

Federal Railroad Administration



Track and Rail and Infrastructure Integrity Compliance Manual

**Volume III Railroad Workplace Safety
Chapter 3 Roadway Worker Protection**

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March 2018 Release Note (Volume III, Chapter 3):

- This release contains up-to-date guidance for implementing the Roadway Worker Protection (RWP) rule revised as of October 1, 2017.
- All technical bulletins regarding RWP dated before March 1, 2018 are deemed to be superseded by this guidance.

Text in italic font of this manual is regulatory language, whereas indented paragraphs provide field guidance for FRA inspectors. Indented paragraphs are not to be construed as regulatory language in any manner.

CHAPTER 3 Roadway Worker Protection

Introduction

This chapter is based upon the Final Rule on Railroad Roadway Worker Protection issued by FRA on December 16, 1996, the Final Rule on On-track Safety for Certain Roadway Work Groups and Adjacent Tracks issued by FRA on November 30, 2011, the Amended Final Rule issued by FRA on January 10, 2014, and the Final Rule on Railroad Workplace Safety; Roadway Worker Protection Miscellaneous Revisions issued by FRA on June 10, 2016.

The Roadway Worker Protection Rule is issued by FRA as Subpart C to 49 CFR Part 214 – Railroad Workplace Safety. Subpart A of that part contains the general provisions and definitions, and Subpart B is the Bridge Worker Safety Rule. This chapter addresses all of Subpart C and relevant parts of Subpart A.

It will be necessary for inspectors and specialists to understand the rule and its application. This document is therefore intended to fill this need.

Summary

The Roadway Worker Protection Rule requires railroads and contractors to railroads to devise and adopt procedures to protect their roadway worker employees from being struck by trains and other on-track machinery. The Rule also requires roadway workers to follow the on-track safety procedures in order to protect themselves and others dependent upon them. Each railroad employer is required to have in place an on-track safety program, including rules, procedures, training, and equipment, to be used for the protection of roadway workers.

Principles

The Rule is based upon a few very elemental principles:

1. A person who is not fouling a track will not be struck by a train.
2. A person who is fouling a track upon which a train will not move will not be struck by a train.
3. No person should foul a track unless that person:
 - a. knows that no train will arrive, or
 - b. will be able to move to a place of safety before a train arrives.
4. Each roadway worker bears the ultimate responsibility for his or her own on-track safety.
5. Each employer is responsible for providing the means for achieving on-track safety to each roadway worker employee.

Railroad On-track Safety Programs

Each railroad is required to adopt and implement a program that will afford on-track safety to all roadway workers performing duties on that railroad. FRA review and approval is not required prior to implementation of the program, but the railroad is responsible for having a complying plan regardless of FRA review.

Every railroad on-track safety program should include the following components:

1. Documentation.
 - a. Operating rules.

- b. Safety rules.
 - c. Established procedures.
 - d. Required records.
2. Training.
 3. Communication.
 4. Action.
 5. Internal monitoring.

The regulation requires each of these components. Each railroad has considerable latitude in the implementation of the components, within the requirements of the regulation. The intent of the regulation is to have each railroad cover the required points and adapt them to the operating situation of the railroad. Certain points should be noted when reviewing a railroad's on-track safety program, which are discussed in the following paragraphs.

Documentation of On-Track Safety Programs

The Paperwork Reduction Act of 1995 requires that the documentation requirements of any regulation must be kept to the absolute minimum necessary to accomplish the objective of the regulation. The documentation requirements of this regulation are considered to be necessary for a railroad or an employer to properly perform the duties which the regulation requires.

The Advisory Committee (the forerunner of Railroad Safety Advisory Committee) agreed on a fundamental principle with respect to operating rules, safety rules, and established procedures, which is reflected in the regulation. That principle calls for a roadway worker to have one well-known, accessible reference for all the information needed to work according to the railroad's on-track safety program. A roadway worker should be able to turn to one location in one book to access all on-track rules and procedures.

That does not mean that all the material must be found in that section of the book. Certain operating rules, special instructions, timetables, and similar documents will necessarily be published in separate documents. The on-track safety manual should have clear references to those documents wherever they have a bearing on on-track safety procedures. The manner in which they impact on-track safety procedures should also be clearly stated.

The program documents must include the procedure by which the employer will resolve challenges of on-track safety procedures made by employees under 214.311 and 214.313.

The regulation requires that certain actions and items of information be recorded. A checklist follows:

§ 214.309 - On-track safety manual. This is the fundamental document discussed above.

§ 214.321 - Exclusive track occupancy.

§ 214.321(b)(1) and (b)(2) - Written authority for track occupancy held by roadway worker in charge of working limits.

§ 214.321(b)(3) - Written record of authority for track occupancy maintained by train dispatcher or control operator.

§ 214.321(e)(3) and (e)(5) - Record of train passed on Authority Behind a Train.

§ 214.335(f) - Statement of On-track Safety prepared by each lone worker before fouling a track.

§ 214.341 - Records of training and qualification of all employees designated as roadway workers.

Section by Section Guidance for the Roadway Worker Protection Rule

§ 214.301 Purpose and scope.

- (a) *The purpose of this subpart is to prevent accidents and casualties caused by moving railroad cars, locomotives or roadway maintenance machines striking roadway workers or roadway maintenance machines.*
- (b) *This subpart prescribes minimum safety standards for roadway workers. Each railroad and railroad contractor may prescribe additional or more stringent operating rules, safety rules, and other special instructions that are consistent with this subpart.*
- (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.*

Guidance. Section 214.301 states the purpose for the minimum standards required under this subpart is to protect roadway workers. Railroads can adopt more stringent standards as long as they are in accordance with this subpart.

Paragraph (c) defines the scope of the rule as applying to the protection of individual roadway workers from being struck by roadway maintenance machines, but not applying to the manner in which roadway maintenance machines are protected from trains and other roadway maintenance machines by the operating rules of a railroad, except as provided for in § 214.320. *Section 214.320 pertains to 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 appears below in the guidance to § 214.320.*

§ 214.303 Railroad on-track safety programs, generally.

- (a) *Each railroad to which this part applies shall adopt and implement a program that will afford on-track safety to all roadway workers whose duties are performed on that railroad. Each such program shall provide for the levels of protection specified in this subpart.*
- (b) *Each on-track safety program adopted to comply with this part shall include procedures to be used by each railroad for monitoring effectiveness of and compliance with the program.*

Guidance. Section 214.303 gives the general requirement that railroads shall adopt and implement their own program for on-track safety, which meets Federal minimum standards. Rather than implement a “command and control” rule, FRA decided to establish the parameters for such a program and defer to the expertise of each individual railroad to adopt a suitable on-track safety program for their railroad in accordance with these parameters. FRA felt that establishing an internal monitoring process to determine compliance and effectiveness would be a necessary component of any On-Track Safety Program. Consequently, each railroad must incorporate an internal monitoring process as a component of its individual program. This component of a railroads program must specify, or reference, the specific procedures that will be implemented to monitor the effectiveness and compliance of the program. If a railroad fails to implement and enforce this component, that may be a violation under §214.311(a). It should

be noted that this internal monitoring will not replace FRA's inspection and monitoring efforts for compliance with this subpart.

§ 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.*

Guidance. In paragraph (a), railroads are reminded that they must maintain and have in effect an on-track safety program which complies with the requirements of subpart C. New railroads must have an on-track safety program in effect by the date on which operations commence. FRA has designated the system and division headquarters as the locations where a railroad's program must be available to FRA for inspection and copying during normal business hours. Further a railroad may retain its program by electronic recordkeeping in accordance with §§ 217.9(g) and 217.11(c).

FRA has eliminated the required formal review process for each new program and each amendment to existing FRA-approved programs. Specifically, FRA amended 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, have been established and approved by FRA for many years.

In paragraph (b), FRA has retained the advance notification requirement regarding adoption of a new program or amendments to a railroad's existing program. In the event that there are safety or compliance concerns implicated, FRA has determined that it should continue to have advance notice in order to review a new on-track safety program (or a railroad's amendments to a program). In this respect, there is no change to § 214.307's notification requirement prior to April 1, 2017. However, FRA is alleviating burden by eliminating a required formal review process for each new program submitted to FRA and for each amendment to a program. Rather, those programs only have to be made available to FRA upon request in the event FRA wishes to review a program or an amendment to a program.

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.

In emergency conditions, FRA may as a matter of policy, waive the one month advanced notification requirement for subsequent changes to a railroad's RWP procedures and permit implementation of the change on shorter notice. In such cases, the FRA Headquarter Specialist or his designee will review the procedure modification to ensure that the need for relief from the one-month advance notification is warranted.

FRA no longer references the compliance dates in § 214.305, because those dates are obsolete and the June 10, 2016 final rule deleted § 214.305. Given the deletion of § 214.305, FRA amended 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.

Contractors will be required to conform to the on-track safety programs on the railroads upon which they are working. Contractors whose employees are working under a railroad's approved on-track safety program need not submit a separate notification to FRA regarding the adoption of an on-track safety program.

Some contractors operate highly specialized equipment on various railroads on a regular basis. That equipment might require special methods to provide on-track safety for railroad and contractor employees. Such a special method will require a clear and reasonable way to mesh with the on-track safety programs of the railroads upon which the equipment is operated.

