allowing any train to operate in excess of restricted speed under paragraph (a)(8). BMWED/BRS recommended revising paragraph (a)(8) to require a train or engine receiving notification of any working limits in effect to operate at restricted speed and prepared to stop within half the range of vision of any stop signs or flags marking working limits. BMWED/BRS also proposed amended rule text giving the RWIC or lone worker the absolute right to utilize another applicable provision of § 214.327(a) to render track inaccessible other than proposed paragraph (a)(8).

After carefully evaluating this issue and BMWED/BRS's comment, FRA is adopting paragraph (a)(8) as proposed, with a minor modification. FRA has added

reference to "other on-track equipment" in addition to the Working Group's consensus reference to trains or engines in this paragraph. As discussed above in the analysis for § 214.323 (foul time), an incursion into working limits by a piece of on-track equipment that might not be part of the roadway work group presents the same hazards to roadway workers as an incursion by a train or locomotive.

FRA is not adopting BMWED/BRS's recommended modifications to paragraph (a)(8), because it is an RSAC consensus recommendation that both BMWED and BRS agreed to. Also, as discussed above, the procedure of paragraph (a)(8) is intended for use when railroads are conducting planned work activities and, as such, the procedure is comparable to longstanding existing requirements for establishing working limits on controlled track under § 214.321. The procedures of § 214.321 are proven to be safe when complied with, even though those procedures are typically used on main track over which train operate at much higher speeds than that contemplated under paragraph (a)(8) of this section. Also, under existing paragraph § 214.327(a)(1), railroads are permitted to use flagmen (without the benefit of bulletins to train crews or mandatory use of advance flags) to make non-controlled track inaccessible. Appropriately placed stop boards (or flags), designating the point at which trains or other on-track equipment may not travel any further without permission, effectively serves the same function as flagmen. Paragraph (a)(8)'s requirement that bulletins be issued to train crews before the crews can operate into a roadway worker or work group's limits, and that advance flags be placed, when possible, where speeds higher than restricted speed are authorized, represent two additional measures of safety not in § 214.327's existing provision authorizing the use of flagmen. Further, FRA believes most situations will not involve speeds exceeding

restricted speed, as U.S. railroads' operating rules traditionally require compliance with restricted speed operating rules when trains or other on-track equipment are traveling over main track within yard limits or restricted limits. Because it is not always possible (or useful) to place advance flags warning of upcoming working limits, FRA is not adopting an absolute requirement for advance flags for all movements above restricted speed. For example, if there are many entrance switches from a railroad yard to a section of non-controlled main track, advance flags might not be practical and may serve no useful purpose for a train leaving the yard track at restricted speed to enter the main track where a higher speed is authorized. Historically, railroads' own operating rules have addressed the use of advance flags, and contain specific provisions for when advance flags are not necessary (e.g., when entering a railroad's yard limits from a foreign railroad's track, where advance flags cannot be practically located).

Section 214.329 Train approach warning provided by watchmen/lookouts.

Section 214.329 addresses using watchmen/lookouts to provide warning of approaching trains to roadway workers in a roadway work group who foul track outside of working limits. In the NPRM, FRA proposed four amendments to this section. First, FRA proposed to amend paragraph (a) of this section to accommodate proposed new § 214.338(a)(2)(iii) regarding passenger station platform snow removal. However, as discussed above, FRA is not adopting proposed § 214.338 in this final rule. Thus, FRA is not adopting the proposed amendment to paragraph (a) of § 214.329 referencing the snow removal provision.

In the NPRM, FRA also proposed to amend paragraph (a) to change the reference to "maximum speed authorized" to "maximum authorized speed." This amendment

reflects the Working Group's recommended consensus definition of "maximum authorized speed" to e clarify existing sections §§ 214.329(a) and 214.337(c)(4). FRA proposed to amend these two sections merely to properly order the words in the Working Group recommended and which FRA adopted in this final rule.

FRA also proposed to amend paragraph (a) of this section by adding a sentence to the end of the paragraph stating "[t]he place of safety to be occupied upon the approach of a train may not be on a track, unless working limits are established on that track." As explained in the NPRM, this language is already in existing § 214.337(d), which governs on-track safety procedures for lone workers. This requirement is also the subject of FRA Technical Bulletin G-05-10. As explained in that Technical Bulletin, it is expected that roadway workers would clear all tracks when given a train approach warning. Clearing onto another track where only train approach warning (or no form on-track safety) is provided presents an extremely dangerous situation which may potentially trap workers if multiple train movements occur simultaneously. FRA has long interpreted existing § 214.329 to already prohibit using another track as a place of safety, and this amendment merely codifies that interpretation.

AAR commented this proposal is infeasible for Amtrak. AAR stated that in Penn Station, roadway workers do clear to a live track protected by a watchman/lookout. AAR suggested revising this proposal in a final rule to allow such scenarios by adding ". . . or that track is protected by a watchman/lookout" to the rule text. FRA declines to alter this proposal for safety reasons. As explained above, FRA has long interpreted existing § 214.329 to already prohibit using another track as a place of safety and issued Technical Bulletin G-05-10 to address this particular situation. If a place of safety is designated as

another track protected by a watchman/lookout, but a train approaches on that track (which is designated as the place of safety) while roadway workers clear toward it, the situation is the same as having no on-track safety at all. Common sense dictates that if roadway workers are given train approach warning and clear onto another track where nothing stops a train from also approaching on that track at the same time, it endangers roadway workers who are left without a place of safety to go to. Thus, a general exclusion in the regulation allowing such a situation to occur is not appropriate from a safety perspective. If a unique situation exists at a particular location such as Penn Station where roadway workers will always have an appropriate place of safety to occupy when a train approaches, FRA believes a waiver application from this safety-critical requirement could be appropriate to address such unique situations. FRA Technical Bulletin G-05-10 is supplanted upon the effective date of this final rule.

Last, FRA proposed to add a new paragraph (h) to this section. This paragraph would have prohibited the use of train approach warning as an acceptable form of on-track safety for a roadway work group using equipment or material that cannot be readily removed by hand from the track to be cleared. FRA did not adopt this proposal in the final rule as explained in detail in section VIII.A.4 above.

While FRA did not to adopt a provision in this final rule addressing the removal of equipment or material by hand under train approach warning, FRA is addressing a related matter where questions occasionally arise under part 214. In part 214, no rule text prohibits the use of train approach warning outside working limits to provide on-track safety when on-track roadway maintenance machine foul track (except § 214.336(f), which governs when a component of a roadway maintenance machine fouls an adjacent

controlled track). Such blanket rule text is not appropriate because train approach warning (or individual train detection under § 214.337) must sometimes be used when a hi-rail or other on-track machine sets on a track to begin traveling (perform roadway inspection duties) under the operating rules of the railroad. In certain instances, depending on applicable railroad operating rules and the operational conditions at a location, using train approach warning or individual train detection can be appropriate.

However, FRA notes that using train approach warning to provide on-track safety for roadway workers who are performing roadway work involving using on-track equipment would most often be in violation of existing § 214.329. In a recent example, FRA inspectors observed a roadway work group using multiple pieces of on-track equipment spread out over nearly a mile. Upon investigation, FRA learned the roadway work gang was apparently using train approach warning under § 214.329 as a form of on-track safety, with a watchman/lookout stationed at each end of the roadway work group. The location where FRA observed this violation was on non-controlled track where trains were required to travel at restricted speed. In this situation, it was not possible for the railroad to comply with § 214.329. The machine operators were operating noisy, distracting machinery that would require them to look in a particular direction at the time of the warning to receive such warning, in violation of § 214.329(e). Second, the distance the group was spread over, and the type of work being performed by the group, made it impossible for a watchman/lookout far away to be able to provide train approach warning to all members of the roadway work group, which is also in violation of § 214.329. It appears in this instance the railroad was relying on the requirement that movements must be made at restricted speed to protect the roadway work group. As

explained in the 1996 RWP final rule, the RWP regulation does not recognize restricted speed as a sole means of providing on-track safety. 61 FR 65969. The final rule stated that "unusual circumstances at certain locations where [restricted speed] might be considered sufficient would have to be addressed by the waiver process." Id. at 65962. Thus, in the above-described instance, the use of qualified flagmen to establish working limits (or any other method of establishing working limits under § 214.327) rather than the use of watchman/lookouts would have been appropriate.

Aside from noise, distraction, and distance from a watchmen/lookout, using train approach warning might also not be permissible to provide on-track safety under part 214 for another reason. Roadway workers who are operating such machines under train approach warning would have to be able to stop a machine, dismount a machine, and then move to occupy a place of safety at least 15 seconds prior to the arrival of a train traveling at maximum authorized speed at the roadway workers location. In such instances, compliance with § 214.329 is not possible. An operator inside the cab of a machine requires much more time to occupy a place of safety versus a roadway worker who might merely be standing in the foul of a track and can easily move to a place of safety. In addition, where train speeds are permitted to exceed restricted speed, in almost all instances, only the establishment of working limits is appropriate to establish on-track safety. To illustrate, even assuming proper train approach warning could be given to roadway workers operating on-track machinery so they could occupy a place of safety at least 15 seconds before a train's arrival, if trains are permitted to travel in excess of restricted speed, nothing prevents a train from colliding with the on-track equipment left on the occupied track. Railroad operating rules are generally the mechanism relied upon

to prevent the collision of trains and on-track roadway maintenance. However, the strict guidelines in § 214.329 and common sense dictate that, in most instances where roadway workers are performing work on an occupied track with on-track machinery, approach warning is not an appropriate or permissible method to provide on-track safety for roadway workers.

Last, as discussed in the NPRM, FRA Technical Bulletin G-05-28 addresses using portable radios and cell phones. That technical bulletin explains that under existing § 214.329, such devices cannot be used as the sole communication to provide train approach warning to roadway workers. These devices are not among those expressly listed in the existing watchman/lookout definition in § 214.7. Further, FRA believes this practice is dangerous; especially if these devices fail in any manner as a train approaches a roadway work group. While FRA has no objection to using a radio or a cell phone to supplement the equipment issued to a watchman/lookout to provide train approach warning, these devices cannot be used to provide the sole auditory warning under this part.

Section 214.331 Definite train location.

In the NPRM, FRA proposed to amend § 214.331 to require railroads to discontinue using definite train location as a form of on-track safety within one year. NTSB and BMWED/BRS submitted comments supporting this proposal. Thus, FRA is adopting the proposal in this final rule.

Section 214.333 Informational line-ups of trains.

For the reasons explained in the NPRM, FRA proposed to amend § 214.333 to require railroads to discontinue using informational line-ups of trains within one year.

NTSB and BMWED/BRS submitted comments supporting the NPRM proposal. Thus, FRA is adopting the proposal in this final rule.

Section 214.335 On-track safety procedures for roadway work groups, general.

Section 214.335 contains the general on-track safety procedures for roadway work groups. Under this section, before a member of a roadway work group fouls a track, on-track safety must be established under subpart C. FRA proposed four amendments to this section. FRA received no comments on these proposals, and, as explained below, has adopted two of the four proposed amendments. Because FRA is not adopting proposed new § 214.324 (verbal protection) or § 214.338 (snow removal), FRA is not amending existing paragraph (a) of this section to reference those sections as proposed. In the NPRM, FRA proposed to update the list of acceptable methods to establish working limits, FRA is amending paragraph (a) to reference § 214.336 (adjacent track protections) because that section took effect on July 1, 2014. For the reasons explained in the NPRM, FRA is also removing "and" from the existing text of paragraph (a) listing the available acceptable methods of establishing working limits and replacing it with "or." FRA is also incorporating the new term "roadway worker in charge" in existing paragraph (b) of this section for the reasons discussed above.

Section 214.337 On-track safety procedures for lone workers.

Section 214.337 governs the on-track safety procedures for lone workers. In the NPRM, FRA proposed to adopt two Working Group consensus recommendations changing this section, including: (1) amending existing paragraph (c)(3) to allow the use of individual train detection (ITD) at controlled points consisting of signals only; and (2) adding a new paragraph (g) prohibiting the use of ITD by lone workers using equipment

or material that cannot be readily removed from a track by hand. In response to the proposed amendment to paragraph (c)(3), and in light of the new definitions FRA proposed for "controlled point" and "interlocking, manual" in § 214.7, both AAR and BMWED/BRS expressed concern about the effect of those definitions on § 214.337(c)(3)'s restrictions on the use of ITD by lone workers. FRA addresses these concerns in the Section-by-Section analysis of § 214.7 above.

As discussed in the NPRM, existing paragraph (c)(3) of § 214.337 prohibits lone workers from using ITD to establish on-track safety within the limits of a manual interlocking, a controlled point, or a remotely controlled hump yard facility. The Working Group recommended expanding the locations where ITD can be used by lone workers to include controlled points consisting of signals only. FRA is adopting this consensus recommendation in this final rule as proposed.