Paragraph (c) mirrors provisions that FRA recently adopted elsewhere in the Federal railroad safety regulations (See 49 CFR 220.313). The FRA Associate Administrator for Railroad Safety/Chief Safety Officer may disapprove a program for cause stated, and a railroad would be required to respond within 35 days by either amending its program and submitting the proposed amendments for approval, or by providing a written response in support of its program. FRA's Associate Administrator for Railroad Safety/Chief Safety Officer would subsequently render a decision in writing either approving or disapproving the program, and FRA would consider a failure to submit an amended program or provide a written response as required by the section to be a failure to implement a program under this Part.

§ 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.*

Guidance. Section 214.309 incorporates the term “on-track safety manual” as defined in 214.7. Paragraph (a) of this section utilizes the newly-defined term “on-track safety manual,” and includes the former text of § 214.309, which specifies the type of on-track safety manual each railroad must have. FRA clearly requires lone workers as well as RWICs responsible for the on-track safety of others to have and maintain a copy of the on-track safety manual.

Per the definition of an “on-track safety manual,” the railroad must have all on-track safety rules in one place, easily accessible to roadway workers. This provision is intended to provide the roadway worker with a single resource to consult for on-track safety, to avoid fragmentation of the rules and the ultimate dilution of their vital message.

The regulation does not specify how a railroad is to provide one manual encompassing the necessary information and make it readily available. FRA also does not intend that all related operating rules, timetables or special instructions must be reproduced in this manual; however, all rules and operating procedures governing track occupancy protection should be included. Any related publications or documents should be cross-referenced in the On-Track Safety Manual and provided to employees whose duties require them.

The procedures governing the good faith challenge is a subset of this information as these procedures govern any challenges to be made to track occupancy and protection. Thus, the rules associated with the good faith challenge found in §214.311(c) and §214.313(d) are considered to be part of the rule and should be contained in the document with the on-track safety manual. Roadway workers need this resource at the work site in order to execute a challenge should one arise. This resource can take the form of:

- One document containing on-track safety procedures, good faith challenge, and on-track safety operating rules (absent operating rules not pertaining to on-track safety); or
- A binder system containing all operating rules/special instructions and on-track safety operating rules. The on-track safety procedures and good faith challenge can be a section or tab of this resource.
- If a railroad decides to use a portable computer or other electronic device as a single “manual” to keep rules and operating procedures governing track occupancy and protection, in accordance with this rule, the device must be readily accessible, updated, and include any related publications and operating rules referenced in the On-Track Safety Manual. In addition, it is expected that the roadway worker in charge be familiar with the use of the electronic device and able to easily locate, for reference, any documentation associated with the “manual.”

For members of a roadway work group, the manual must be at the work site available for reference by all roadway workers. Many roadway workers will not be responsible for providing protection for themselves or others, but still must comply with the rules. All employees have a responsibility to remain at a safe distance from the track unless they are assured that adequate protection is provided. Although not responsible for providing protection for others, they must be familiar with the rules to determine whether adequate protection is provided and have the rules readily available if it is necessary to consult them.

Section 214.309 establishes the responsibility of the employer to provide the on-track safety manual to all employees who are responsible for the on-track safety of others, and those who are responsible for their own on-track safety as lone workers. Roadway workers who provide on-track safety for others must have the manual at the work site for easy reference. FRA recognizes that the on-track safety manual may be of various sizes. As such, “readily available” at the work site for a roadway workgroup would include having the manual in a vehicle, roadway maintenance machine, with the roadway worker who provides on-track safety, or on an electronic device, etc.

Lone workers must also have this manual easily available to them, including track inspectors or signal maintainers who may be walking track. FRA does not intend that an individual should have this manual on his or her person while performing work, but to have the appropriate sections available and readily accessible to all roadway workers at the work site. Readily available for a lone worker means the document may be on their person, in a vehicle, yard office, workshop, etc. FRA recognizes that unlike a member of a roadway work group, the lone worker may simply step clear of the track if he has doubt or is unsure of the adequacy of his on-track safety. However, the on-track safety manual must still be accessible to him/her and that he has the opportunity to retrieve it or the information as described below.

Paragraph (b) addresses the difficulty a lone worker, such as a signal maintainer or a walking track inspector, might experience carrying a large on-track safety manual. A railroad must provide an alternate process for a lone worker to obtain on-track safety information. 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. The rule text refers to situations where it is “impracticable for the on-track safety manual to be readily available” to a lone worker. Related to the “alternative access” provision of paragraph (b), FRA also requires 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).

Railroads issue changes to on-track safety programs by the use of bulletins and notices. The changes can be in effect for a considerable period of time before being incorporated into the on-track safety field manual. All changes to on-track safety procedures and rules governing track occupancy must be made a part of the on-track safety manual and readily available to roadway workers, as soon as they are effective. 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. FRA expects that any changes to the on-track safety program carried on bulletin or general orders would be permanently included in new printings of the manual. However, 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.

An employer, such as a contractor, whose roadway workers work on another employer’s railroad, will usually adopt and issue the on-track safety manual of that railroad for use by their employees. It will be the employer’s responsibility to provide the manual to its employees who are required to have it and to know that each of its employees is knowledgeable about its contents.

§ 214.311 Responsibility of employers.

- (a) *Each employer is responsible for the understanding and compliance by its employees with its rules and the requirements of this part.*

- (b) Each employer shall guarantee each employee the absolute right to challenge in good faith whether the on-track safety procedures to be applied at the job location comply with the rules of the operating railroad, and to remain clear of the track until the challenge is resolved.*
- (c) Each employer shall have in place a written procedure to achieve prompt and equitable resolution of challenges made in accordance with §§ 214.311(b) and 214.313(d).*

Guidance. Section 214.311 addresses the employer's responsibility in this rule. This section applies to all employers of roadway workers. Employers may be railroads, contractors to railroads, or railroads whose employees are working on other railroads. Although most on-track safety programs will be implemented by railroads rather than contractors, the employer is responsible to its employees to provide them with the means of achieving on-track safety.

Railroads are specifically required by § 214.303 to implement their own on-track safety programs. Section 214.311 however, places responsibility with all employers (whether they are railroads or contractors) to see that employees are trained and supervised to work with the on-track safety rules in effect at the work site. The actual training and supervision of contractor employees might be undertaken by the operating railroad, but the responsibility to see that it is done rests with the employer.

The guarantee required in paragraph (b) of an employee's absolute right to challenge on-track safety rules compliance will be a required part of each railroad's on-track safety program, as will be the process for resolution of such challenges. On-track safety depends upon the faithful and intelligent discharge of duty by all persons who protect or are protected by it. Any roadway worker who is in doubt concerning the on-track safety provisions being applied at the job location should resolve that uncertainty immediately.

The term "at the job location" is not meant to restrict who can raise an issue or where an issue can be raised. Rather, the challenge must address the on-track safety procedures being applied at a particular job location.

A fundamental principle of on-track safety is that a roadway worker who is not entirely certain that it is safe to be on the track should not be there. A discrepancy might be critical to the safety of others, and the first roadway worker who detects it should take the necessary action to provide for the safety of all.

The Advisory Committee used the term "No-Fault Right" in its report to describe the absolute right of each employee to challenge, without censure, punishment, harm, or loss, the on-track safety compliance expressed in paragraph (b) of this section. A challenge must be made in good faith in order to fall within the purview of this rule. A good faith challenge would trigger the resolution process called for in paragraph (c).

The initiation of a challenge by one or more roadway workers in a work group regarding the on-track safety procedures provided may not necessitate all of the workers in the group clearing the track. Although a fundamental principle of on-track safety is that any roadway worker who is not entirely certain that it is safe to be on the track should not be there, the rule does not require that all roadway workers clear the track whenever a challenge is made. They have the right to do so, but the Roadway Worker in Charge (RWIC) is not specifically obligated to shut down the work while the challenge is resolved. However, if the challenge is found valid, and if the RWIC has improperly placed persons in a hazardous situation after having been notified of the error, the RWIC or the employer may be in violation of §§ 214.311 and/or 214.313.

The written process to resolve challenges found in paragraph (c) is intended to provide a prompt and equitable resolution of these concerns. This is necessary in order that any

problems that arise regarding on-track safety should be resolved and that any possible lapses in safety are quickly corrected.

The resolution process should include provisions to permit determination by all parties as to the safe, effective application of the on-track safety rule(s) being challenged at the lowest level possible, and for successive levels of review in the event of inability to resolve a concern at lower levels. FRA believes it best for employers, consulting with employees and their representatives where applicable, to write effective processes to accomplish these objectives.

A railroad's on-track safety program may be reviewed and approved in accordance with § 214.307(b). FRA may elect to review a program and determine if the written processes afford a prompt and equitable resolution to concerns asserted in good faith and their effectiveness in promoting the intelligent, reasoned application of the on-track safety principles.

§ 214.313 Responsibility of individual roadway workers.

- (a) *Each roadway worker is responsible for following the on-track safety rules of the railroad upon which the roadway worker is located.*
- (b) *A roadway worker shall not foul a track except when necessary for the performance of duty.*
- (c) *Each roadway worker is responsible to ascertain that on-track safety is being provided before fouling a track.*
- (d) *Each roadway worker may refuse any directive to violate an on-track safety rule, and shall inform the employer in accordance with § 214.311 whenever the roadway worker makes a good faith determination that on-track safety provisions to be applied at the job location do not comply with the rules of the operating railroad.*

Guidance. Section 214.313 addresses the individual responsibility of each roadway worker. Note that since the employer is responsible for the actions of their employee, the individual employee, the employer, or both may be held liable for failure to comply with this section. Each roadway worker has a responsibility to comply with this subpart which is enforceable under the provisions of individual liability. Paragraph (a) requires that each roadway worker follow the railroad's on-track safety rules. Paragraph (b) prohibits roadway workers from fouling a track unnecessarily. It is FRA's opinion, as well as that of the Advisory Committee, that roadway workers should under no circumstances foul a track unless it is necessary to accomplish their duties.