As noted above, in the NPRM, FRA also proposed to adopt the Working Group's consensus recommendation to add a new paragraph (g) to this section. As recommended by the Working Group, new paragraph (g) would prohibit using ITD as a form of on-track safety for a lone worker using machinery, equipment, or material they cannot readily remove from a track by hand. For the reasons discussed in the NPRM, FRA is adopting this revision as proposed.

Section 214.339 Audible warning from trains.

Based on the Working Group's recommendations, in the NPRM, FRA proposed revisions to existing § 214.339's requirement that trains sound their locomotive whistles and bells when approaching roadway workers "on or about the track." As recommended by the Working Group, FRA proposed to require railroads to adopt and comply with

written procedures providing for "effective . . . audible warning by horn and/or bell for trains and locomotives approaching any roadway workers or roadway maintenance machines . . . on the track on which the movement is occurring, or about the track if the roadway workers or roadway maintenance machines are at a risk of fouling the track."

After considering comments received, in this final rule, FRA is adopting the revisions as proposed. As discussed in detail in the NPRM, four FRA Technical Bulletins (G-05-08, G-05-15, G-05-26, and G-05-27) currently provide guidance on the requirements of § 214.339. These technical bulletins are supplanted upon the effective date of this final rule.[20]

NJT, BMWED/BRS, and 3M commented on the proposed revisions to this section. 3M did not directly address the specifics of FRA's proposed revised requirements for audible warnings of trains approaching roadway workers. Like their comments on proposed § 214.338, 3M recommended requiring roadway workers to wear high visibility safety apparel to alert approaching train crews to their presence on or near track. Referencing the NPRM's preamble discussion of the passage of large roadway work groups, such as tie and surfacing production crews spaced out over a long distance, NJT commented the requirement that the locomotive horn be sounded upon the approach of each unit of a work crew will create quality of life complaints about noise in many municipalities. BMWED/BRS supported FRA's proposed revisions to this section.

In response to 3M's comment, FRA considered requiring certain roadway workers to wear highly visible clothing. See section VIII.A.1 of this preamble discussing

[20] The NPRM discussed these Technical Bulletins and various issues the bulletins addressed in detail (audible warnings during shoving movements, operation of multiple-unit passenger train equipment no equipped with a bell, audible warnings over a large work area and duration of those warnings). FRA refers the reader to the NPRM for more information. 77 FR 50324, 50354, Aug. 20, 2012.

proposed § 214.338 not adopted in this final rule. Although in this final rule FRA is not adopting this specific requirement, FRA obviously encourages using highly visible reflective clothing and personal protective equipment to help clearly showed the presence of roadway workers on or near railroad tracks to locomotive engineers and other on-track equipment operators. FRA also notes most railroad rules already require roadway workers to wear highly visible clothing.

In response to NJT's comment, FRA understands complaints railroads receive about field noise from train horns, particularly at highway-rail grade crossings, and where a roadway work group is working at a particular point in time. FRA understands the potential sensitivity to noise of residents who live in close proximity to railroad tracks. However, providing an audible warning to roadway workers of an approaching train is a longstanding safety-critical component of the RWP regulation and any railroad's on-track safety program—even within highway-rail grade crossing quiet zones. FRA notes the amendments to this section in this final rule are not a substantive change to the particular issue raised by NJT, and FRA's discussion in the NPRM preamble merely restated FRA's longstanding expectation that trains must provide audible warning to roadway workers on or near the track upon the approach of each unit of a work crew. As explained in Technical Bulletin G-05-08 issued in 2005, existing § 214.339 requires trains to provide an audible warning when approaching "each roadway worker or roadway work group located within a large scale maintenance project."

§ 214.343 Training and qualification, general.

Existing § 214.343 sets forth the general training and qualification requirements for roadway workers. Paragraph (c) of existing § 214.343 requires railroad employees

other than roadway workers associated with on-track safety procedures, and whose primary duties involve the movement and protection of trains, to be trained "to perform their functions related to on-track safety through the training and qualification procedures prescribed by the operating railroad for the primary position of the employee."

In the NPRM, FRA proposed to amend paragraph (c) to account for proposed new § 214.353 addressing training employees other than roadway workers (typically transportation employees such as conductors) who act as RWICs. MTA commented on this proposal, supporting the training and qualification of transportation employees under the procedures the railroad prescribes for the primary position of the employee. Thus, FRA is adopting revision to paragraph (c) of this section as proposed. However, FRA did receive comments in response to the NPRM proposal for § 214.353 that implicate this section and addresses those comments in the Section-by-Section analysis for § 214.353 below.

§ 214.345 Training for all roadway workers.

Existing § 214.345 has the minimum training contents for roadway workers required by existing subpart C. FRA proposed to amend this section to incorporate two Working Group consensus recommendations. First, to clarify and reinforce the requirements of the existing RWP regulation, FRA proposed adding "[c]onsistent with § 214.343(b)" to the beginning of the first sentence of the existing introductory paragraph of the section. Section 214.343(b) requires employers to provide all roadway workers initial or recurrent training once every calendar year on the on-track safety rules and procedures they are required to follow. In this final rule, FRA is adopting this revision as

proposed. As noted in the NPRM, Technical Bulletin G-05-16 provides guidance on existing § 214.345 and is supplanted upon the effective date of this final rule.

In the NPRM, FRA also proposed adding a new paragraph (f) to this section reflecting the Working Group's consensus recommendation requiring all roadway workers' training to include instruction on an employer's procedures governing how roadway workers should determine if it is safe to walk across railroad tracks. FRA removed that consensus item from § 214.317(b), and proposed to include it as new paragraph (f) of this section. In this final rule, FRA is adopting this requirement as proposed.

In preparing this final rule, FRA noticed in the NPRM preamble discussion, it incorrectly intermingled discussion of the periodic "qualification" of roadway workers with the existing roadway worker annual training requirement. See 77 FR 50330. Since the original RWP rule first took effect in 1997, it has required roadway workers to receive annual training on the on-track safety procedures they must follow. See 49 CFR 214.343(b). As exemplified by the inclusion of costs for annual training for all roadway workers (including lone workers, watchmen/lookouts, flagmen, and RWICs), in the RIA for the 1996 final rule, and the assessment of the paperwork burden for annual training in the Paperwork Reduction Act information collection estimates provided by FRA in the 1996 final rule, this annual training requirement includes training for all roadway worker qualifications. Further, in 2005, FRA issued Technical Bulletin G-05-16, clarifying that the required time frame for the unspecified "periodic" qualification for additional roadway worker qualifications is separate from the annual training requirement of § 214.345 and applies across all the additional roadway worker qualifications. The existing

definition of the term "watchmen/lookout" also states it means an employee "who has been annually trained and qualified to provide warning to roadway workers of approaching trains or on-track equipment." Technical Bulletin G-05-16 further explained that because subpart C does not specify a timeframe for the required "periodic qualification" of roadway workers, determining an appropriate timeframe is at the discretion of individual railroads and should be specified in each railroad's on-track safety program. Therefore, the annual training requirement existing since the RWP regulations were promulgated is unchanged by this final rule.

§ 214.347 Training and qualification for lone workers.

Section 214.347 sets forth the training and qualification requirements applicable to lone workers and requires the initial and "periodic" qualification of lone workers to be "evidenced by demonstrated proficiency." In the NPRM, FRA proposed to amend this section by incorporating the Working Group's consensus recommendation to require the training of lone workers on alternative means to access the information in a railroad's on-track safety manual when his or her duties make it impractical to carry the manual. In this final rule, FRA is adopting this provision substantially as proposed. FRA is making minor adjustments to the language in response to BMWED/BRS's comment on § 214.309 noting that lone workers are not literally required to "carry" the on-track safety manual at all times, but rather that the manual must be readily available to them at all times. FRA is also correcting a typographical error in the rule text of this proposed revision by removing the extra word "to" in proposed paragraph (a)(5).

In the NPRM, FRA also asked for comment on two additional issues on the training and qualification of lone workers. First, FRA noted the Working Group's

consensus recommendation to require requalification of roadway workers every 24 months, and recurrent lone worker training every calendar year, did not parallel the separate RSAC recommendation resulting from the mandate of Section 401 of the Rail Safety Improvement Act of 2008 (Section 401) for FRA to set minimum training standards for "each class and craft of safety-related railroad employee."[21] Thus, FRA asked for comment on how to proceed regarding an appropriate time interval for "periodic" qualification in a final rule. Second, FRA asked if it should require a physical characteristics qualification for lone workers

Since publication of the NPRM, based on the recommendations of the RSAC Training Standards Working Group, FRA published a final rule addressing the mandate of Section 401. 79 FR 66460, Nov. 7, 2014 (Training Standards Rule; part 243). The rule includes minimum training standards for roadway workers and extensive refresher qualification requirements for roadway workers.

In response to this request for comment, SEPTA, BMWED/BRS, AAR, and two individuals submitted comments. SEPTA suggested that in this final rule, FRA should defer to the three-year interval for training and qualification in the Training Standards Rule. SEPTA asked why, when under the Training Standards Rule, training and re-certification for safety-critical positions such as conductors, engineers, and train dispatchers only has to occur every three years, roadway workers would be treated differently and trained annually. SEPTA asserted existing § 217.9 (requiring operational testing of employees) and § 243.205 (Training Standards Rule training and qualification interval) are adequate to ensure employees know how to perform their work properly.

[21] Public Law 110-432, Division A, 122 Stat. 4848 (codified at 49 U.S.C. 20162).

Noting that at the time of its comment 44 roadway worker fatalities had occurred since 1997, BMWED/BRS supported an annual training and qualification requirement for all roadway workers, and opposed FRA not adopting the Working Group's consensus recommendation for a 24-month periodic qualification interval.

Consistent with SEPTA's comment, AAR asserted no basis exists for determining more frequent refresher training or qualification should be required for roadway workers than for other safety-related employees under the Training Standards Rule. Pointing to FRA's RIA for the Training Standards NPRM, AAR also expressed the view that the Working Group's consensus recommendation could not be justified from a cost-benefit perspective due to lack of a safety benefit from more frequent training.

Individual commenters supported the Working Group's consensus recommendation to require annual training and periodic qualification every 24 months, stating generally that more frequent refresher training will have better results. These commenters believe the benefits of more frequent refresher programs would outweigh the cost of the programs' development and implementation. The individual commenters pointed to OSHA's training standards as a model, and urged FRA to adopt a uniform standard of appropriate time intervals for refresher training. The comment did note that implementing programs similar to OSHA's would be burdensome.

As stated in the discussion of § 214.343 above, in this final rule FRA is not amending the existing annual training requirements of subpart C. FRA did not intend this rulemaking to decrease the training roadway workers receive via existing requirements, and believes it reasonable to continue the existing annual training requirement. Because

subpart C already requires annual training for roadway workers, this approach will not result in any additional costs.

In this final rule, FRA is, however, adding a new paragraph § 214.347(b) requiring lone workers to be qualified under part 243 and to be based on evidence of a lone worker's demonstrated proficiency. Part 243 requires covered employees to be qualified at least every three calendar years. The costs for this qualification requirement are already accounted for in the Training Standards Rule. Although FRA encourages railroads to conduct refresher qualifications more often than the minimum of once every three calendar years under part 243, FRA agrees with AAR that from a cost-benefit basis, the evidence does not support a more frequent qualification requirement for roadway workers than other safety-critical employees subject to part 243 (e.g., locomotive engineers). FRA also agrees with SEPTA that existing § 217.9's requirements for operational testing already provide a much more frequent opportunity for observations by railroad officials to determine employee proficiency with rules' compliance than does either a two- or three-year required interval for determining qualification via demonstrated proficiency.

A lone worker's "demonstrated proficiency" under this new paragraph (b) refers to the longstanding requirement FRA explained in the original 1996 RWP rule. In that rule, FRA stated a roadway worker must show

> sufficient understanding of the subject that the employee can perform the duties for which qualification is conferred in a safe manner. Proficiency may be demonstrated by successful completion of a written or oral examination, an interactive training program using a computer, a practical demonstration of understanding and ability, or an appropriate combination of these.

61 FR 65972.

Many of part 243's requirements will not take effect for a number of years, depending on a railroad's total employee work hours. See 49 CFR 243.101(a). In the interim, FRA encourages railroads to comply with part 243's requirements as soon as possible, and, consistent with Technical Bulletin G-05-16, continue to specify in their on-track safety programs the interval at which "periodic" roadway work qualifications will take place. Upon the relevant applicability date of part 243's requirements for a particular railroad, that railroad must comply with part 243's qualification requirements (and the requalification of roadway workers must be at least every three calendar years).

Last, as discussed in section VIII.A above, in the NPRM, FRA asked if it should require physical characteristics qualification for lone workers. For the reasons explained in section VIII.A, FRA is not adopting this requirement in this final rule.