A reference to the definition of fouling a track is useful to understand when protection is required. Fouling a track describes the circumstance in which a person is in danger of being struck by a moving train.

Under paragraphs (c) and (d), each roadway worker has the responsibility to know that on-track safety is being provided before actually fouling a track, and to remain clear of the track and inform the employer when the required level of protection is not provided. If a roadway worker is not sure that sufficient on-track safety is being provided, he or she can satisfy paragraph (c) by simply not fouling the track.

It is a roadway worker's responsibility to advise the employer of exceptions taken to the application of a railroad's rules, or provisions of this subpart, in accordance with paragraph (d). Employees must approach this responsibility in good faith. Essentially an employee must have honest concerns whether the on-track safety procedures being used provide the necessary level of safety in accordance with the rules of the operating railroad. Furthermore, employees must be able to articulate those concerns in order to invoke the resolution process of the railroad. Initiating an action under the resolution process, absent a good faith concern

regarding the on-track safety procedures being applied, would not be in compliance with this subpart.

§ 214.315 Supervision and communication.

- (a) *When an employer assigns a duty to a roadway worker that calls for that employee to foul a track, the employer shall provide the employee with an on-track safety job briefing that, at a minimum, includes the following:*
- (1) *Information on the means by which on-track safety is to be provided for each track identified to be fouled;*
 - (2) *Instruction on each on-track safety procedure to be followed;*
 - (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. The designated person shall be qualified under the rules of the railroad that conducts train operations on those tracks to provide the protection necessary for on-track safety of each individual in the group. The responsible person may be designated generally, or specifically for a particular work situation.*
- (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. Each roadway worker shall again be so informed at any time the on-track safety procedures change during the work period. Such information shall be given to all roadway workers affected before the change is effective, except in cases of emergency. Any roadway workers who, because of an emergency, cannot be notified in advance shall be immediately warned to leave the fouling space and shall not return to the fouling space until on-track safety is re-established.*
- (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. When communication channels are disabled, the job briefing shall be conducted as soon as possible after the beginning of the work period when communications are restored.*

Guidance. Section 214.315 details supervision and communication of on-track safety methods prior to fouling track. Employees must be notified and acknowledge understanding of the on-track safety methods they are to use, prior to commencing duties on or near the track.

Paragraphs (a) and (b) establish the duty of notification by the employer and the reciprocal duty of communicating acknowledgment by the employee. These sections essentially require a job briefing to inform all concerned of on-track safety methods at the beginning of each work

period. The acknowledgment is an indication by the employee of understanding, or the opportunity to request explanation of any issues that are not understood.

Given the importance of an on-track safety job briefing to roadway workers' understanding of the nature of the work that they will be conducting and the conditions under which they will conduct it, the existing requirements in § 214.315 to hold a job briefing "when an employer assigns duties to a roadway worker that call for that employee to foul a track" have been expanded. Section 214.315(a)(3) requires that on-track safety job briefings address information about any adjacent tracks (two or more tracks with track centers spaced less than 25' apart), any on-track safety for such adjacent tracks that is required or is deemed necessary by the roadway worker in charge (see § 214.336(d)), and identification of any roadway maintenance machines that will foul adjacent tracks (see § 214.336(f)).

This provision was not intended to require a discussion about the on-track safety for an adjacent track unless on-track safety was required on that track by Part 214. The language concerning the discretion of the roadway worker in charge, "if required by this subpart or deemed necessary by the roadway worker in charge," makes clear that the roadway worker in charge is permitted to establish on-track safety on an adjacent track, regardless of whether it was controlled or non-controlled, if on-track safety is reasonably necessary given the nature of the work that was to be performed. Recognize that this section requires the on-track safety job briefing to include information concerning any "adjacent tracks" (two or more tracks with track centers spaced less than 25' apart), whether controlled or non-controlled.

Paragraph (a)(4) requires the on-track safety job briefing provided always address the nature of the work to be performed and the characteristics of the work location to ensure compliance with this subpart. This is a mandatory requirement for all on-track safety job briefings, regardless of whether an adjacent track is present.

Paragraph (a)(5) requires job briefings to include information regarding the accessibility of the roadway worker in charge (RWIC) to individual roadway workers and alternative procedures if the RWIC is not accessible to members of the roadway work group. An employer "must" 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.

Note: This section lists only the minimum items that would have to be discussed in an on-track safety briefing.

Paragraph (b) requires that the RWIC secure acknowledgment of the roadway worker(s) understanding of the job briefing prior to considering the briefing completed. This requirement can be satisfied in different ways. Some railroads require the signature of every member of the roadway work group on an on-track safety briefing form, while others may simply ask questions concerning specifics covered in the briefing to assess understanding. FRA will consider either method as an appropriate means of securing acknowledgment. However, simply requiring roadway workers to sign the on-track safety briefing form without holding the briefing or querying the roadway work group with "do you understand" questions does not satisfy the requirements of this part.

Paragraph (c) requires that an employer designate at least one roadway worker to provide on-track safety while a group is working together. This designation can either be for a specific job or for a particular work situation. This section is vital to the success of any on-track safety program because the mere presence of two or more persons together can be distracting for all persons involved. FRA believes that awareness will be enhanced and confusion limited by requiring railroads to formally designate a responsible person. This designation must be clearly understood by all group members in order to be effective. An individual, such as a foreman,

may generally be designated to be responsible for his or her group, but if two groups are working together or roadway workers of different crafts are assisting one another, it is imperative that this formal designation be communicated to and understood by all affected employees.

Usually, the RWIC will provide the briefing to a roadway work group. However, it is acceptable for other responsible employees to provide this briefing in situations where a roadway work group may be located along a considerable distance such as a large scale mechanized production activity.

Given the duties of the RWIC, it is important that he or she coordinate all on-track safety activities at a work site. This responsibility is an essential element of on-track safety especially when working limits are established and there are activities occurring such as train or on-track equipment movements within the working limits.

A 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. 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.

FRA has received questions as to whether it is permissible for an RWIC to establish on-track safety for a roadway work group and then to leave the work group to perform some other function, e.g., track inspection, but still remain in contact (readily accessible) to the roadway work group. The intent of the above paragraph is to permit the RWIC to leave one location to perform some other function associated with the same task as the roadway work groups task for which he/she is providing on-track safety. Thus, it is not permissible for the RWIC to perform some other work function not related to the task for which he provides on-track safety – even if he is immediately accessible to members of the roadway work group.

Paragraph (d) explains the duties of the RWIC. Before roadway workers foul a track, the RWIC must inform each roadway worker in the group of the on-track safety methods to be used at that time and location. Essentially, the RWIC must conduct an on-track safety briefing prior to the beginning of work on or near the track. This briefing might also fulfill the requirements of paragraph (a) of this section.

When determining if a job briefing satisfies the requirements of paragraphs (a) and/or paragraph (d) of § 214.315, FRA considers the content of the briefing, who participated in the briefing, and who provided the briefing. If a single briefing meets all elements of both paragraphs (a) and (d), that single briefing satisfies the requirements of both paragraphs. Specifically, if a job briefing compliant with paragraph (a) is performed (i.e., the briefing includes all the information required by paragraphs (a)(1) through (a)(5)) and the “roadway worker in charge” (or, prior to April 1, 2017, the “roadway worker designated by the employer to provide on-track safety for all members of the group under paragraph (c)”) either gives the briefing or by participating in the briefing ensures all roadway work group members are informed of the on-track safety procedures to be used, that briefing would also satisfy

paragraph (d). Likewise, if a briefing is performed that complies with paragraph (d) and includes all the information listed in paragraphs (a)(1) through (a)(5), that briefing would also satisfy the job briefing requirements of paragraph (a).

Before changing on-track safety methods during a work period, the designated roadway worker must again inform the group of the new methods to be used for their safety. If, for example, roadway workers are working on a track within working limits and the on-track safety method changes to train approach warning, all roadway workers fouling the track must first be informed that trains might approach on that track and that they will be warned of the approaching train by watchmen/lookouts. They must also know that they can no longer depend on that track as a place of safety when a train approaches.

This provision also establishes methods to be used in the face of unforeseen circumstances. In these emergency situations, where notification of a change in methods cannot be accomplished, an immediate warning to leave the fouling space and not return until on-track safety is reestablished is required.

For example, group B has asked and been given permission by the initial RWIC of group A to use their working limits to foul the track. Sharing the working limits would normally require a person with the qualification under §214.353 for group B, depending upon the type of work being performed. This would not be considered overlapping working limits, but group B would conduct its work within Group A RWIC's working limits. Group A, if affected, would receive a second job briefing prior to giving group B permission to occupy the same working limits. Should a member of group B be asked to perform a duty such as a watchman/lookout, that individual would need to be qualified to perform that function. However, if Group B simply became a member of Group A with all work falling under the control of the RWIC of Group A, Group B would not need a person qualified under § 214.353.

It is also important to remember that only one RWIC can control working limits (214.319(a)(2)). In this scenario, it would be RWIC of group A. Should group B require additional on-track safety above and beyond that afforded by the RWIC controlling the working limits (group A), an equally qualified worker must be present with that group to provide any additional or changed on-track safety. For example, group B needs to foul an adjacent track not included in group A's working limits.