§ 214.349 Training and qualification for watchmen/lookouts.

Section 214.349 sets forth the training and qualification requirements applicable to watchmen/lookouts and, consistent with existing § 214.347 applicable to lone workers, requires the initial and "periodic" qualification of lone workers to be "evidenced by demonstrated proficiency." In the NPRM, FRA requested comment on how to address the Working Group's consensus recommendation to require requalification of roadway workers, including watchmen/lookouts, every 24 months. For the reasons discussed in the Section-by-Section analysis of § 214.347 above, FRA is not adopting this consensus recommendation in this final rule. Instead, this final rule requires periodic qualification for watchmen/lookouts to be performed consistent with the Training Standards Rule (every three calendar years) and be based on evidence of demonstrated proficiency.

Consistent with its request for comment on § 214.347 discussed above, FRA asked if it should require a physical characteristics qualification for watchmen/lookouts. For the reasons explained in section VIII.A above, FRA is not adopting such a requirement in this final rule.

§ 214.351 Training and qualification for flagmen.

Section 214.351 sets forth the training and qualification requirements applicable to flagmen and, consistent with existing § 214.347 applicable to lone workers and § 214.349 applicable to watchmen/lookouts, requires the initial and "periodic" qualification of flagmen to be "evidenced by demonstrated proficiency." In the NPRM, FRA requested comment on how to address the Working Group's consensus recommendation to require requalification of roadway workers, including flagmen, every 24 months. For the reasons discussed in the Section-by-Section analysis of § 214.347 above, FRA is not adopting this consensus recommendation in this final rule. Instead, this final rule is requiring that periodic qualification for watchmen/lookouts be performed consistent with the Training Standards Rule (every three calendar years) and be based on evidence of demonstrated proficiency.

Section 214.353 Training and qualification of each roadway worker in charge.

Existing § 214.353 is titled "Training and qualification of roadway workers who provide on-track safety for roadway work groups." Paragraph (a) of existing § 214.353 lists the minimal contents of RWIC training and paragraph (b) specifies that a RWICs initial and periodic qualification must be evidenced by a "recorded examination." In the NPRM, FRA proposed several changes to this section. BMWED/BRS and AAR submitted comments responding to some of the proposed changes.

First, to reflect the new term "roadway worker in charge," FRA proposed to change the title of this section to "[t]raining and qualification of each roadway worker in charge." FRA received no comments on proposals and in this final rule is amending the title as proposed.

Second, consistent with the Working Group's recommendation, FRA proposed to add a new paragraph (a)(5) to this section. Proposed paragraph (a)(5) would require RWICs to be trained on procedures ensuring they remain immediately accessible to the roadway workers working within the working limits they establish. This paragraph parallels new § 214.315(a)(5) requiring on-track safety job briefings conducted by RWICs to include information on the accessibility of the RWIC, and on alternate procedures if the RWIC is no longer accessible to members of the roadway work group. FRA received no comments on this NPRM proposal, and in this final rule is adopting new paragraph (a)(5) as proposed.

In its comment, BMWED/BRS recommended adding a new paragraph to this section requiring RWICs to be trained on the content and application of the railroad rules governing the resolution of good faith challenges. BMWED/BRS noted that regardless of class or craft of a RWIC, RWICs must understand the good faith challenge procedures and their responsibility to promptly and equitably resolve the challenges. FRA concurs with BMWED/BRS's statement that RWICs must understand the good faith challenge procedures and their responsibility to resolve such challenges, but believes the existing regulations already require RWICs to be trained on a railroad's good faith challenge procedures. Under existing §§ 213.311-214.313, good faith challenges may be raised by roadway workers and must be promptly and equitably resolved. Indeed, under those

sections, railroads must adopt procedures to address such good faith challenges. Existing § 214.343(b) requires recurrent training every calendar year for the on-track safety rules and procedures each roadway worker is required to follow, and this includes a railroad's rules and procedures on good faith challenges for a RWIC. See also § 214.353(b) (RWIC training requirements).

Nonetheless, FRA believes BMWED/BRS's comment has merit because the RWIC is typically involved in resolving roadway workers' good faith challenges. As noted in the NPRM, Technical Bulletin G-05-04 specifies that persons acting as RWICs must be qualified on good faith challenge procedures, but the text of part 214 does not expressly state such. Given the importance of ensuring RWICs are trained in a railroad's good faith challenge procedures, FRA believes good faith challenge procedures should be included as a required training and qualification topic in paragraph (a) of § 214.353. Thus, in this final rule FRA is adding the words "including the railroad's procedures governing good faith challenges in §§ 214.311(b)-(c) and 214.313(d) of this subpart" to existing paragraph (a)(1). While another railroad employee or supervisor other than a RWIC may ultimately resolve a roadway worker's good faith challenge to the on-track safety provided, an a RWIC is typically involved in that resolution and must at least know the railroad's procedures governing the handling of such a challenge.

BMWED/BRS's comment also suggested FRA amend paragraph (b) of this section to require all RWICs, regardless of craft, to be annually trained and qualified. As discussed further below, FRA believes the amendments already made to paragraph (a) of this section, and to § 214.343 as discussed above, address this issue. As amended by this final rule, § 214.353 clarifies that all RWICs, regardless of craft, must be trained annually

on the items in § 214.353. As discussed in the Section-by-Section analysis for §§ 214.343, 214.345, 214.347, and 214.351 above, FRA is deferring to the training standards rulemaking's three-year qualification interval for all roadway worker qualifications.

In the NPRM, FRA proposed an additional amendment to existing paragraph (a) of this section to address situations where employees other than roadway workers act as RWICs. FRA proposed to expressly state in paragraph (a) that any employee "acting as a roadway worker in charge (e.g., a conductor or a brakemen), who provides for the on-track safety of roadway workers through the establishment of working limits or the assignment and supervision of watchmen/lookouts or flagmen" must be trained and qualified consistent with § 214.353. BMWED/BRS submitted a comment supporting this proposal and FRA is adopting it, as proposed, in this final rule. For a detailed discussion of this change, see the preamble to the NPRM. 77 FR 50356-50357.

Regarding the training and qualification requirements of paragraph (b) of this section, for the reasons explained in the Section-by-Section analysis of § 214.347 above, FRA is addressing the frequency of training and qualification requirements for RWICs the same way as the requirements applicable to lone workers, flagmen, and watchmen/lookouts (§§ 214.347 214.349 and 214.351). While annual training for RWICs is still required under the existing regulation, the periodic qualification of RWICs will be controlled by the Training Standards Rule, which requires recurrent qualification every three calendar years.

Also related to the training and qualification requirements applicable to RWICs, in the NPRM, FRA requested comment on the practice of bifurcating certain RWIC duties (i.e., splitting of RWIC duties between two individuals). Specifically, in the

NPRM FRA indicated it was contemplating whether it should continue to be allow bifurcation of RWIC duties, such as when one employee obtains a track permit for another employee who is acting as the RWIC. FRA was considering adopting a requirement that would only permit the splitting of qualifications in situations where a conductor or other railroad employee serves as a pilot to a RWIC (or employee acting as a RWIC) who was not qualified on the physical characteristics of a particular territory where work was being performed. FRA considered such because every roadway work group already must have a RWIC, and under the amendment to paragraph (a) in this final rule discussed above, any employee acting as a roadway worker in charge must be trained on the substantive requirements listed in § 214.353.

AAR commented on this proposal suggesting another situation where the bifurcating of RWIC duties should be acceptable. AAR suggested that in situations where one employee obtains a working limits authority for a roadway work group, but is not responsible for any other aspect of the group's on-track safety, requiring the employee to be trained and tested on all the responsibilities of a RWIC would not serve any purpose. Consistent with AAR's comment, FRA notes existing Technical Bulletin G-05-04 allows one employee to obtain a track permit for another employee who is acting as the RWIC. FRA can also envision other operating situations where one employee's ability to obtain authority on behalf of an RWIC is desirable and necessary. For example, in the case of a large system gang, a local track inspector may obtain authority from the dispatcher for the system gang's RWIC. The BMWED/BRS comment also addressed this topic, indicating that since each roadway work group must have a

RWIC qualified on physical characteristics under § 214.353, bifurcation was unnecessary and could cause confusion.

After further evaluating this issue and considering the comments, FRA concludes bifurcation of RWIC duties can be safely done in the two limited scenarios discussed above involving physical characteristics qualifications (pilot) and when obtaining track authority for an RWIC. FRA will continue to allow the practice of splitting RWIC duties in these scenarios. For gangs working across a large system, FRA recognizes it may not always be possible for an RWIC to be qualified on the physical characteristics, and using a pilot who is qualified on the physical characteristics can help safely facilitate compliance with this section. As discussed more fully in the NPRM and Technical Bulletin G-05-04, FRA also does not take exception to providing a "limited" qualification for a RWIC who would only perform certain RWIC duties in certain situations. For example, a RWIC who was performing such duties on a railroad consisting entirely of non-controlled track could have a limited qualification only involving the RWIC being trained and qualified to establish working limits via the inaccessible track procedures (in addition to being trained on all other §§ 214.343, 214.345, and 214.353 requirements).

<u>§ 214.355 Training and qualification in on-track safety for operators of roadway maintenance machines.</u>

Section 214.355 sets forth the on-track safety training and qualification requirements for roadway maintenance machine operators. In the NPRM, FRA requested comment on one potential change to this existing section in the final rule on how best to proceed regarding the appropriate time interval for "periodic" qualification under existing paragraph (b). The Working Group recommended consensus amendments that would

have expressly required recurrent qualification every 24 months for roadway maintenance machine operators. As discussed in the preamble above for § 214.347, however, the RSAC consensus recommendation does not parallel the refresher qualification requirements in the statutorily mandated Training Standards Rule (minimum three calendar year interval).

FRA received comments in response to this request from SEPTA, BMWED/BRS, AAR, and two individuals. Those comments are summarized above in the preamble discussion for § 214.347. For the reasons also explained above, in this final rule, the Training Standards Rule requiring recurrent qualification at a minimum of every three calendar years will control.

FRA notes the Training Standards Rule included a provision addressing the training and qualification for operators of roadway maintenance machines equipped with a crane. 79 FR 66501. Those requirements are in a new § 214.357. FRA directs the public to the Training Standards Rule preamble's Section-by-Section analysis for an explanation of new § 214.357's requirements. Id. at 66474-66476.

Appendix A to Part 214-Schedule of Civil Penalties

FRA is amending appendix A of this part to add guidance on penalties for violations of new and amended sections of subpart C in this final rule. Appendix A specifies the civil penalty FRA will ordinarily assess for the violation of a particular provision of this rule. However, consistent with 49 CFR part 209, appendix A, FRA's Statement of Agency Policy Concerning Enforcement of the Federal Railroad Safety Laws, FRA reserves the right to assess a penalty up to the statutory maximum. Further, a

penalty may be assessed against an individual only for a willful violation. FRA did not solicit public comment on appendix A as it is a statement of FRA policy.

X. Regulatory Impact and Notices

A. Executive Order 12866, Executive Order 13563 and DOT Regulatory Policies and Procedures

This final rule has been evaluated consistent with existing policies and procedures and determined to be a non-significant regulatory action under Executive Orders 12866 and 13563 and DOT policies and procedures. See 44 FR 11034, Feb. 26, 1979. FRA prepared and placed a RIA addressing the economic impact of this final rule in the Docket (No. FRA-2008-0086). Document inspection and copying facilities are available at Room W12-140 on the Ground level of the West Building, 1200 New Jersey Avenue, SE, Washington, DC 20590.

As part of the RIA, FRA assessed quantitative measurements of the cost and benefit streams expected to result from the implementation of the final rule. Overall, the final rule would result in safety benefits and expected business benefits for the railroad industry. It would also, however, generate an additional burden on railroads mainly due to the additional requirements for job briefings under certain circumstances and various training requirements.

Table 1 summarizes the quantified costs and benefits expected to accrue over a 20-year period. It presents costs associated with expanded job briefing requirements under § 214.315 Supervision and Communication, the identification and implementation of redundant protections under § 214.319 Working Limits, Generally, railroad policy

change under §214.339 Audible Warning from Trains, and training of various types of employees under §§ 214.318, 214.345, 214.347, and 214.353.

The RIA also presents the quantified benefits expected to accrue over a 20-year period. These benefits are primarily cost savings or business benefits. They largely accrue due to time savings because of the proposed amendments, including the new exception for on-track snow blowing and weed spraying operations under § 214.317, new methods of using inaccessible track under § 214.327, and using individual train detection under § 214.337. Savings will also accrue due to the additional flexibility provided by new § 214.318 allowing mechanical employees to utilize blue signal protection in some instances. All other amendments result in no cost or benefits because they represent current industry practice and/or the adoption of current FRA Technical Bulletins.