Prior to the RWIC who controls the working limits (group A) permitting trains and other OTE into the limits, all effected workers must be notified. For example, if the RWIC holding the working limits (group A) directs a train or OTE to move into their limits, he or she may ask group B to provide their own on-track safety in the form of train approach warning or flagman (if the work is to continue). If group B does not have a worker qualified to perform flagging or watchman/lookout duties, all workers must vacate the track. If an individual is qualified to act as the flagman or watchman/lookout and all workers determine during a "new" job briefing that one of these types of on-track safety is sufficient, the group can continue to work.

It is also necessary to consider the scenario where an RWIC becomes unavailable or calls upon another individual to establish additional on-track safety, such as train approach warning. Should a qualified RWIC not be available, the work group must vacate the track. In the event on-track safety conditions change, a new job briefing should be conducted before any worker continues to foul the track.

The forgoing example is based on working limits on controlled track under the provisions of exclusive track occupancy. Therefore, the RWIC of the working limits must direct all movements in accordance with §214.321(d).

Paragraph (e) addresses the lone worker. The lone worker must also have a job briefing before fouling the track. This briefing will be slightly different since the lone worker is not working under direct supervision. At the beginning of the duty period, and prior to fouling the track, the lone worker must communicate with a supervisor or another designated employee to advise of his itinerary and the planned means to protect himself. This briefing should include his geographical location, approximate period of time he is expected to be in this general locality, different locations planned for the day, and the planned method of protection. This paragraph assumes that in accordance with other sections, the lone worker is capable of determining the proper means to achieve his own on-track safety.

The benefits of a lone worker briefing include triggering the lone worker to think about his or her on-track safety, providing a means to inform the railroad where the lone worker will be located during a tour of duty, and providing information (e.g., special instruction changes, etc.) to the lone worker. The regulation does not specify the qualifications that a supervisor or other designated employee must have in order to participate in a briefing with a lone worker. Therefore, in order to ensure the benefits associated with a lone worker briefing, the supervisor or other designated employee should be familiar with railroad operations and on-track safety rules.

This paragraph also provides for emergencies in which the channels of communication are disabled. In those cases, the briefing must be conducted as soon as possible after communication is restored. An interruption in communication does not prevent the lone worker from commencing work. However, since the lone worker will not have described his itinerary and the on-track safety methods to be used in this location to another qualified employee, he must do all that is necessary to maintain the requisite awareness of his surroundings.

§ 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 that:*
 - 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 the 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 (d), or to establish working limits.*

Guidance. Section 214.317(a) refers to the sections 214.319 through 214.337 that prescribe several different types of procedures that may be used to achieve on-track safety. It requires employers to use one or more of these types of procedures whenever employees foul a track.

The definition of fouling a track includes a minimum distance limit of four feet from the field, or outer, side of the running rail nearest to the roadway worker. A person could be outside that distance and still be fouling the track under this rule if the person's expected to enter, or potential activities or surroundings could cause movement into, the space that would be occupied by a train, or if components of a moving train could extend outside the four-foot zone.

Railroad equipment is commonly 10 feet 8 inches wide. Standard track gauge is 4 feet 8-1/2 inches, but when adding the normal width of the rail, the rail spacing can be considered to be 5 feet 0 inches for the purposes of this rule. The fouling space would therefore be 13 feet wide (5+4+4 feet).

One exception to the four-foot minimum distance is found in § 214.341(c) (Roadway maintenance machines) and is discussed in the guidance for that section.

Paragraph (b) 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. Thus 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.

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. It 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.

FRA does not intend for paragraph (b) to apply to what is commonly referred to as “casual fouling.” For example, if a track inspector is conducting a track inspection on No. 1 track from a hi-rail vehicle and on-track safety is provided for on No. 1 track (e.g., by exclusive track occupancy), typically no occupancy authority exists on the adjacent No. 2 track. If the track inspector departs the hi-rail vehicle on the same side as the adjacent track, and the centerline distance is insufficient to enable the employee to remain clear of the adjacent track as the inspector walks along the hi-rail vehicle to reach the front or rear of the vehicle, such fouling of the adjacent track would not be considered a “track crossing” under paragraph (b).

As a related matter, paragraph (b) is not intended to affect how roadway workers move over highway-rail grade crossings. The movement of workers or equipment over designated public or private highway-rail grade crossings should occur in accordance with traffic laws and railroad safety rules (e.g., adherence to active and passive warning devices). Trains always have the right-of-way at highway-rail grade crossings. FRA notes that if any type of work activity, as regulated under existing Part 214, occurs at a highway-rail grade crossing, such activity would require that an appropriate form of on-track safety be established.

Paragraph (c) allows weed spraying and snow removal operations under § 214.301, with the limitations and/or conditions listed in paragraphs (c)(1) to (c)(4) of the paragraph. This provision does not allow inspection activities under the same circumstances. FRA believes allowing expansion of this exception to include inspection activities, e.g., ground penetrating radar, lidar, etc., 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 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.

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) through (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.

For 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. Note: paragraph (c) is an exception to the requirement to establish on-track safety, and FRA anticipates that in most cases 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.

Paragraph (c)(1)(ii) requires railroads adopt and comply with procedures to ensure all weed spraying and snow removal operations conducted under paragraph (c) operate at restricted speed as 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 railroads adopt and comply with procedures 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. It is not a matter that 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) – hump operations must be suspended. 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.

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).

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 or derails equipped with a switch stand without establishing a form of on-track safety under §§ 214.319

through 214.337, but may not engage in any other roadway work activity.

However, derails not operated via switch stands are not included in this exception. 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. For derails not operated by switch stand, a method of on-track safety compliant with subpart C is required.

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.

Railroads are not permitted to utilize the exception under § 214.527 (which may allow a railroad to continue to use defective equipment for up to seven days). 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, 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.

Paragraph (d) authorizes using existing tunnel niches or clearing bays that have a place of safety less than four feet from the field side of the near rail, 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 § 214.337's provision providing lone workers with the absolute right to establish alternative methods of on-track safety, paragraph (d)(3) gives the RWIC and 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.

The presence of debris, vagrants, rats, spiders, mice, raccoons and other hazards, conditions such as claustrophobia which could cause roadway workers to panic and jump out of a tunnel niche into the path of an oncoming train, and 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 are all valid concerns that must be addressed when considering the usage of such niches or clearing bays.

Note: The above section is applicable only to niches or clearing bays where the roadway worker is protected by the side walls of the niche from a projecting car or on-track roadway maintenance machine component or safety appliance. Bench walls or ledges are not covered by this section.

§ 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 and 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.*

Guidance. Section 214.318 provides a limited exception from Part 214's on-track safety requirements and allows for the use of blue signal protection for certain incidental work performed by mechanical employees within the limits of locomotive servicing and car shop repair track areas (shop areas).

Subpart C previously required "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 were 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 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. 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) 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. 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.

Section 214.318 permits “workers” (as defined by § 218.5¹), 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.

Paragraph (a) 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).

Note the following definitions under § 218.5 Definitions:

- (1) Car shop repair track area means one or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of mechanical department personnel.
- (2) Locomotive servicing track area means one or more tracks, within an area in which the testing, servicing, repair, inspection, or rebuilding of locomotives is under the exclusive control of mechanical department personnel.

If a railroad chooses to allow “workers” to use blue signal protections authorized by this 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 section to apply, all work must be performed on a track protected by blue signals as required by Part 218, subpart B.

This 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 section only gives railroads 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

¹ *Worker* means any railroad employee assigned to inspect, test, repair, or service railroad rolling equipment, or their components, including brake systems. Members of train and yard crews are excluded except when assigned such work on railroad rolling equipment that is not part of the train or yard movement they have been called to operate (or been assigned to as “utility employees”). Utility employees assigned to and functioning as temporary members of a specific train or yard crew (subject to the conditions set forth in §218.22 of this chapter), are excluded only when so assigned and functioning. 49 C.F.R. 218.5.

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 applies to contractor employees. Although the on-track safety requirements of Part 214 apply to contractor employees, FRA’s blue signal regulations under Part 218 do not. Typically, however, railroad rules require contractors to follow the railroad’s blue signal procedures when performing work within shop areas. In paragraph (b), FRA extends 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 or 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” under § 214.7.

Paragraph (c) of this 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 job functions involving both maintenance-of-way work and 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.

FRA did not adopt 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. 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.

§ 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 through 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.*

Guidance. Working limits is an on-track safety measure which, when established and properly utilized by all affected personnel, eliminates the risk of being struck by trains. Several methods of establishing working limits are found in this subpart. Those methods are distinguished by the method by which trains are authorized to move on a track segment, the physical characteristics of the track, and the operating rules of the railroad.

Sub-paragraph (a)(1) and (a)(2) specifically refer to the roadway worker who is given control over working limits. These requirements assure that the roadway worker has the requisite knowledge and training, and prevent confusion by giving control to only one qualified roadway worker.

Sub-paragraph (a)(3) provides the restrictions under which trains and roadway maintenance machines will be allowed to operate within working limits. The intent is that the roadway worker in charge will be able to communicate with a train while it is within the working limits, and to control its movement to prevent conflicts between trains, machines, and roadway workers.