For the 20-year period analyzed, the estimated quantified costs to the railroad industry total $20,965,962, discounted to $11,491,330 (present value (PV), 7 percent) and $15,832,099 (PV, 3 percent). For the same 20-year period, the estimated quantified benefits total $53,109,702, discounted to $28,132,247 (PV, 7 percent) and $39,506,913 (PV, 3 percent). Net benefits total $32,143,740, discounted to $16,640,917 (PV, 7 percent) and $23,674,814 (PV, 3 percent). This analysis demonstrates that the benefits for this final rule would exceed the costs.

Table 2. Summary of Quantified Costs and Benefits

Costs		Year 1	2 - 20	*Total 20 year*	*7% PV*	*3% PV*
214.315	Job Briefings	$179,468	$179,468	*$3,589,356*	*$1,901,284*	*$2,670,028*
214.318	Training for Locom. & Car Shop Areas	226,601	226,601	*4,532,015*	*2,400,612*	*3,371,247*
214.319	Working Limits, generally	611,658	509,091	*7,725,127*	*4,465,867*	*5,975,983*
214.339	Audible Warning from Trains	29,105	0	*29,105*	*27,200*	*28,257*
214.345	Training on Safe Crossing of Tracks	90,640	90,640	*1,812,806*	*960,245*	*1,348,499*
214.347	Training on Access to Manual	13,596	13,596	*271,921*	*144,037*	*202,275*
214.353	Training RWIC	150,282	150,282	*3,005,632*	*1,592,086*	*2,235,811*
Total		**$1,301,349**	**$1,169,678**	**$20,965,962**	**$11,491,330**	**$15,832,099**
Benefits		**Year 1**	**2 - 20**	***Total 20 year***	***7% PV***	***3% PV***
214.317	Track Snow Removal	367,093	367,093	*7,341,864*	*3,888,991*	*5,461,420*
214.318	Locomotive Service & Shop Areas	1,964,466	1,964,466	*39,289,322*	*20,811,582*	*29,226,295*
214.327	Inaccessible Track	255,946	255,946	*5,118,911*	*2,711,491*	*3,807,823*
214.337	ITD	67,980	67,980	*1,359,605*	*720,183*	*1,011,374*
Total:		**$2,655,485**	**$2,655,485**	***$53,109,702***	***$28,132,247***	***$39,506,913***
NET BENEFITS		**$1,354,136**	**$1,485,807**	**$32,143,740**	**$16,640,917**	**$23,674,814**

Note: *Dollars are discounted over a 20-year period.*

B. Regulatory Flexibility Act and Executive Order 13272; Initial Regulatory Flexibility Assessment

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 et seq.) and Executive Order 13272 (67 FR 53461, Aug. 16, 2002) require agency review of proposed and final rules to assess their impacts on small entities. FRA developed the final rule consistent with Executive Order 13272, Proper Consideration of Small Entities in Agency Rulemaking, and DOT's procedures and policies to promote compliance with the Regulatory Flexibility Act (5 U.S.C. 601 et seq.) to ensure potential impacts of rules on small entities are properly considered.

The Regulatory Flexibility Act requires an agency to review regulations to assess their impact on small entities. An agency must conduct a threshold analysis to determine if the proposed rule will or may have a significant economic impact on a substantial number of small entities (SEISNOSE) or not. Then, it must prepare an initial regulatory flexibility analysis (IRFA) unless it determines and certifies a rule is not expected to have a SEISNOSE.

As discussed earlier, FRA is amending its regulations on railroad workplace safety to resolve interpretative issues that have arisen since the 1996 promulgation of the original RWP regulation. In particular, this final rule adopts certain terms, resolves miscellaneous interpretive issues, codifies certain FRA Technical Bulletins, adopts new requirements governing redundant signal protections and the movement of roadway maintenance machinery over signalized non-controlled track, amends certain qualification requirements for roadway workers, and codifies FAST Act mandates. FRA is also deleting three incorporations by reference of industry standards in existing sections of part 214, subpart B that address Bridge Worker Safety Standards and instead is referencing existing OSHA regulations.

The small entity segment of the railroad industry faces little in the way of intramodal competition. Small railroads generally serve as “feeders” to the larger railroads, collecting carloads in smaller numbers and at lower densities than would be economical for the larger railroads. They transport those cars over relatively short distances and then turn them over to the larger systems which transport them relatively long distances to their ultimate destination, or for handoff back to a smaller railroad for final delivery. Although the relative interests of various railroads may not always

coincide, the relationship between the large and small entity segments of the railroad industry are more supportive and co-dependent than competitive.

It is also extremely rare for small railroads to compete with each other. Small railroads generally serve smaller, lower-density markets and customers. They exist, and often thrive, doing business in markets where there is not enough traffic to attract the larger carriers designed to handle large volumes over distance at a profit. As there is usually not enough traffic to attract service by a large carrier, there is also not enough traffic to sustain more than one smaller carrier. In combination with the huge barriers to entry in the railroad industry (due to the need to own the right-of-way, build track, purchase a fleet, etc.), small railroads rarely find themselves in competition with each other. Thus, even to the extent the proposed rule may have an economic impact, it should have no impact on the intramodal competitive position of small railroads.

1. Description of Regulated Entities and Impacts

The "universe" of the entities under consideration includes only those small entities that can reasonably be expected to be directly affected by the provisions of this rule. For the rule there is only one type of small entity that is affected: small railroads.

"Small entity" is defined in 5 U.S.C. 601. Section 601(3) defines a "small entity" as having the same meaning as "small business concern" under section 3 of the Small Business Act. This includes any small business concern that is independently owned and operated, and is not dominant in its field of operation. Section 601(4) likewise includes within the definition of "small entities" not-for-profit enterprises that are independently owned and operated, and are not dominant in their field of operations.

The U.S. Small Business Administration (SBA) has authority to regulate issues related to small businesses, and stipulates in its size standards that a "small entity" in the railroad industry is a for profit "line-haul railroad" that has fewer than 1,500 employees, a "short line railroad with fewer than 500 employees, or a "commuter rail system" with annual receipts of less than seven million dollars. See "Size Eligibility Provisions and Standards," 13 CFR part 121, subpart A.

Federal agencies may adopt their own size standards for small entities in consultation with SBA and in conjunction with public comment. Under that authority, FRA published a final statement of agency policy that formally establishes "small entities" or "small businesses" as being railroads, contractors, and hazardous materials shippers that meet the revenue requirements of a Class III railroad as set forth in 49 CFR 1201.1-1, which is $20 million or less in inflation-adjusted annual revenues, and commuter railroads or small governmental jurisdictions that serve populations of 50,000 or less. See 68 FR 24891, May 9, 2003, codified at aappendix C to 49 CFR part 209. The $20 million limit is based on the Surface Transportation Board's (STB) revenue threshold for a Class III railroad carrier. Railroad revenue is adjusted for inflation by applying a revenue deflator formula in accordance with 49 CFR part 1201. The same dollar limit on revenues is established to determine whether a railroad shipper or contractor is a small entity. FRA is using this definition for this rulemaking. FRA received no comments pertinent to its use in response to the NPRM.

Included in the entities impacted by this final rule are governmental jurisdictions or transit authorities—most of which are not small for purposes of this certification. There are two privately owned commuter railroads that would be considered small

entities. However, both entities are owned by Class III freight railroads and, therefore, are already considered small entities for purposes of this certification.

Railroads

There are approximately 729 small railroads.[22] Class III railroads do not report to the STB, and the precise number of Class III railroads is difficult to ascertain due to conflicting definitions, conglomerates, and even seasonal operations. Potentially all small railroads (a substantial number) could be impacted by this regulation. However, because of certain characteristics these railroads typically have, there should be very little impact on most, if not all of them. A large number of these small railroads only have single-track operations. Some small railroads, such as the tourist and historic railroads, operate on the lines of other railroads that would bear the burden or impact of the final rule's requirements. Finally, other small railroads, if they do have more than a single track, typically have operations infrequent enough such that the railroads have generally always performed the pertinent trackside work with the track and right-of-way taken out of service, or is conducted during hours that the track is not used.

Almost all commuter railroads do not qualify as small entities. This is likely because almost all passenger/commuter railroad operations in the United States are part of larger governmental entities whose jurisdictions exceed 50,000 in population. As noted above, two of these commuter railroads are privately owned and would be considered small. However, they are already considered to be small because they are owned by a Class III freight railroad. FRA is uncertain how many contractor companies would be involved with this issue. FRA is aware that some railroads hire contractors to

[22] FRA data for 2014 shows there are 779 Railroads. Thus, 779 Total Railroads – 7 Class I Railroads – 12 Class II Railroads (includes Alaska RR) – 31 Commuter/Amtrak (non-small) = 729 Small Railroads.

conduct some of the functions of roadway workers on their properties. However, the costs for the burdens associated with the requirements of this final rule would get passed on to the pertinent railroad. Most likely the contracts would be written to reflect that, and the contractor would bear no additional burden for the proposed requirements. Since contractors would not be the entities directly impacted by any burdens, it is not necessary to assess them in the certification.

No other small businesses (non-railroads) will be impacted by this final rule.

The process used to develop most of this final rule provided outreach to small entities in two ways. First, the RSAC Working Group had at least one representative from a small railroad association, namely, ASLRRA. Second, members of the RSAC itself include the ASLRRA and other organizations that represent small entities. Thus, FRA concludes that small entities had an opportunity for input as part of the process to develop a consensus-based RSAC recommendation made to the FRA Administrator.

Impacts

The impacts from this regulation are primarily a result of the requirements for certain changes to the existing roadway worker protection regulations, particularly regarding job briefings and training of roadway workers.

The RIA for this rulemaking estimates that for the 20-year period analyzed, the estimated quantified costs to the railroad industry total $20,965,962, discounted to $11,491,330 (present value (PV), 7 percent) and $15,832,099 (PV, 3 percent). FRA believes nearly all of this cost will fall to railroads other than small railroads. Short line railroads, the vast majority of which are Class III railroads, represent an estimated 8 percent of the railroad industry. Since small railroads generally collect carloads in such

small numbers and low densities, at low speeds, they require much less track maintenance. Also, several parts of the new regulation do not apply to Class III railroads. Furthermore, generally, small railroads have single tracks that are not active around the clock. As such, road work can be done when the track is not active, greatly reducing the burden of having to provide roadway worker protection. As such, the cost of this rulemaking is very minimal to the small railroad segment of the industry. Eight percent of the total 20-year cost is $1,677,277 (an average annual cost of $115 per small railroad).[23] Although the rule may impact a substantial number of small entities, FRA is confident that this final rule does not impose a significant burden.

2. Certification

Under the Regulatory Flexibility Act (5 U.S.C. 605(b)), FRA certifies this final rule will not have a significant economic impact on a substantial number of small entities. FRA invited all interested parties to submit data and information regarding the potential economic impact that will result from the proposals in the NPRM. FRA did not receive any comments concerning this certification in the public comment process.

C. Paperwork Reduction Act

The information collection requirements in this final rule are being submitted upon publication in the Federal Register for Office of Management and Budget (OMB) approval under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 *et seq.* The sections that contain the new and current information collection requirements and the estimated time to fulfill each requirement are as follows:

[23] $20,965,962 * .08 = $1,677,277/ 20 years / 729 small railroads = $115 per year per small railroad.