The requirement that trains move at restricted speed in working limits unless otherwise authorized by the roadway worker in charge is intended as a fail-safe provision to afford the highest level of safety in the absence of authority for higher speed. FRA does not contemplate, nor would it condone, a situation in which a roadway worker could authorize a higher speed for a train than would be otherwise permitted by the operating rules and instructions of the railroad.

All affected roadway workers must be notified before trains will begin moving over the affected track. They must be either away from the track, or provided with another form of on-track safety.

An example is a work group using a crane to replace rail. Rails are removed from the track, the crane is on the track, and on-track safety is provided by the establishment of working limits. When the rails have been replaced, the crane moves out of the working limits onto another track, the roadway worker in charge stations watchmen/lookouts to provide train approach warning and notifies all the roadway workers at the work site that train approach warning is now in effect and the working limits are to be released. The roadway worker in charge then releases the working limits to the train dispatcher to permit the movement of trains. The roadway workers at the work site continue to work with hand tools while on-track safety is provided by the watchmen/lookouts.

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.

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 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.

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 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 some dispatching systems 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 protection, 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 redundant signal protection requirement.

Given operational and practicability considerations, 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 (CTC), and not imposing an unnecessary burden on smaller entities (Class III railroads). For purposes of this 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)).

Paragraph (c) establishes how railroads may request FRA consideration for an exemption from the redundant signal protections requirements for a segment of track on which operations are governed by a Positive Train Control (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.

FRA's regulations governing the implementation of PTC systems are in 49 C.F.R. 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). 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.

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 § 214.319(b) on segments of track governed by an

operative PTC system to provide an extra measure of safety for roadway workers.

It is a common practice for two or more separate work groups to utilize the same working limits (and authority) – often called piggybacking or “JO” (Joint Occupancy). The regulation clearly specifies that only one roadway worker can be in charge (RWIC) of the working limits. However, questions have arisen regarding the required qualifications for the workers providing on-track safety for a second or third roadway work group that may be utilizing the working limits held by the initial RWIC.

When working limits are established as a form of on-track safety, the provisions of § 214.319(b) apply, which states: “Only one roadway worker shall have control over working limits on any one segment of track.” Therefore, it is imperative that only one worker have control, even when multiple work groups may be using common working limits. This is necessary to avoid the complications of multiple or confusing instructions to trains and on-track equipment (OTE) that may be entering working limits.

§ 214.320 Roadway maintenance machine movements over signaled 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[e]-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.

Guidance. This section addresses a potential safety issue that arises when roadway maintenance machine movements are made on non-controlled track. As background, train or on-track equipment movements on non-controlled track may be made without authorization from a train dispatcher or control operator, per the definition of the term “non-controlled track” at § 214.7. Thus, such movements have traditionally been made under railroad operating rules requiring that they be made at speeds not exceeding restricted speed. Restricted speed rules require that trains or other on-track equipment be able to stop within one-half the operator’s range of vision. Note that the regulation contains a typo and requires that the equipment must be able to stop within “on-half” the range of vision. FRA meant this to say “one-half” and will enforce it accordingly. The requirement to stop within one-half the range of vision prevents collisions between any equipment that may be operating on the same non-controlled track. As such, under § 214.301(c), operations at restricted speed allow for roadway maintenance machines to safely travel over non-controlled track without having to establish working limits. However, some stretches of non-controlled track have been equipped with automatic block signal (ABS) systems. ABS systems are designed to prevent collisions while allowing for trains to operate at speeds greater than restricted speed. This scenario is problematic for purposes of the movement of roadway maintenance machines on non-controlled track under § 214.301(c) because roadway maintenance machines do not all shunt track circuits. Absent the establishment of inaccessible track working limits or other protections, nothing elsewhere in Part 214 prevents a train operating on non-controlled ABS-signaled track at a speed 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 such track and trains are not required to stop within one-half their operator’s range of vision).

One Class I railroad has a significant stretch of ABS non-controlled track (within yard limits)

where such a situation apparently existed, and an incident occurred where a hi-rail vehicle was struck by a train. Thus, to address the safety concerns with regard to this situation, FRA under § 214.320 requires roadway maintenance machine movements on non-controlled track may only be made (i.e., without establishing working limits) if train and locomotive speeds on such track are required to be made at restricted speed.

FRA believes that, in general, most non-controlled track is already limited to restricted speed operations (with one exception being block register territories, which are addressed further in § 214.327(a)(7) below). An example are the tracks that make up railroad yards.

In order to provide additional flexibility on this point, however, FRA will also permit railroads to utilize other operating rules that provide a level of protection equivalent to that provided by the provisions of restricted speed rules on non-controlled track, provided such rules are first approved by FRA in writing if they are intended to be used to satisfy this requirement. This section only refers to train and locomotive speeds on non-controlled track, and not to the speeds that roadway maintenance machines are authorized to travel over non-controlled track. Section 214.341 already requires each railroad's on-track safety program 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. The intent of this rule is 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 (that are in travel mode under railroad operating rules) that do not shunt signal systems.

For purposes of this section, FRA has decided that restricted speed will mean movements prepared to stop within one-half the range of vision but not exceeding 25 mph. The 25-mph maximum is consistent with the meaning of restricted speed for purposes of § 214.317(c) (discussed above) in which FRA permits on-track roadway maintenance machines to conduct snow removal and weed spraying operations while traveling over non-controlled track without establishing working limits. This section requires that for 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), when roadway maintenance machines travel over such territories they must establish working limits in accordance with § 214.327. FRA has adopted this provision in light of the explanation above. If no control operator or dispatcher is controlling such non-controlled track, and roadway maintenance machines that do not shunt travel over such track, there is no protection from the risk of a collision with a train where the provision of restricted speed that requires stopping within one-half the range of vision is not in effect.

Where railroads rely on permission from a dispatcher or control operator for a train to move into or within the non-controlled track, this would make such track "controlled track" via the definition of such at § 214.7. If such track is "controlled track", this provision would not apply. FRA also notes that this procedure appears to be very similar to the procedures in § 214.327(a)(8) adopted for the establishment of working limits on non-controlled track. So, a railroad could merely choose to comply with § 214.327(a)(8) to alleviate any potential impacts of § 214.320 if the railroad does not wish to develop and submit alternate procedures as discussed immediately below.

FRA has provided flexibility whereby a railroad can adopt alternate procedures in its applicable rules, and utilize those in lieu of establishing working limits, so long as the FRA Associate Administrator for Safety/Chief Safety Officer approves such procedures in writing (in advance of such procedures taking effect). With the new methods of establishing working limits on non-controlled track discussed below in § 214.327, and the flexibility provided for in the alternate approaches in this section, and the small number of situations in which § 214.320 will apply, FRA believes that train movements at track speed over signalized non-controlled track can be accommodated, while at the same time providing for the safe movement of non-shunting

roadway maintenance machines traveling over the same non-controlled track.

Nothing in § 214.320 requires trains to travel at restricted speed at any location other than periodic times when roadway maintenance machines travel over the track at these locations; otherwise the roadway work groups must establish working limits in accordance with § 214.327, the same procedures railroads already follow when they are actually conducting roadway work at those locations.

§ 214.321 Exclusive track occupancy.

Working limits established on controlled track through the use of exclusive track occupancy procedures shall comply with the following requirements:

- (a) The track within working limits shall be placed under the control of one roadway worker in charge by either:
 - (1) Authority issued to the roadway worker in charge by the train dispatcher or control operator who controls train movements on that track,*
 - (2) Flagmen stationed at each entrance to the track within working limits and instructed by the roadway worker in charge to permit the movement of trains and equipment into the working limits only as permitted by the roadway worker in charge, or*
 - (3) The roadway worker in charge causing fixed signals at each entrance to the working limits to display an aspect indicating “Stop.”**
- (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) Where authority for exclusive track occupancy is transmitted orally, the authority shall be written as received by the roadway worker in charge and repeated to the issuing employee for verification.*
 - (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) The train dispatcher or control operator in charge of the track shall make a written or electronic record of all authorities issued to establish exclusive track occupancy.*
 - (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.**
- (c) The extent of working limits established through exclusive track occupancy shall be defined by one of the following physical features clearly identifiable to a locomotive engineer or other person operating a train or railroad equipment:
 - (1) A flagman with instructions and capability to hold all trains and equipment clear of the working limits;**

- (2) *A fixed signal that displays an aspect indicating “Stop”;*
 - (3) *A station shown in the time-table, and identified by name with a sign, beyond which train movement is prohibited by train movement authority or the provisions of a direct train control system.*
 - (4) *A clearly identifiable milepost sign beyond which train movement is prohibited by train movement authority or the provisions of a direct train control system; or*
 - (5) *A clearly identifiable physical location prescribed by the operating rules of the railroad that trains may not pass without proper authority.*
- (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 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 (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.*

Guidance. Section 214.321 prescribes working limits on controlled track as one form of on-track safety allowed in accordance with the provisions of this subpart. Reference to the definitions of Controlled Track and Exclusive Track Occupancy are helpful to the understanding of this section.

Controlled track is track on which trains may not move without authorization from a train dispatcher or a control operator. On most railroads, trains move on main tracks outside of yard limits, and through interlockings, only when specifically authorized by a train dispatcher or control operator. This authorization might take the form of an indication conveyed by a fixed signal, or a movement authority transmitted in writing, orally, or by digital means. Such track would conform to the definition of controlled track.

Some railroads extend the control of a train dispatcher to main tracks within yard limits. This control is exercised by requiring the crew of every train and engine to obtain a track warrant specifying the limits of the territory in which the crew may operate. The track warrant lists all restrictions that are in effect within the limits specified, including any working limits established to protect roadway workers or train movements. The working limits are delineated by flags as specified in § 214.321(c)(5). Track from which trains can be effectively withheld by such a procedure would conform to the definition of controlled track.

Exclusive track occupancy is the means prescribed in this section to establish working limits on controlled track. The procedures associated in this section with exclusive track occupancy are intended to assure that unauthorized train movements will not occur within working limits established by exclusive track occupancy.

This section addresses controlled track, as it is the type of track upon which exclusive track occupancy can be established by the dispatcher or control operator. By virtue of their authority to control train movements on a segment of controlled track, a dispatcher or control operator can also hold trains clear of that segment by withholding movement authority from all trains. The procedure depends upon communication of precise information between the train dispatcher or control operator, the roadway worker in charge of the working limits, and the crews of affected trains. This section is intended to prescribe that level of precision.

Paragraph (a) requires that authority for exclusive track occupancy may only be granted by the train dispatcher or control operator who has control of that track to a roadway worker who has been trained and designated to hold such an authority. No other person may be in control of the same track at the same time.

The Rule clearly defines three methods by which the tracks within exclusive track occupancy are placed under the control of a roadway worker in charge (RWIC):

1. Authority issued to the RWIC by the train dispatcher or control operator who controls train movements on that track;
2. Flagmen stationed at each entrance to the track within working limits and instructed by the RWIC to permit the movement of trains and on-track equipment (OTE) into the working limits only as permitted by him or her; or
3. The RWIC causing fixed signals at each entrance to the working limits to display an aspect indicating “stop” (local control). For the purposes of the Rule, a “fixed signal” is a wayside block or interlocking signal which the most restrictive indication that can be conveyed is “stop.”

Paragraph (b) and corresponding subparagraphs prescribe the methods for transferring the authority for exclusive track occupancy to the roadway worker with the requisite level of accuracy.

An “authority” is the instrument that confirms trains and OTE movements have been withheld from the track(s) encompassing exclusive track occupancy. As required by this subsection, the authority must be a written or printed document and includes such instruments as a “NORAC Form D,” “Track Bulletin Form B,” “Track Warrant,” “Track and Time,” “OCS Clearance,” etc. As required by §214.321(b)(2), the RWIC must maintain possession of the authority document while it is in effect.

A “data transmission” may be used to transmit an exclusive track occupancy authority to a roadway worker (i.e., a roadway worker in charge). Previously paragraph (b)(2) stated 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 did not account for authorities conveyed via data transmission that may be displayed on the screen of an electronic device. FRA amended paragraph (b)(2) to clarify that an authority displayed on an electronic screen may also be used in place of the “written or printed” authority required by existing § 214.321(b)(2). Electronic authorities are also required to comply with the requirements of § 214.322, which is discussed below.

The Federal Railroad Administration (FRA) has reviewed whether the record under this provision must be retained for an extended period. Section 214.321(b)(2) requires the written or printed document only be maintained by the RWIC or lone worker while the authority for the working limits is in effect. With respect to the requirement of a dispatcher’s written or electronic record, paragraph (b)(3) only states that a written or electronic record of all authorities issued to establish exclusive track occupancy shall be made. The Roadway Worker Protection regulation does not specify a required time that such records must be retained. Retention of dispatching records is governed by 49 C.F.R. Part 228.

Paragraph (b)(4) requires that an exclusive track occupancy authority specify a unique roadway work group number, an employee name, or other unique identifier. This requirement codifies what is already common practice in the railroad industry; a practice that helps ensure the ability of trains, dispatchers, and other employees to differentiate between roadway workers in charge/roadway work groups who may be performing work at various locations along the right-of-way. This paragraph also requires that a railroad’s procedures establish guidelines for communication between trains or other on-track equipment and the roadway worker in charge (or lone worker), in accordance with existing § 214.319(a)(3). This requirement refers to effective procedures for trains or other on-track equipment to contact the roadway worker in charge to receive permission through working limits when appropriate. A railroad’s procedures under this section will govern the necessary communications between trains and roadway workers in charge when exclusive track occupancy working limits are in effect. Any change in the RWIC designation must be formally addressed in the railroad operating rule procedures.

FRA wishes to clarify the portion of the rule text for paragraph (b)(4) which states 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.” A train is not required to communicate with every piece of on-track equipment in a roadway work group, in addition to communicating with the roadway worker in charge, when passing through working limits. This requirement refers to a train or other on-track equipment being required to communicate only with the roadway worker in charge (or lone worker) of the working limits through which the train or on-track equipment wishes to enter or travel through.

Paragraph (c) and corresponding subparagraphs prescribe physical markers or features that may be used to indicate the extent of working limits established under this paragraph with the requisite level of precision.

As prescribed by §214.321(c), the extent of working limits established through exclusive track occupancy must have a physical feature (delineation) at each working limits entrance that is clearly identifiable to approaching trains or OTE. In the case of “active” delineations, these features include either:

- Flagman, or
- Fixed signal that conveys a “stop” indication.

Note: Flagmen are included as a valid means of establishing exclusive track occupancy because they are effective, and they might be the only means available on short notice or at certain locations.

Acceptable “passive” delineations consist of a

- Station with a sign identified by name,
- Clearly identifiable milepost marker,
- Clearly identifiable physical location,
 - Any physical feature, such as a switch, whereby an employee operating a train or OTE has knowledge of its specific location through physical characteristic qualifications. Red flags or signs may also be used but approaching movements must be informed of the exact location of these devices), or
- Provisions of a direct train control system,
 - Any method of operation, such as Direct Traffic Control (DTC), Track Warrant Control (TWC), Track Permit Control System (TPCS), Form D Control System (DCS), Occupancy Control System (OCS), and similar methods of operation that are derivatives of the former timetable/train order method of operation.

An authority that withholds movements from the working limits must first be obtained by the RWIC before “passive” delineations can be used. However, flagmen with the capability to withhold movement or wayside signals conveying a “stop” aspect through local control may be used to establish and delineate working limits.

When an authority is issued to establish an exclusive track occupancy [§214.321(a)(1)], precise communication between the train dispatcher (or control operator) and trains/OTE is imperative to assure movements approaching exclusive track occupancy limits are withheld. Any movements into exclusive track occupancy limits then may occur only under the direction of the RWIC in accordance with §214.321(d). Any physical location that is used alone to delineate working limits must be clearly prescribed by the operating rules of the railroad whereby train engineers and OTE operators know, in advance, the exact location of these devices.

Procedures such as physical characteristic qualifications of employees and listing designated physical locations in special instructions are acceptable methods to assure safe use of physical locations to delineate exclusive track occupancy limits.

Paragraph (d) allows a railroad to permit the movement of trains and equipment in working limits under the control of the RWIC. This accommodates a need to move work trains and roadway machines into and within working limits in connection with the work being performed. It also accommodates a need to move trains and equipment through working limits after all roadway workers and machines are moved into the clear or otherwise protected. Such movements must be under the direct authority of the RWIC, who must take the necessary steps to properly direct the train movement as well as protect the roadway workers and machines at the worksite.

The authorization of movement of either trains or roadway maintenance machines within working limits without the permission of the RWIC would constitute a violation of § 214.321(d). Thus, movements of trains and on-track equipment that are not under the direction of the RWIC within exclusive track occupancy limits are not in compliance with § 214.321. FRA recognizes that there may be times, such as during an emergency, when a roadway worker in charge cannot be contacted by a train or other on-track equipment wishing to make a movement. In extraordinary circumstances, trains must be authorized to move despite lack of permission from the RWIC. The present regulation does not address this irregular situation and thus FRA's enforcement action under these circumstances will be determined on a case-by-case basis. FRA intends paragraph (b)(4) to work in conjunction with the requirements of paragraph (d) in this regard. Paragraph (b)(4) requires that railroads adopt procedures governing communications between trains and RWIC. FRA recommends that railroads adopt procedures that address what actions should be taken in the event of an emergency and where a RWIC cannot be contacted by a train crew or the operator of other on-track equipment.

In addition to withholding movements that are approaching working limits, it is also imperative railroad rules prohibit train and OTE from entering the track between the delineations, e.g., a hi-rail vehicle occupying a track at a highway-rail grade crossing or other OTE from entering at a hand-operated switch.

Paragraph (d) also requires that trains and other equipment moving through working limits under the authority of the RWIC move at restricted speed unless higher speed is specifically authorized by the RWIC. This provision establishes a fail-safe default speed to apply in the absence of information to the contrary. It also establishes the sole authority of the RWIC to specify the speed of trains and equipment through the working limits.

Many different situations will arise in the application of this section. Where "passive" delineations are utilized, movements must be provided with advance notification of the type and exact location of these devices. For instance, an RWIC might wish to establish working limits between mileposts 15 and 16 on a single main track but the train dispatcher can only hold trains at controlled signals at mileposts 10 and 20. In that case, the rules of the railroad could permit the roadway worker to place flags or some recognized signal at the ends of the working limits, mileposts 15 and 16, and the roadway worker would only be in charge of the track between the flags.

Another roadway worker might establish working limits between mileposts 12 and 14 during the same time using the same method. The train dispatcher would still hold trains at the same controlled signals, but the working limits would not overlap.

An important point in the application of this section is that a train must be informed of the existence of working limits if it is permitted by signal indication or some other authority to approach the working limits. It is not sufficient to just place flags and go to work. However, a railroad may permit the flags to be moved as the work progresses, so long as all trains approaching the working limits are informed of their existence.