CFR Section	Respondent Universe	Total Annual Responses	Average Time per Response	Total Annual Burden Hours
Form FRA F 6180.119 - Part 214 Railroad Workplace Safety Violation Report	350 Safety Inspectors	120 forms	4 hours	480 hours
214.307 - Railroad On-Track Safety Programs (**Revised Requirements**) – RR Programs that comply with this Part + copies at System/Division Headquarters - RR Notification to FRA not less than one month before on-track safety program takes effect - RR Amended On-Track Safety Programs after FRA Disapproval - RR Written Response in Support of Disapproved Program	722 Railroads 722 Railroads 722 Railroads 722 Railroads	722 programs + 851 copies 825 notices 34 programs 2 written responses	2 hours + 2 minutes 20 minutes 4 hours 40 hours	1,472 hours 275 hours 136 hours 80 hours
214.309 –**New Requirements -** On-Track Safety Manual -- RR Provisions for Alternative Access to Information in On-Track Safety Manual -- RR Publication of Bulletins/Notices reflecting changes in on-track safety manual	722 Railroads 60 Railroads	722 provisions 100 bulletins/ notices	60 minutes 60 minutes	722 hours 100 hours
214.311 – RR Written Procedure to achieve prompt and equitable resolution of Good Faith Employee Challenges	50 New Railroads	25 generic procedures + 25 developed procedures	30 minutes + 24 hours	613 hours
214.313 - Good Faith Challenges to On-Track Safety Rules	20 Railroads	80 challenges	8 hours per challenge	640 hours
214.315/335 - Supervision +communication - Job Briefings - Adjacent-Track Safety Briefings -- Information on Accessibility of Roadway Worker in Charge (RWIC) and Alternative Procedures in Event RWIC is No Longer Accessible to Work Gang (**New Requirement**)	50,000 Rdwy Workers 24,500 Rdwy Workers 300 Roadway Work Gangs (10 Employees in each gang x 59,400 briefings)	16,350,000 brf 2,403,450 brf. 594,000 briefings	2 minutes 30 seconds 20 seconds	545,000 hours 20,029 hours 3,300 hours
214.317- On-Track Procedures for Snow Removal (**New Requirements**) - On-Track Procedures for Weed Spray Equipment - Roadway Worker in Charge (RWIC) Designation of alternative place of safety other than tunnel niche or clearing bay	20 Railroads 722 Railroads 722 Railroads	20 operating procedures 722 operating procedures 25 designation	60 minutes 60 minutes 5 minutes	20 hours 722 hours 2 hours
214.318 – Procedures established by Railroads for workers to perform duties incidental to those of inspecting, testing, servicing, or repairing rolling equipment (**New Requirement**)	722 Railroads	722 rules/ procedures	3 hours	2,166 hours

214.319 (b)(1)– **New Requirements** – Class I & II Railroads evaluation of its on-track safety program and identification of appropriate method to provide redundant protections for roadway work groups (b)(2) - Implementing redundant protections – safety briefings (c) Railroad written request to FRA requesting exemption from requirements of section 214.319(b) for each segment of track governed by Positive Train Control	47 Railroads 47 Railroads 47 Railroads	47 On-track program evaluations 77,394 safety briefings 5 written requests	40 hours + 16 hours 4 minutes 60 minutes	1,568 hours 5,160 hours 5 hours
214.320 – Roadway Maintenance Machines Movement over Signalized Non-controlled Track – RR request to FRA for equivalent level of protection to that of Working Limits (**New Requirement**)	722 Railroads	5 requests	4 hours	20 hours
214.322- **New Requirements**) Exclusive Track Occupancy, Electronic Display --Written Authorities/Printed Authority Copy If Electronic Display Fails or Malfunctions - On-Track Safety Briefings in Event Written Authority/Printed Authority Copy Cannot Be Obtained - Data File Records Relating to Electronic Display Device Involved in Part 225 Reportable Accident/Incident - Request to FRA for NIST Publication 800-63-2, "Electronic Authentication Guideline"	3 Class I Railroads 722 Railroads 3 Class I Railroads 722 Railroads	500 written authorities 100 briefings 25 data file records 3 requests + 3 copies	10 minutes 6 minutes 2 hours 30 minutes + 2 minutes	83 hours 10 hours 50 hours 2 hours
214.325 – Train Coordination (**Revised Requirement**) - Working Limits Established on Controlled Track through Train Coordination : Verbal communication by roadway worker establishing working limits	50,000 Roadway Workers	36,500 verbal messages	15 seconds	152 hours
214.327 - Inaccessible Track - Working Limits Established by Locomotive With/Without Cars to Prevent Access – Communication by RWIC with Locomotive Crew Member (**New Requirement**) -- Notification to Train or Engine Crew on Any Working Limits in Effect That Prohibit Train Movement until RWIC gives permission to enter Working Limits (**New Requirement**) -- Working Limits on Non-controlled Track: Notifications	10 Railroads 10 Railroads 722 Railroads	9,125 talks/ messages 1,750 notices 50,000 notifications	10 minutes 60 minutes 10 minutes	1,521 hours 1,750 hours 8,333 hours
214.329 – Train Approach Warning Provided by Watchmen/Lookouts – Communications -- Written Designation of Watchmen/Lookouts	722 Railroads 722 Railroads	795,000 non-yard messages + 79,500 yard messages 26,250 designations	30 seconds + 10 seconds 30 seconds	6,846 hours 219 hours

214.336 - Procedures for Adjacent-Track Movements Over 25 mph - Notifications/Watchmen/ Lookout Warnings	100 Railroads	10,000 notices	15 seconds	42 hours
- Roadway Worker Communication with Train Engineers or Equipment Operators	100 Railroads	3,000 talks	1 minute	50 hours
- Procedures for Adjacent-Track Movements 25 mph or less - Notifications/Watchmen/ Lookout Warnings	100 Railroads	3,000 notices	15 seconds	13 hours
- Roadway Worker Communication with Train Engineers or Equipment Operators	100 Railroads	1,500 talks	1 minute	25 hours
-Exceptions to the requirements in paragraphs (a), (b), and (c) for adjacent - controlled-track on-track safety: Work activities involving certain equipment and purposes – On-Track Job Safety Briefings	100 Railroads	2,403,450 briefings	15 seconds	10,014 hours
214.337 - On-Track Safety Procedures for Lone Workers: Statements by Lone Workers	722 Railroads	2,080,000 statements	30 seconds	17,333 hours
- Statement of On-Track Safety Using Individual Train Detection on Track Outside Manual Interlocking, a Controlled Point, or a Remotely Controlled Hump Yard Facility	722 Railroads	200 statement	30 seconds	2 hours
214.339 – Audible Warning from Trains (**Revised Requirement**) - Written Procedures That Prescribe Effective Requirements for Audible Warning by Horn and/or Bell for Trains	44 Railroads	44 written procedures	13 hours	572 hours
214.343/345/347/349/351/353/355 –Annual Training for All Roadway Workers (RWs) (**New/Revised Requirements**)	50,000 Rdwy Workers	50,000 tr. RW	4.5 hours	225,000 hours
- Training of Trainmen (Conductors & Brakemen) to Act as RWIC and Training of Station Platform Work Coordinators (**New Requiremen**t)	810 RR Workers	810 trained workers	2 hours	1,620 hours
-Additional adjacent on-track safety training for Roadway Workers	35,000 Rdwy Workers	35,000 tr. RW	5 minutes	2,917 hours
- Records of Training	50,000 Roadway Workers	50,000 records	2 minutes	1,667 hours
214.503 - Good Faith Challenges; Procedures for Notification and Resolution – Notifications for Non-Compliant Roadway Maintenance Machines or Unsafe Condition	50,000 Rdwy Workers	125 notices	10 minutes	21 hours
- Resolution Procedures	644 Railroads/ 200 contractors	10 procedures	2 hours	20 hours
214.505 - Required Environmental Control and Protection Systems For New On-Track Roadway Maintenance Machines with Enclosed Cabs	644 Railroads/ 200 contractors	500 lists	1 hour	500 hours
- Designations/Additions to List	644 Railroads/ 200 contractors	150 additions/ designations	5 minutes	13 hours

214.507 - A-Built Light Weight on New Roadway Maintenance Machines	644 Railroads/ 200 contractors	1,000 stickers/ stencils	5 minutes	83 hours
214.511 - Required Audible Warning Devices For New On-Track Roadway Maintenance Machines	644 Railroads/ 200 contractors	3,700 identified mechanisms	5 minutes	308 hours
214.513 - Retrofitting of Existing On-Track Roadway Maintenance Machines -Identification of Triggering Mechanism - Horns	703 Railroads/ 200 contractors	200 I.D. mechanism s	5 minutes	17 hours
214.515 - Overhead Covers For Existing On-Track Roadway Maintenance Machines	644 Railroads/ 200 contractors	500 requests + 500 responses	10 minutes; 20 minutes	250 hours
214.517 - Retrofitting of Existing On-Track Roadway Maintenance Machines Manufactured On or After Jan. 1, 1991	644 Railroads/ 200 contractors	500 stencils / displays	5 minutes	42 hours
214.518 - Safe and Secure Position for riders - Positions identified by stencilings/markings/notices	644 Railroads/ 200 contractors	1,000 stencils	5 minutes	83 hours
214.523 -Hi-Rail Vehicles -Non-Complying Conditions	644 Railroads/ 200 contractors 644 Railroads/ 200 contractors	2,000 records 500 tags + 500 reports	60 minutes 10 minutes + 15 minutes	2,000 hours 208 hours
214.527 -Inspection for Compliance; Repair Schedules	644 Railroads/ 200 contractors	550 tags + 550 reports	5 minutes + 15 minutes	184 hours
214.533 - Schedule of Repairs; Subject to Availability of Parts	644 Railroads/ 200 contractors	250 records	15 minutes	63 hours

All estimates include the time to review instructions; search existing data sources; gather or maintain the needed data; and review the information. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, FRA Office of Safety, Information Clearance Officer, at 202-493-6292, or Ms. Kim Toone, FRA Office of Information Technology, Information Clearance Officer, at 202-493-6132.

OMB must make a decision concerning the collection of information requirements this final rule between 30 and 60 days after publication of this document in the Federal Register. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication.

FRA is not authorized to impose a penalty on persons for violating information collection requirements which do not display a current OMB control number. If required, FRA will obtain current OMB control numbers for any new information collection requirements resulting from this rulemaking action before the effective date of the final rule. The OMB control number, when assigned, will be announced by separate notice in the Federal Register. D. Federalism Implications

Executive Order 13132, "Federalism" (64 FR 43255, Aug. 10, 1999), requires FRA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, the agency may not issue a regulation with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or the agency consults with State and local government officials early in the process of developing the regulation. Where a regulation has federalism implications and preempts State law, the agency seeks to consult with State and local officials in the process of developing the regulation.

This final rule has been analyzed consistent with the principles and criteria in Executive Order 13132. This final rule would not have a substantial effect on the States or their political subdivisions; it would not impose any compliance costs; and it would

not affect the relationships between the Federal government and the States or their political subdivisions, or the distribution of power and responsibilities among the various levels of government. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

However, this final rule could have preemptive effect by operation of law under certain provisions of the Federal railroad safety statutes, specifically the former Federal Railroad Safety Act of 1970, repealed and recodified at 49 U.S.C. 20106. Section 20106 provides that States may not adopt or continue in effect any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters) or the Secretary of Homeland Security (with respect to railroad security matters), except when the State law, regulation, or order qualifies under the "essentially local safety or security hazard" exception to section 20106.

In sum, FRA has analyzed this final rule consistent with the principles and criteria in Executive Order 13132. As explained above, FRA has determined that this final rule has no federalism implications, other than the possible preemption of State laws under Federal railroad safety statutes, specifically 49 U.S.C. 20106. Accordingly, FRA has determined preparation of a federalism summary impact statement for this final rule is not required.

E. Environmental Impact

FRA has evaluated this final rule under the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.), other environmental statutes, related regulatory requirements, and its "Procedures for Considering Environmental Impacts" (FRA's

Procedures) (64 FR 28545, May 26, 1999). FRA has determined this final rule is categorically excluded from detailed environmental review under section 4(c)(20) of FRA's Procedures, "Promulgation of railroad safety rules and policy statements that do not result in significantly increased emissions of air or water pollutants or noise or increased traffic congestion in any mode of transportation." See 64 FR 28547. Categorical exclusions (CEs) are actions identified in an agency's NEPA implementing procedures that do not normally have a significant impact on the environment and, thus, do not require either an environmental assessment (EA) or environmental impact statement (EIS). See 40 CFR 1508.4.

In analyzing the applicability of a CE, the agency must also consider whether extraordinary circumstances are present that would warrant a more detailed environmental review through the preparation of an EA or EIS. Id. Under section 4(c) and (e) of FRA's Procedures, FRA has further concluded no extraordinary circumstances exist with respect to this regulation that might trigger the need for a more detailed environmental review. The purpose of this rulemaking is to finalize a number of railroad worker safety practices developed by the RSAC, some required by the FAST Act, and additional rules to decrease railroad worker accidents and injuries. FRA does not anticipate any environmental impacts from these requirements and finds that there are no extraordinary circumstances present in connection with this final rule.

F. Executive Order 12898 (Environmental Justice)

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and DOT Order 5610.2(a) (91 FR 27534, May 10, 2012) require DOT agencies to achieve environmental justice as part of

their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including interrelated social and economic effects, of their programs, policies, and activities on minority populations and low-income populations. The DOT Order instructs DOT agencies to address compliance with Executive Order 12898 and requirements within the DOT Order in rulemaking activities, as appropriate. FRA evaluated this final rule under Executive Order 12898 and the DOT Order and has determined it would not cause disproportionately high and adverse human health and environmental effects on minority or low-income populations.

G. Executive Order 13175 (Tribal Consultation)

FRA evaluated this final rule under the principles and criteria in Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, dated November 6, 2000. The final rule would not have a substantial direct effect on one or more Indian tribes, would not impose substantial direct compliance costs on Indian tribal governments, and would not preempt tribal laws. Therefore, the funding and consultation requirements of Executive Order 13175 do not apply, and a tribal summary impact statement is not required.

H. Unfunded Mandates Reform Act of 1995

Under Section 201 of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4, 2 U.S.C. 1531), each Federal agency "shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law)." Section 202 of the Act (2 U.S.C. 1532) further requires that

> before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100,000,000 or more (adjusted annually for inflation) in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement

detailing the effect on State, local, and tribal governments and the private sector. This final rule will not result in the expenditure, in the aggregate, of $155,000,000 or more (adjusted annually for inflation) in any one year. Thus, preparation of such a statement is not required.

I. Energy Impact

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any "significant energy action." 66 FR 28355, May 22, 2001. Under the Executive Order, a "significant energy action" is defined as any action by an agency (normally published in the Federal Register) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking:(1)(i) That is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action. FRA evaluated this final rule consistent with Executive Order 13211. FRA has determined this final rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy, and, thus, is not a "significant energy action" under Executive Order 13211.

J. Trade Impact

The Trade Agreements Act of 1979 19 U.S.C. 2501 et seq.) prohibits Federal agencies from engaging in any standards setting or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. FRA has assessed the potential effect of this final rule on foreign commerce and believes its requirements are consistent with the Trade Agreements Act. The requirements imposed are safety standards, which, as noted, are not considered unnecessary obstacles to trade.

K. Privacy Act

Interested parties should be aware that anyone can search the electronic form of all written comments received into any agency docket by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register (65 FR 19477-19478, Apr. 11, 2000) or you may visit http://www.dot.gov/privacy.html.

L. Analysis under 1 CFR part 51

As 1 CFR 51.5 requires, FRA has summarized the standard incorporated by reference and shown its reasonable availability in the Section-by-Section analysis above.

List of Subjects in 49 CFR Part 214

Bridges, Incorporation by reference, Occupational safety and health, Penalties, Railroad safety, Reporting and recordkeeping requirements.

The Rule

For the reasons discussed in the preamble, FRA amends Part 214 of Chapter II, Subtitle B of Title 49, Code of Federal Regulations, as follows:

PART 214—[AMENDED]

1. The authority citation for part 214 continues to read as follows:

Authority: 49 U.S.C. 20102-20103, 20107, 21301-21302, 21304, 28 U.S.C. 2461, note; and 49 CFR 1.89.

2. Amend § 214.7 as follows:

a. Add the definitions, in alphabetical order, for "controlled point", "interlocking, manual", "maximum authorized speed", "on-track safety manual", "roadway worker in charge";

b. Revise the definitions for "effective securing device" and "watchman/lookout".

Subpart A—General

§ 214.7 Definitions.

* * * * *

Controlled point means a location where signals and/or other functions of a traffic control system are controlled from the control machine.

* * * * *

Effective securing device means a vandal and tamper resistant lock, keyed for application and removal only by the roadway worker(s) for whom the protection is provided. In the absence of a lock, it is acceptable to use a spike driven firmly into a switch tie or a switch point clamp to prevent the use of a manually operated switch. It is also acceptable to use portable derails secured with specifically designed metal wedges.

Securing devices without a specially keyed lock shall be designed in such a manner that they require railroad track tools for installation and removal and the operating rules of the railroad must prohibit removal by employees other than the class, craft, or group of employees for whom the protection is being provided. Regardless of the type of securing device, the throwing handle or hasp of the switch or derail shall be uniquely tagged. If there is no throwing handle, the securing device shall be tagged.

* * * * *

Interlocking, manual means an arrangement of signals and signal appliances operated from an interlocking machine and so interconnected by means of mechanical and/or electric locking that their movements must succeed each other in proper sequence, train movements over all routes being governed by signal indication.

* * * * *

Maximum authorized speed means the highest speed permitted for the movement of trains permanently established by timetable/special instructions, general order, or track bulletin.

* * * * *

On-track safety manual means the entire set of on-track safety rules and instructions maintained together in one manual designed to prevent roadway workers from being struck by trains or other on-track equipment. These instructions include operating rules and other procedures concerning on-track safety protection and on-track safety measures.

* * * * *

Roadway worker in charge means a roadway worker who is qualified under § 214.353 to establish on-track safety for roadway work groups, and lone workers qualified under § 214.347 to establish on-track safety for themselves.

* * * * *

Watchman/lookout means an employee who has been trained and qualified to provide warning to roadway workers of approaching trains or on-track equipment. Watchmen/lookouts shall be properly equipped to provide visual and auditory warning such as whistle, air horn, white disk, red flag, lantern, fuse. A watchman/lookout's sole duty is to look out for approaching trains/on-track equipment and provide at least fifteen seconds advanced warning to employees before arrival of trains/on-track equipment.

* * * * *

3. Revise § 214.113(b) to read as follows:

§ 214.113 Head protection.

* * * * *

(b) Helmets required by this section shall conform to the requirements of 29 CFR 1910.135(b), as established by the U.S. Department of Labor, Occupational Safety and Health Administration.

* * * * *

4. Revise § 214.115(b) to read as follows:

§ 214.115 Foot protection.

* * * * *

(b) Foot protection equipment required by this section shall conform to the requirements of 29 CFR 1910.136(b), as established by the U.S. Department of Labor, Occupational Safety and Health Administration.

* * * * *

5. Revise § 214.117(b) to read as follows:

§ 214.117 Eye and face protection.

* * * * *

(b) Eye and face protection equipment required by this section shall conform to the requirements of 29 CFR 1910.133(b), as established by the U.S. Department of Labor, Occupational Safety and Health Administration.

* * * * *

Subpart C—Roadway Worker Protection

6. Revise § 214.301(c) to read as follows:

§ 214.301 Purpose and scope.

* * * * *

(c) This subpart prescribes safety standards related to the movement of roadway maintenance machines where such movements affect the safety of roadway workers. Except as provided for in § 214.320, this subpart does not otherwise affect movements of roadway maintenance machines that are conducted under the authority of a train dispatcher, a control operator, or the operating rules of the railroad.

§ 214.302—[Removed and Reserved]

7. Remove and reserve § 214.302.

§ 214.305—[Removed and Reserved]

8. Remove and reserve § 214.305.

9. Revise § 214.307 to read as follows:

§ 214.307 On-track safety programs.

(a) Each railroad subject to this part shall maintain and have in effect an on-track safety program which complies with the requirements of this subpart. New railroads must have an on-track safety program in effect by the date on which operations commence. The on-track safety program shall be retained at a railroad's system headquarters and division headquarters, and shall be made available to representatives of the FRA for inspection and copying during normal business hours. Each railroad to which this part applies is authorized to retain its program by electronic recordkeeping in accordance with §§ 217.9(g) and 217.11(c) of this chapter.

(b) Each railroad shall notify, in writing, the Associate Administrator for Safety and Chief Safety Officer, Federal Railroad Administration, RRS-15, 1200 New Jersey Avenue, SE, Washington, DC 20590, not less than one month before its on-track safety program becomes effective. The notification shall include the effective date of the program and the name, title, address and telephone number of the primary person to be contacted with regard to review of the program. This notification procedure shall also apply to subsequent changes to a railroad's on-track safety program.

(c) Upon review of a railroad's on-track safety program, the FRA Associate Administrator for Railroad Safety and Chief Safety Officer may, for cause stated, may disapprove the program. Notification of such disapproval shall be made in writing and

specify the basis for the disapproval decision. If the Associate Administrator for Railroad Safety and Chief Safety Officer disapproves the program,

(1) The railroad has 35 days from the date of the written notification of such disapproval to:

(i) Amend its program and submit it to the Associate Administrator for Railroad Safety and Chief Safety Officer for approval; or

(ii) Provide a written response in support of its program to the Associate Administrator for Railroad Safety and Chief Safety Officer.

(2) FRA's Associate Administrator for Railroad Safety and Chief Safety Officer will subsequently issue a written decision either approving or disapproving the railroad's program.

(3) Failure to submit to FRA an amended program or provide a written response in accordance with this paragraph will be considered a failure to implement an on-track safety program under this subpart.

10. Revise § 214.309 to read as follows:

§ 214.309 On-track safety manual.

(a) The applicable on-track safety manual (as defined by § 214.7) shall be readily available to all roadway workers. Each roadway worker in charge responsible for the on-track safety of others, and each lone worker, shall be provided with and shall maintain a copy of the on-track safety manual.

(b) When it is impracticable for the on-track safety manual to be readily available to a lone worker, the employer shall establish provisions for such worker to have alternative access to the information in the manual.

(c) Changes to the on-track safety manual may be temporarily published in bulletins or notices. Such publications shall be retained along with the on-track safety manual until fully incorporated into the manual.

11. In § 214.315, revise paragraphs (a)(3), (a)(4), (b), the first sentence of paragraphs (c) through (e), and add paragraph (a)(5) to read as follows:

§ 214.315 Supervision and communication.

(a) * * *

(3) Information about any adjacent tracks, on-track safety for such tracks, if required by this subpart or deemed necessary by the roadway worker in charge, and identification of any roadway maintenance machines that will foul such tracks;

(4) A discussion of the nature of the work to be performed and the characteristics of the work location to ensure compliance with this subpart; and

(5) Information on the accessibility of the roadway worker in charge and alternative procedures in the event the roadway worker in charge is no longer accessible to the members of the roadway work group.

(b) A job briefing for on-track safety shall be deemed complete only after the roadway worker(s) has acknowledged understanding of the on-track safety procedures and instructions presented.

(c) Every roadway work group whose duties require fouling a track shall have one roadway worker in charge designated by the employer to provide on-track safety for all members of the group. * * *

(d) Before any member of a roadway work group fouls a track, the roadway worker in charge designated under paragraph (c) of this section shall inform each

roadway worker of the on-track safety procedures to be used and followed during the performance of the work at that time and location. * * *

(e) Each lone worker shall communicate at the beginning of each duty period with a supervisor or another designated employee to receive an on-track safety job briefing and to advise of his or her planned itinerary and the procedures that he or she intends to use for on-track safety. * * *

12. Revise § 214.317 to read as follows:

§ 214.317 On-track safety procedures, generally.

(a) Each employer subject to the provisions of this part shall provide on-track safety for roadway workers by adopting a program that contains specific rules for protecting roadway workers that comply with the provisions of §§ 214.319 through 214.337.

(b) Roadway workers may walk across any track provided that they can safely be across and clear of the track before a train or other on-track equipment would arrive at the crossing point under the following circumstances:

(1) Employers shall adopt, and roadway workers shall comply with, applicable railroad safety rules governing how to determine that it is safe to cross the track before starting across;

(2) Roadway workers shall move directly and promptly across the track; and

(3) On-track safety protection is in place for all roadway workers who are actually engaged in work, including inspection, construction, maintenance or repair, and extending to carrying tools or material that restricts motion, impairs sight or hearing, or

prevents an employee from detecting and moving rapidly away from an approaching train or other on-track equipment.

(c) On non-controlled track, on-track roadway maintenance machines engaged in weed spraying or snow removal may proceed under the provisions of § 214.301(c), under the following conditions:

(1) Each railroad shall establish and comply with an operating procedure for on-track snow removal and weed spray equipment to ensure that:

(i) All on-track movements in the affected area are informed of such operations;

(ii) All on-track movements shall operate at restricted speed as defined in §214.7, except on other than yard tracks and yard switching leads, where all on-track movements shall operate prepared to stop within one-half the range of vision but not exceeding 25 mph;

(iii) A means for communication between the on-track equipment and other on-track movements is provided; and

(iv) Remotely controlled hump yard facility operations are not in effect, and kicking of cars is prohibited unless agreed to by the roadway worker in charge.

(2) Roadway workers engaged in such snow removal or weed spraying operations subject to this section shall retain an absolute right to use the provisions of §214.327 (inaccessible track).

(3) Roadway workers assigned to work with this equipment may line switches (or derails operated via a switch stand) for the machine's movement but shall not engage in any roadway work activity unless protected by another form of on-track safety.

(4) Each roadway maintenance machine engaged in snow removal or weed spraying under this provision shall be equipped with and utilize:

(i) An operative 360-degree intermittent warning light or beacon;

(ii) Work lights, if the machine is operated during the period between one-half hour after sunset and one-half hour before sunrise or in dark areas such as tunnels, unless equivalent lighting is otherwise provided;

(iii) An illumination device, such as a headlight, capable of illuminating obstructions on the track ahead in the direction of travel for a distance of 300 feet under normal weather and atmospheric conditions;

(iv) A brake light activated by the application of the machine braking system, and designed to be visible for a distance of 300 feet under normal weather and atmospheric conditions; and

(v) A rearward viewing device, such as a rearview mirror.

(d) Tunnel niches or clearing bays in existence prior to April 1, 2017 that are designed to permit roadway workers to occupy a place of safety when trains or other on-track equipment pass the niche or clearing bay, but are less than four feet from the field side of the nearest rail, may continue to be used as a place of safety provided:

(1) Such niches or clearing bays are visually inspected by the roadway worker in charge or lone worker prior to making the determination that the niche or clearing bay is suitable for use as a place of safety;

(2) There is adequate sight distance to permit a roadway worker or lone worker to occupy the place of safety in the niche or clearing bay at least 15 seconds prior to the

arrival of a train or other on-track equipment at the work location in accordance with §§ 214.329 and 214.337; and

(3) The roadway worker in charge or lone worker shall have the absolute right to designate a place of safety as a location other than that of a tunnel niche or clearing bay described by this paragraph, or to establish working limits.