There are concerns regarding procedures on some railroads whereby trains and/or other OTE are admitted into the limits of an authority without the direction of the RWIC or without any information about the existence of working limits within the authority. One example is where the limits of an authority in centralized traffic control (CTC) territory would be at two Controlled Points located a significant distance from the actual work. With this type of procedure, protection is predicated on restricted speed and locomotive engineers or OTE operators looking out for flag(s) somewhere within the limits of the authority (in this case, between two Controlled Points). Where used, this procedure also raises the question regarding temporary

speed restriction signs or other similar devices within the authority limits which may be misinterpreted as flags delineating working limits.

While the above procedures have been commonly used in the past, to a large extent they rely on trains operating at restricted speed to protect the roadway workers. This conflicts with one of the most important underpinnings of the Rule, which is the prohibition of restricted speed, or its functional equivalent, to protect roadway workers.

Paragraph (e) establishes minimum requirements for when an exclusive track occupancy authority is given to a roadway worker in charge (or lone worker) and will become effective only after a train or trains pass the location that the work group or lone worker will occupy the track. These authorities are sometimes referred to as “occupancy behind”, “conditional”, or “do not foul the limits ahead of” authorities 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. When occupancy behind authorities are issued, 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 occupied but still within the working limits.

FRA notes that 49 C.F.R. § 220.61 contains requirements for the issuance of “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 roadway worker in charge are in some instances also considered “mandatory directives” under that section. The existing requirements in § 214.321 are considered to be in addition to the requirements of existing § 220.61.

Paragraph (e)(1) requires the RWIC or lone worker confirm the 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). This provision 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) 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 loan worker confirms the passage of affected train(s) by visually identifying the train(s). This provision, in addition to the requirements of § 214.321(e)(4) below, protects roadway worker(s) located ahead of the point to be occupied who intend to “piggyback” or “JO” on a RWIC’s exclusive track occupancy authority. FRA believes this provision 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.

Paragraph (e)(3) 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, record on the authority document (or display) both the time the train(s) passed and locomotive number(s) 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, 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 along with the authority while it is in effect.

Thus, railroads have two options regarding the requirement of paragraph (e)(3) to record the time of passage and engine numbers of trains passing the point to be occupied or fouled. First, railroads can program their electronic authorities such that the RWIC or lone worker can enter the required information onto the authority and have access to such information while the authority is in effect. In the alternative, the RWIC or lone worker can write the time of passage and engine numbers on paper such that the information can be compared to that contained in the electronic authority. The written information is considered part of the authority, and must be kept by the roadway worker while the authority is in effect via § 214.321(b)(2). In push-pull commuter territory, when the control cab car is leading, record the cab car number in lieu of the trailing engine.

Note: Under NORAC, employees are forbidden to add information to a Mandatory Directive once an authority has been issued. In that case, the RWIC could utilize a separate document to record the verification information.

It is important to copy this information since 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 that the train that has passed the roadway worker's location is indeed the correct train that the dispatcher had intended would pass before roadway workers fouled track. This provision helps eliminate 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.

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 § 214.321(e)(1) and (3). Each additional roadway work group piggybacking on the initial roadway work group's authority must also have its own roadway worker qualified under § 214.353. 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 (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.

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

Overlapping Authorities/Multiple Groups

It is an established practice on some railroads for multiple uncoordinated roadway work groups to be located within the same authority limits. For example, a RWIC may obtain a track and time permit (authority) in CTC territory between Control Points 10 and 20. The RWIC would then place red flags somewhere between mileposts 12 and 13. Subsequently, one or more additional roadway work activities with the same or overlapping authority limits occupy the track and place their flags after the first RWIC placed his/her flags.

Consequently, there are multiple independent and uncoordinated work activities each with potentially overlapping working limits in violation of the regulation. Specifically, there is the potential for a train or OTE to receive radio instructions to pass a red flag when that communication is obtained from the incorrect RWIC. This is of particular concern if a RWIC

were to place flags between/within another RWIC's flags. To eliminate the potential problem associated with multiple employees directing movements, §214.319 (b) states - "*Only one roadway worker shall have control over working limits for the purpose of establishing on-track safety.*" This must prevail to fulfill the intent of exclusive track occupancy.

When multiple work groups use a common working limits, it is imperative that railroads have procedures in place to assure on-track safety when the RWIC releases the track to the train dispatcher or when he or she authorizes movements into the working limits. For example, the RWIC recording additional groups that occupy his or her working limits or the train dispatcher placing or "stacking" blocking devices for each additional work group. However, all movements within working limits must remain under the control of the RWIC.

Withholding Equipment

In addition to protection from trains, the Rule prescribes procedures to protect roadway workers from the dangers associated with the movement of OTE. Railroads that incorrectly permit trains into the limits of an authority without the direction of the RWIC, or without information about the location of working limits, may also allow other OTE to proceed with even less controls. Specifically, other OTE may not be informed of working limits that may be within an authority granted for movement (overlapping movement and work authorities). Certain railroad rules permit OTE to move at substantial speeds (up to 45 mph) but must be prepared to stop within one half the range of vision.

While OTE may be able to stop in less distance than trains, the Rule was clearly crafted to protect workers from trains and OTE. Furthermore, the increasing complexity and size of OTE can at times result in risks regarding adequate stopping distances similar to trains. Therefore, the definition of exclusive track occupancy specifies that trains and OTE movements must be withheld from the track within exclusive track occupancy.

§ 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. This 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.*

Guidance. Section 214.321(b) permits an exclusive track occupancy authority to be issued via data transmission from the train dispatcher or control operator to the roadway worker in charge (RWIC). Certain railroads utilize electronic devices to display such authorities received via data transmission. FRA anticipates that the use of such electronic devices to display working limits authorities will continue to grow, especially with the implementation of Positive Train

Control systems.

Paragraph (a) establishes that an electronically displayed authority must be readily viewable by the RWIC while such authority is in effect.

Paragraph (b) states 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 or loss of electronic signal), 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. The RWIC must then conduct an on-track job safety briefing to determine the safe course of action with the roadway work group.

Paragraph (b) provides some degree of 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 are able to occupy a place of safety and/or re-establish communication with the dispatcher.

Paragraph (b) allows 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, any moving roadway maintenance machines or hi-rail vehicles must stop if an electronic display fails, so that 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 new authority cannot be obtained or another form of on-track safety cannot be established, work must then stop and roadway workers must 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. A method to prevent this situation from even occurring is for a roadway worker in charge to also print a copy of the authority after it is issued via data transmission. In the event of a display failure, a copy of the authority is then already available for reference.

Paragraph (b) uses the words “without delay” to describe how the roadway worker in charge shall go about obtaining 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 roadway worker to call back at a later time to obtain a new authority, the roadway work group would be required 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. As to what constitutes a place of safety in a tunnel or on a bridge, FRA understands that the track on which working limits have been established might 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 that would follow 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.

Paragraphs (c)-(h) address the technical attributes of the electronic display of exclusive track occupancy authorities, and are safety and security-related. With regard to the application of § 214.322, paragraphs (c) and (d) provide for the identification and authentication of users. A user is the RWIC and train dispatcher or control operator, as they are the persons who 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 that is 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 protects 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. This requirement parallels a similar requirement for Positive Train Control systems found at 49 CFR 236.1033(b) (*75 FR 2598, 2676 (Jan. 15, 2010)*), 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. NIST is the agency responsible for defining cryptographic algorithms for non-Department of Defense entities.

FRA intentionally does not address display survivability, the ability of an electronic device to stand up to environmental conditions such as heat and cold, or the readability of the electronic display by a roadway worker. Nor does the regulation require the display to be legible in all environmental conditions or appear in text, with supplemental graphic displays allowed., FRA believes the environmental requirements are unnecessary, as FRA has established requirements to provide for roadway worker safety in the event of a display failure. Also, because of continuous improvement in technology, such technical standards for a display device would quickly become outdated. Nevertheless, FRA expects railroads to take into account the environment that such devices will be subject to during use. Railroads are always allowed to implement more restrictive security requirements provided the requirements do not conflict with Federal regulation.

FRA does not require that electronic authorities be in text and that the roadway worker in charge should have an absolute right to talk to a dispatcher via voice communication instead of via data transmission. Under § 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 that § 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 that is required to take place before track is fouled is also a tool to resolve any potential questions regarding the on-track safety being provided.

Paragraph (e) addresses the transmission, reception, processing, and storage of exclusive track occupancy authority data, and is meant to help ensure the integrity of such data. Data integrity is the property of data not being altered since the time data was created, transmitted, or stored, and generally refers to the validity of the data. This paragraph establishes that new electronic authority display systems placed into service after the effective date of a final rule in this rulemaking are required to utilize message authentication codes (MAC) to ensure data integrity. Similar to the requirements of paragraph (d), MAC's would be required to utilize algorithms approved by NIST or a similarly recognized standards body. Unlike cyclical

redundancy codes (CRC), MAC's protect against malicious interference. Paragraph (e) permits the use of systems implemented prior to July 1, 2017 to utilize CRC's, but requires that the collision rate for the CRC checks utilized be less than or equal to 1 in 2^{32} (1 in 2 to the 32nd power). This collision rate helps provide reasonable protection against accidental or non-malicious errors on channels that are subject to transmission errors, and is based on a Department of Defense standard. Existing systems utilizing CRC's that do not meet this minimum standard are required to be retired and replaced with systems that utilize MAC's not later than one year after the effective date of this final rule. Paragraph (e)(2) requires that MAC or CRC 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 that the actual electronic device used to display an authority issued via data transmission retain any authorities issued for a minimum of 72-hours after expiration of such authority.