13. Add § 214.318 to read as follows:

§ 214.318 Locomotive servicing and car shop repair track areas.

(a) In lieu of the requirements of this subpart, workers (as defined by § 218.5 of this chapter) within the limits of locomotive servicing and car shop repair track areas (as both are defined by § 218.5 of this chapter) may utilize procedures established by a railroad in accordance with part 218, subpart B of this chapter (Blue Signal Protection) to perform duties incidental to inspecting, testing, servicing, or repairing rolling equipment when those incidental duties involve fouling a track that is protected by Blue Signal Protection. A railroad utilizing Blue Signal Protection in lieu of the requirements of this subpart must have rules in effect governing the applicability of those protections to the incidental duties being performed.

(b) Paragraph (a) of this section applies to employees of a contractor to a railroad if such incidental duties are performed under the supervision of a railroad employee qualified (as defined by § 217.4 of this chapter) on the railroad's rules and procedures implementing the Blue Signal Protection requirements.

(c) Any work performed within the limits of a locomotive servicing or car shop repair track area with the potential of fouling a track which requires a person qualified

under § 213.7 of this chapter to be present to inspect or supervise such work must be performed in accordance with the requirements of this subpart.

14. Revise § 214.319 to read as follows:

§ 214.319 Working limits, generally.

Working limits established on controlled track shall conform to the provisions of §214.321 Exclusive track occupancy, § 214.323 Foul time, or § 214.325 Train coordination. Working limits established on non-controlled track shall conform to the provision of § 214.327 Inaccessible track.

(a) Working limits established under any procedure shall, in addition, conform to the following provisions:

(1) Only a roadway worker in charge who is qualified in accordance with § 214.353 shall establish or have control over working limits for the purpose of establishing on-track safety.

(2) Only one roadway worker in charge who is qualified in accordance with § 214.353 shall have control over working limits on any one segment of track.

(3) All affected roadway workers shall be notified before working limits are released for the operation of trains. Working limits shall not be released until all affected roadway workers have either left the track or have been afforded on-track safety through train approach warning in accordance with § 214.329.

(b) Each Class I or Class II railroad or each railroad providing regularly scheduled intercity or commuter rail passenger transportation that utilizes controlled track working limits as a form of on-track safety (under §§ 214.321 – 214.323) in signalized territory shall:

(1) By July 1, 2017, evaluate its on-track safety program and identify an appropriate method(s) of providing redundant signal protections for roadway work groups who depend on a train dispatcher or control operator to provide signal protection in establishing controlled track working limits. For purposes of this section, redundant signal protections means risk mitigation measures or safety redundancies adopted to ensure the proper establishment and maintenance of signal protections for controlled track working limits until such working limits are released by the roadway worker in charge. Appropriate redundant protections could include the use of various risk mitigation measures (or a combination of risk mitigation measures) such as technology, training, supervision, or operating-based procedures; or could include use of redundant signal protection, such as shunting, designed to prevent signal system-related incursions into established controlled track working limits; and

(2) By January 1, 2018, specifically identify, implement, and comply with the method(s) of providing redundant protections in its on-track safety program.

(c) Upon a railroad's request, FRA will consider an exemption from the requirements of paragraph (b) of this section for each segment of track(s) for which operations are governed by a positive train control system under part 236, subpart I of this chapter. A request for approval to exempt a segment of track must be submitted in writing to the FRA Associate Administrator for Railroad Safety and Chief Safety Officer. The FRA Associate Administrator for Railroad Safety and Chief Safety Officer will review a railroad's submission and will notify a railroad of its approval or disapproval in writing within 90 days of FRA's receipt of a railroad's written request, and shall specify the basis for any disapproval decision.

15. Add § 214.320 to read as follows:

§ 214.320 Roadway maintenance machine movements over signalized non-controlled track.

Working limits must be established for roadway maintenance machine movements on non-controlled track equipped with automatic block signal systems over which trains are permitted to exceed restricted speed (for purposes of this section, on-track movements prepared to stop within on-half the range of vision but not exceeding 25 mph). This section applies unless the railroad's operating rules protect the movements of roadway maintenance machines in a manner equivalent to that provided for by limiting all train and locomotive movements to restricted speed, and such equivalent level of protection is first approved in writing by FRA's Associate Administrator for Railroad Safety and Chief Safety Officer.

16. In § 214.321, revise paragraph (a), paragraph (b) introductory text, paragraph (b)(2), and paragraph (d), and add paragraphs (b)(4) and (e), to read as follows:

§ 214.321 Exclusive track occupancy.

* * * * *

(a) The track within working limits shall be placed under the control of one roadway worker in charge by either:

* * * * *

(b) An authority for exclusive track occupancy given to the roadway worker in charge of the working limits shall be transmitted on a written or printed document directly, by relay through a designated employee, in a data transmission, or by oral communication, to the roadway worker in charge by the train dispatcher or control operator in charge of the track.

(1) * * *

(2) The roadway worker in charge of the working limits shall maintain possession of the written or printed authority for exclusive track occupancy while the authority for the working limits is in effect. A data transmission of an authority displayed on an electronic screen may be used as a substitute for a written or printed document required under this paragraph. Electronic displays of authority shall comply with the requirements of § 214.322.

(3) * * *

(4) An authority shall specify a unique roadway work group number, an employee name, or a unique identifier. A railroad shall adopt procedures that require precise communication between trains and other on-track equipment and the roadway worker in charge or lone worker controlling the working limits in accordance with § 214.319. The procedures may permit communications to be made directly between a train or other on-track equipment and a roadway worker in charge or lone worker, or through a train dispatcher or control operator.

* * * * *

(d) Movements of trains and roadway maintenance machines within working limits established through exclusive track occupancy shall be made only under the direction of the roadway worker in charge of the working limits. Such movements shall be at restricted speed unless a higher authorized speed has been specifically authorized by the roadway worker in charge of the working limits.

(e) Working limits established by exclusive track occupancy authority may occur behind designated trains moving through the same limits in accordance with the following provisions:

(1) The authority establishing working limits will only be considered to be in effect after it is confirmed by the roadway worker in charge or lone worker that the affected train(s) have passed the point to be occupied or fouled by:

(i) Visually identifying the affected trains(s); or

(ii) Direct radio contact with a crew member of the affected train(s); or

(iii) Receiving information about the affected train from the train dispatcher or control operator.

(2) When utilizing the provisions of paragraph (e)(1)(i) of this section, a railroad's operating rules shall include procedures prohibiting the affected train(s) from making a reverse movement into or within the limits being fouled or occupied.

(3) After the roadway worker in charge or lone worker has confirmed that the affected trains(s) have passed the point to be occupied or fouled, the roadway worker in charge shall record on the authority the time of passage and engine number(s) of the affected trains(s). If the confirmation is by direct communication with the train(s), or through confirmation by the train dispatcher or control operator, the roadway worker in charge shall record the time of such confirmation and the engine number(s) of the affected trains on the authority.

(4) A separate roadway work group afforded on-track safety by the roadway worker in charge of authority limits, and that is located away from the roadway worker in charge of authority limits, shall:

(i) Occupy or foul the track only after receiving permission from the roadway worker in charge to occupy the working limits after the roadway worker charge has fulfilled the provisions of paragraph (e)(1) of this section; and

(ii) Be accompanied by an employee qualified to the level of a roadway worker in charge who shall also have a copy of the authority and who shall independently execute the required communication requirements of paragraphs (e)(1) and (e)(3) of this section.

(5) Any subsequent train or on-track equipment movements within working limits after the passage of the affected train(s) shall be governed by paragraph (d) of this section.

17. Add § 214.322 to read as follows:

§ 214.322 Exclusive track occupancy, electronic display.

(a) While it is in effect, all the contents of an authority electronically displayed shall be readily viewable by the roadway worker in charge that is using the authority to provide on-track safety for a roadway work group.

(b) If the electronic display device malfunctions, fails, or cannot display an authority while it is in effect, the roadway worker in charge shall either obtain a written or printed copy of the authority in accordance with § 214.321 (except that on-track roadway maintenance machine and hi-rail movements must stop) or establish another form of on-track safety without delay. In the event that a written or printed copy of the authority cannot be obtained or another form of on-track safety cannot be established after failure of an electronic display device, the roadway worker in charge shall instruct

all roadway workers to stop work and occupy a place of safety and conduct an on-track safety job briefing to determine the safe course of action with the roadway work group.

(c) All authorized users of an electronic display system shall be uniquely identified to support individual accountability. A user may be a person, a process, or some other system that accesses or attempts to access an electronic display system to perform tasks or process an authority.

(d) All authorized users of an electronic display system must be authenticated prior to being granted access to such system. The system shall ensure the confidentiality and integrity of all internally stored authentication data and protect it from access by unauthorized users. The authentication scheme shall utilize algorithms approved by the National Institute of Standards and Technology (NIST), or any similarly recognized and FRA approved standards body.

(e) The integrity of all data must be ensured during transmission/reception, processing, and storage. All new electronic display systems implemented on or after July 1, 2017 shall utilize a Message Authentication Code (MAC) to ensure that all data is error free. The MAC shall utilize algorithms approved by NIST, or any similarly recognized and FRA approved standards body. Systems implemented prior to July 1, 2017 may utilize a Cyclical Redundancy Code (CRC) to ensure that all data is error free provided:

(1) The collision rate for the CRC check utilized shall be less than or equal to 1 in 2^{32}. Systems implemented prior to July 1, 2017 that do not utilize a CRC with a collision rate less than or equal to 1 in 2^{32} must be retired or updated to utilize a MAC no later than July 1, 2018.

(2) MAC and CRC checks shall only be used to verify the accuracy of an electronic authority data message and shall not be used in an error correction reconstruction of the data. An authority must fail if the MAC or CRC checks do not match.

(f) Authorities transmitted to each electronic display device shall be retained in the device's non-volatile memory for not less than 72 hours.

(g) If any electronic display device used to obtain an authority is involved in an accident/incident that is required to be reported to FRA under part 225 of this chapter, the railroad or employer that was using the device at the time of the accident shall, to the extent possible, and to the extent consistent with the safety of life and property, preserve the data recorded by each such device for analysis by FRA. This preservation requirement permits the railroad or employer to extract and analyze such data, provided the original downloaded data file, or an unanalyzed exact copy of it, shall be retained in secure custody and shall not be utilized for analysis or any other purpose except by direction of FRA or the National Transportation Safety Board. This preservation requirement shall expire one (1) year after the date of the accident unless FRA or the National Transportation Safety Board notifies the railroad in writing that the data are desired for analysis.

(h) New electronic display systems implemented on or after July 1, 2017 shall provide Level 3 assurance as defined by NIST Special Publication 800-63-2, Electronic Authentication Guideline, "Computer Security," August 2013. Systems implemented prior to July 1, 2017 shall provide Level 2 assurance. Systems implemented prior to July 1, 2017 that do not provide Level 2 or higher assurance must be retired, or updated to

provide Level 2 assurance, no later than July 1, 2018. The incorporation by reference of this NIST Special Publication was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of the incorporated document from the National Institute of Standards and Technology, 100 Bureau Drive, Stop 8930, Gaithersburg, MD 20899-8930, http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-63-2.pdf. You may inspect a copy of the document at the Federal Railroad Administration, Docket Clerk, 1200 New Jersey Avenue, SE, Washington, DC, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

18. In § 214.323, revise paragraphs (a), (b), and (c), and add paragraph (d) to read as follows:

§ 214.323 Foul time.

* * * * *

(a) Foul time may be given orally or in writing by the train dispatcher or control operator only after that employee has withheld the authority of all trains or other on-track equipment to move into or within the working limits during the foul time period.

(b) Each roadway worker in charge to whom foul time is transmitted orally shall repeat the track number or identifier, track limits and time limits of the foul time to the issuing employee for verification before the foul time becomes effective.

(c) The train dispatcher or control operator shall not permit the movement of trains or other on-track equipment into working limits protected by foul time until the roadway worker in charge who obtained the foul time has reported clear of the track.

(d) The roadway worker in charge shall not permit the movement of trains or other on-track equipment into or within working limits protected by foul time.

19. In § 214.325, revise the undesignated introductory sentence to read as follows:

§ 214.325 Train coordination.

Working limits established on controlled track by a roadway worker in charge through the use of train coordination shall comply with the following requirements:

* * * * *

20. In § 214.327, add paragraphs (a)(6), (a)(7), and (a)(8) to read as follows:

<u>§ 214.327</u> <u>Inaccessible track</u>.

(a) * * *

(6) A locomotive with or without cars placed to prevent access to the working limits at one or more points of entry to the working limits, provided the following conditions are met:

(i) The roadway worker in charge who is responsible for establishing working limits communicates with a member of the crew assigned to the locomotive and determines that:

(A) The locomotive is visible to the roadway worker in charge that is establishing the working limits; and

(B) The locomotive is stopped.

(ii) Further movements of the locomotive shall be made only as permitted by the roadway worker in charge controlling the working limits;

(iii) The crew of the locomotive shall not leave the locomotive unattended or go off duty unless communication occurs with the roadway worker in charge and an alternate means of on-track safety protection has been established by the roadway worker in charge; and

(iv) Cars coupled to the locomotive on the same end and on the same track as the roadway workers shall be connected to the train line air brake system and such system shall be charged with compressed air to initiate an emergency brake application in case of unintended uncoupling. Cars coupled to the locomotive on the same track on the opposite end of the roadway workers shall have sufficient braking capability to control their movement.

(7) A railroad's procedure governing block register territory that prevents trains and other on-track equipment from occupying the track when the territory is under the control of a lone worker or roadway worker in charge. The roadway worker in charge or lone worker shall have the absolute right to render block register territory inaccessible under the other provisions of paragraph (a) of this section.

(8) Railroad operating rules that prohibit train or engine or other on-track equipment movements on a main track within yard limits or restricted limits until the train or engine or on-track equipment receives notification of any working limits in effect and prohibit the train or engine or on-track equipment from entering working limits until permission is received by the roadway worker in charge. Such working limits shall be

delineated with stop signs (flags), and where speeds are in excess of restricted speed and physical characteristics permit, also with advance signs (flags).

* * * * *

21. Amend § 214.329 by revising paragraph (a), to read as follows:

§ 214.329 Train approach warning provided by watchmen/lookouts.

* * * * *

(a) Train approach warning shall be given in sufficient time to enable each roadway worker to move to and occupy a previously arranged place of safety not less than 15 seconds before a train moving at the maximum authorized speed on that track can pass the location of the roadway worker. The place of safety to be occupied upon the approach of a train may not be on a track, unless working limits are established on that track.

* * * * *

22. In § 214.331, add paragraph (e) to read as follows:

§ 214.331 Definite train location.

* * * * *

(e) Each on-track safety program that provides for the use of definite train location shall discontinue such use by [INSERT DATE 365 DAYS FROM THE DATE OF PUBLICATION IN THE FEDERAL REGISTER].

23. Revise § 214.333(c) to read as follows:

§ 214.333 Informational line-ups of trains.

* * * * *

(c) Each on-track safety program that provides for the use of informational line-ups shall discontinue such use by [INSERT DATE 365 DAYS FROM THE DATE OF PUBLICATION IN THE FEDERAL REGISTER].

24. Revise § 214.335 to read as follows:

§ 214.335 On-track safety procedures for roadway work groups, general.

(a) No employer subject to the provisions of this part shall require or permit a roadway worker who is a member of a roadway work group to foul a track unless on-track safety is provided by either working limits, train approach warning, or definite train location in accordance with the applicable provisions of §§ 214.319, 214.321, 214.323, 214.325, 214.327, 214.329, 214.331 or 214.336.

(b) No roadway worker who is a member of a roadway work group shall foul a track without having been informed by the roadway worker in charge of the roadway work group that on-track safety is provided.

25. In § 214.337, revise paragraph (c)(3) and add paragraph (g) to read as follows:

§ 214.337 On-track safety procedures for lone workers.

* * * * *

(c) * * *

(3) On track outside the limits of a manual interlocking, a controlled point (except those consisting of signals only), or a remotely controlled hump yard facility.

* * * * *

(g) Individual train detection shall not be used to provide on-track safety for a lone worker using a roadway maintenance machine, equipment, or material that cannot be readily removed by hand.

26. Revise § 214.339 to read as follows:

§ 214.339 Audible warning from trains.

(a) Each railroad shall have in effect and comply with written procedures that prescribe effective requirements for audible warning by horn and/or bell for trains and locomotives approaching any roadway workers or roadway maintenance machines that are either on the track on which the movement is occurring, or about the track if the roadway workers or roadway maintenance machines are at risk of fouling the track. At a minimum, such written procedures shall address:

(1) Initial horn warning;

(2) Subsequent warning(s); and

(3) Alternative warnings in areas where sounding the horn adversely affects roadway workers (e.g., in tunnels and terminals).

(b) Such audible warning shall not substitute for on-track safety procedures prescribed in this part.

27. Revise § 214.343(c) to read as follows:

§ 214.343 Training and qualification, general.

* * * * *

(c) Except as provided for in § 214.353, railroad employees other than roadway workers, who are associated with on-track safety procedures, and whose primary duties are concerned with the movement and protection of trains, shall be trained to perform

their functions related to on-track safety through the training and qualification procedures prescribed by the operating railroad for the primary position of the employee, including maintenance of records and frequency of training.

* * * * *

28. In § 214.345, revise the undesignated introductory text and add paragraph (f) to read as follows:

§ 214.345 Training for all roadway workers.

Consistent with § 214.343(b), the training of all roadway workers shall include, as a minimum, the following:

* * * * *

(f) Instruction on railroad safety rules adopted to comply with § 214.317(b).

29. In § 214.347, add paragraph (a)(5) and revise paragraph (b) to read as follows:

§ 214.347 Training and qualification for lone workers.

* * * * *

(a) * * *

(5) Alternative means to access the information in a railroad's on-track safety manual when a lone worker's duties make it impracticable for the on-track safety manual to be readily available.

(b) Initial and periodic (as specified by § 243.201 of this chapter) qualification of a lone worker shall be evidenced by demonstrated proficiency.

30. Revise § 214.349(b) to read as follows:

§ 214.349 Training and qualification of watchmen/lookouts.

* * * * *

(b) Initial and periodic (as specified by § 243.201 of this chapter) qualification of a watchman/lookout shall be evidenced by demonstrated proficiency.

31. Revise § 214.351(b) to read as follows:

§ 214.351 Training and qualification of flagmen.

* * * * *

(b) Initial and periodic (as specified by § 243.201 of this chapter) qualification of a flagman shall be evidenced by demonstrated proficiency.

32. In § 214.353, revise the introductory text of paragraph (a), paragraphs (a)(1) and (b), and add paragraph (a)(5) to read as follows:

§ 214.353 Training and qualification of each roadway worker in charge.

(a) The training and qualification of each roadway worker in charge, or any other employee acting as a roadway worker in charge (e.g., a conductor or a brakeman), who provides for the on-track safety of roadway workers through establishment of working limits or the assignment and supervision of watchmen/lookouts or flagmen shall include, at a minimum:

(1) All the on-track safety training and qualification required of the roadway workers to be supervised and protected, including the railroad's procedures governing good faith challenges in §§ 214.311(b)-(c) and 214.313(d).

* * * * *

(5) The procedures required to ensure that the roadway worker in charge of the on-track safety a group(s) of roadway workers remains immediately accessible and

available to all roadway workers being protected under the working limits or other provisions of on-track safety established by the roadway worker in charge.

(b) Initial and periodic (as specified by § 243.201 of this chapter) qualification of a roadway worker in charge shall be evidenced by demonstrated proficiency.

33. Revise § 214.355(b) to read as follows:

§ 214.355 Training and qualification of each roadway worker in on-track safety for operators of roadway maintenance machines.

* * * * *

(b) Initial and periodic (as specified by § 243.201 of this chapter) qualification of a roadway worker to operate roadway maintenance machines shall be evidenced by demonstrated proficiency.

34. In Appendix A to part 214, revise the entries under subpart C to read as follows:

APPENDIX A TO PART 214—SCHEDULE OF CIVIL PENALTIES [(1)]

Section [2]	Violation	Willful Violation
* * * * *		
Subpart C—Roadway Worker Protection Rule		
* * * * *		
214.303 Railroad on-track safety programs, generally:		
* * * * *		
(b) Failure of a railroad to include and use internal monitoring procedure……..	5,000	10,000
214.307 On-track safety programs:		
(a)(i) Failure to adopt On-Track Safety Program……	10,000	13,000
(ii) Failure to provide On-track Safety Program to FRA upon request……..	1,000	5,000
(b) Failure to notify FRA of adoption or change to On-Track Safety Program……..	1,000	5,000
(c) Failure to amend or provide written response after disapproval of On-track Safety Program……..	10,000	20,000

214.309 On-track safety manual:		
(a) On-track Safety Manual not provided to prescribed employees…….	2,000	5,000
(b) Failure to establish provision for lone worker to have alternative access to On-track Safety Manual……...	5,000	10,000
(c) Failure to maintain entire set of on-track safety rules and instructions, including updates temporarily published in bulletins or notices, in one On-Track Safety Manual…….....	2,000	5,000
* * * * *		
214.315 Supervision and communication:		
(a)(1)Complete failure of employer to provide on-track safety job briefing …….	5,000	10,000
(2)-(5) Partial failure of employer to provide on-track safety job briefing ……...	2,000	4,000
* * * * *		
214.317 On-track safety procedures, generally:		
(a) On-track safety rules conflict with this part ……	5,000	10,000
(b) Failure to adopt or comply with rules governing safe crossing of track……...	2,000	5,000
(3) Failure to establish on-track safety if required……..	2,000	5,000
(c)(1) Failure to adopt or comply with operating procedure if this section is utilized in lieu of establishing working limits……	3,000	5,000
(2) Failure to grant absolute right to establish working limits if requested by RWIC or lone worker……...	3,000	5,000
(3) Except as permitted, roadway worker fouling track without on-track safety…….....	3,000	5,000
(4) Roadway maintenance machine not properly equipped or utilized……..	3,000	5,000
(d)(1) Failure to inspect tunnel niche or clearing bay…….	3,000	5,000
(2) Lack of adequate sight distance……...	3,000	5,000
(3) Failure to grant absolute right to establish other place of safety or to establish working limits if requested by RWIC or lone worker……...	5,000	10,000
214.318 Locomotive servicing and car shop repair track areas:		
(a)-(c)……..	3,000	5,000
214.319 Working limits, generally		
(a)(1)Non-qualified RWIC of working limits……	5,000	10,000
(a)(2) More than one RWIC of working limits on the same track segment……	2,000	5,000
(a)(3)(i) Working limits released without notifying all affected roadway workers……...	5,000	10,000
(a)(3)(ii) Working limits released before all affected roadway	5,000	10,000

workers are otherwise protected……...	5,000	10,000
(b)(1) Failure to adopt redundant protections in on-track safety program……..		
(b)(2) Failure to comply with redundant protections identified in on-track safety program when controlled track working limits are established…….	5,000	10,000
214.320 Roadway maintenance machine movements over signalized non-controlled track……..	5,000	7,500
214.321 Exclusive track occupancy:		
* * * * *		
(b) * * *		
(4) (i) Failure to specify unique roadway work group number, employee name, or unique identifier…….	3,000	5,000
(ii) Failure to adopt procedure requiring precise communication between RWIC or lone worker and trains or other on-track equipment…….	3,000	5,000
(d) * * *		
(e)(1)-(4) Failure to comply with occupancy behind requirements……	5,000	10,000
214.322 Exclusive track occupancy, electronic display:		
(a) Contents of authority electronically displayed not readily viewable……	3,000	5,000
(b) Failure to timely obtain written/printed authority or occupy place of safety if electronic display fails while authority is in effect…...	3,000	5,000
(c)-(h)……..	2,000	4,000
214.323 Foul time:		
* * * * *		
(c) Train dispatcher or control operator permitting movement of trains or other on-track equipment into working limits prior to RWIC reporting clear of track……..	5,000	10,000
(d) RWIC permitting movement of trains or on-track equipment into or within working limits……	5,000	10,000
* * * * *		
214.329 Train approach warning provided by watchmen/lookouts:		
(a)(i) Failure to give timely warning of approaching train……	5,000	10,000
(ii) Failure to use maximum authorized speed in formulating sight distance…….	3,000	5,000
(iii) Use of another track as a place of safety without		

establishing working limits on that track……	3,000	5,000
* * * * *		
214.331 Definite train location:		
* * * * *		
(e) Failure to discontinue use of definite train location by required date……..	9,500	13,000
* * * * *		
214.337 On-track safety procedures for lone workers:		
* * * * *		
(g) Use of individual train detection while using machine, equipment, or material that cannot be readily removed by hand……..	2,000	4,000
214.339 Audible warning from trains:		
(a)-(b) Failure to adopt or comply with audible warning procedures.....	2,000	4,000
* * * * *		
214.353 Training and qualification of roadway workers in charge……..	2,000	4,000
* * * * *		

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Sarah E. Feinberg,
Administrator.