Paragraph (g) mirrors language found in 49 C.F.R. § 229.135(e) of FRA's Railroad Locomotive Safety Standards. Section 229.135(e) governs the preservation of data from locomotive event recorders or other locomotive mounted recorders in the event of an accident. Paragraph (g) uses the same language as found in existing § 229.135(e), and requires that railroads 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 that the data is desired for analysis.

Paragraph (h) requires new electronic display systems implemented 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 Special Publication 800-63-2 provides technical guidelines for widely used methods of electronic authentication, and is publicly available online at <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 are required to be retired or updated to provide such assurance no later than one year after the effective date of this final rule. 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.

§ 214.323 Foul time.

Working limits established on controlled track through the use of foul time procedures shall comply with the following requirements:

- (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.*

Guidance. Section 214.323 prescribes another form of on-track safety involving the establishment of working limits. This method of protection is called foul time and is only prescribed for use on controlled track. The definition of foul time should be referenced for a complete understanding of this concept. Foul time requires oral or written notification by the train dispatcher or control operator to the responsible roadway worker that no trains will be operating within a specific segment of track during a specific time period. The steps to obtain foul time are detailed in this section. Once foul time is given, a dispatcher or control operator may not permit the movement of trains onto the protected track segment until the responsible roadway worker reports clear.

Foul time is a simplified method of establishing working limits. It is distinguished from exclusive track occupancy by not requiring a written copy of the authorization, and by not permitting the movement of trains or other equipment within the working limits.

In paragraph (a), the term “on-track equipment” is not specifically defined. FRA generally interprets the phrase to mean equipment that operates and moves on rail. This would include, but not necessarily be limited to, on-track roadway maintenance machines and hi-rail vehicles. Rubber-tired equipment would only be considered on-track equipment if also equipped with flanged wheels and only when those flanged wheels are mounted on the rail.

Paragraph (b) uses the words “or track identifier” and allows a track identifier to be used to positively identify the track(s) on which working limits are being established.

Paragraph (c) prohibits the dispatcher or control operator from permitting a train or on-track equipment into the limits established by foul time until the RWIC who secured the foul time reports clear of the track and has released foul time

Paragraph (d) prohibits the RWIC or loan worker from permitting the movement of trains or other on-track equipment into or within working limits protected by foul time. Foul time is a more abbreviated form of establishing working limits than that of exclusive track occupancy, and has its historical roots in the Northeast United States. Foul time was typically for short-duration work activities with limited to no disturbance of the track structure. Foul time is a form of working limits under the control of a roadway worker in charge, it does not provide for the same flexibility as does exclusive track occupancy (i.e., movement into or through the foul time limits under the direction of the roadway worker in charge). The original RWP regulation and accompanying section-by-section analysis did not describe what type of activities could occur under foul time procedures, or expressly state that the roadway worker in charge was not permitted to allow the movement of trains or equipment into or within working limits. As such, foul time in some locations is not being used as was originally intended.

§ 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:

- (a) *Working limits established by train coordination shall be within the segments of track or tracks upon which only one train holds exclusive authority to move.*
- (b) *The roadway worker who establishes working limits by train coordination shall communicate with a member of the crew of the train holding the exclusive authority to move, and shall determine that:*

- (1) *The train is visible to the roadway worker who is establishing the working limits,*
- (2) *The train is stopped,*
- (3) *Further movements of the train will be made only as permitted by the roadway worker in charge of the working limits while the working limits remain in effect, and*
- (4) *The crew of the train will not give up its exclusive authority to move until the working limits have been released to the train crew by the roadway worker in charge of the working limits.*

Guidance. 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). This provision allows roadway workers to perform their duties on the track, in an emergency, without establishing one of the prescribed forms of on-track safety. For example, if an ice storm has caused trees to fall across the track and into the signal and communication wires, roadway workers would accompany trains to remove the trees and reestablish communications. The roadway workers would be unable to establish working limits because of the presence of the train.

This form of on-track safety, whereby a roadway worker or a roadway work group would be protected by the movement authority of a train, incorporates all the safeguards necessary to protect the roadway workers from train movements. This provision does not just apply to emergency situations, it may be used in any situation, including cleaning snow out of switches for a specific train, handling materials with a work train, or repairing track at a derailment site. The underlying principle is that a roadway worker should be assured that a train will not arrive unexpectedly at a work location. The provision for Train coordination provides that assurance.

§ 214.327 Inaccessible track.

- (a) *Working limits on non-controlled track shall be established by rendering the track within working limits physically inaccessible to trains at each possible point of entry by one of the following features:*
 - (1) *A flagman with instructions and capability to hold all trains and equipment clear of the working limits;*
 - (2) *A switch or derail aligned to prevent access to the working limits and secured with an effective securing device by the roadway worker in charge of the working limits;*
 - (3) *A discontinuity in the rail that precludes passage of trains or engines into the working limits;*
 - (4) *Working limits on controlled track that connects directly with the inaccessible track, established by the roadway worker in charge of the working limits on the inaccessible track;*
or
 - (5) *A remotely controlled switch aligned to prevent access to the working limits and secured by the control operator of such remotely controlled switch by application of a locking or blocking device to the control of that switch, when:*
 - (i) *The control operator has secured the remotely controlled switch by applying a locking or blocking device to the control of the switch, and*
 - (ii) *The control operator has notified the roadway worker who has established the working limits that the requested protection has been provided, and*

- (iii) The control operator is not permitted to remove the locking or blocking device from the control of the switch until receiving permission to do so from the roadway worker who established the working limits.*
- (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 such 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).*
- (b) Trains and roadway maintenance machines within working limits established by means of inaccessible track shall move only under the direction of the roadway worker in charge of the working limits, and shall move at restricted speed.*
- (c) No operable locomotives or other items of on-track equipment, except those present or moving under the direction of the roadway worker in charge of the working limits, shall be located within working limits established by means of inaccessible track.*

Guidance. Section 214.327 requires that working limits on non-controlled track be established by rendering the track physically inaccessible to trains and equipment. A reference to the definitions of non-controlled track and inaccessible track is useful to the understanding of this

section. Trains and equipment can operate on non-controlled track without having first received specific authority to do so. Trains and equipment cannot be held clear of non-controlled track by simply withholding their movement authority. The roadway worker in charge (RWIC) of the working limits must therefore render non-controlled track within working limits physically inaccessible to trains and equipment, other than those operating under the authority of that roadway worker, by using one or more of the provisions of this section.

Typical examples of non-controlled track to which this section would apply include main tracks within yard limits where trains are authorized by an operating rule to move without further specific authority, yard tracks, and industrial side tracks. Sub-paragraphs (a)(1) through (a)(8) detail the physical features that may be used to block access to non-controlled track within working limits.

Under paragraph (a)(1), where free rolling equipment is a concern, the use of a flagman is normally not permitted unless the flagman has the capability to hold all trains and equipment clear of working limits; i.e., in a facing point move, flagman lines the switch reverse against the track upon which roadway workers are fouling. In contrast, the use of an “iron flagman” under paragraph (a)(6) might be appropriate.

Paragraph (a)(2) allows railroads to use a switch or derail, secured with an effective securing device by the RWIC, to make track physically inaccessible. Consistent with FRA’s historical interpretation of § 214.327(a), a derail used to establish working limits under § 214.327 must have an OEM speed rating equal to or greater than the maximum authorized speed of the track on which it is being used, unless it is being used in combination with an additional form of protection to render the track physically inaccessible. That additional form of protection must, when combined with the portable derail, ensure that the working limits are physically inaccessible to trains at each possible point of entry. An example of a possible additional form of protection that may be used in combination with a portable derail includes requiring trains and equipment to operate at speeds permitting them to stop within one-half the range of vision of the operator.

The term discontinuity in the rail in paragraph (a)(3) refers to a rail that is removed from the track or purposely misaligned to serve as a derail, or it could be simply the end of a track. The rules of the railroad should specify how trains would be protected from derailing on a discontinuous rail.

Paragraph (a)(4) essentially permits inaccessible track to be established as an extension of working limits on controlled track. For instance, if a roadway worker establishes working limits on a single main track between mileposts 10 and 20, the working limits could include all non-controlled tracks that connect only to that main track, provided no operable locomotives are located on those tracks.

Paragraph (a)(4) might also be used by a railroad to establish working limits within a remote-controlled hump yard. If a control operator can block access to a track at the hump under subparagraph (a)(5) with a remotely controlled switch, a railroad could permit the establishment of inaccessible track by creating a form of controlled track at the pull-out end, away from the hump. In that case, a train or engine could not enter the pull-out end of a classification track without authority of the control operator. In that manner, both ends of the inaccessible track would be properly secured.

Paragraph (a)(6) codifies what informally may be referred to as an “iron flagman” to render non-controlled track inaccessible. This provision permits the use of a manned locomotive (with or without cars coupled to it) to establish a point of inaccessibility into working limits. Paragraph (a)(6) requires that to establish a locomotive as a point of inaccessibility, the RWIC must communicate with the train crew in control of the locomotive and determine that: (1) the

locomotive is visible to the RWIC; and (2) the locomotive is stopped. Once this initial communication and determination is made, paragraph (a)(6)(ii) prohibits any further movement of the locomotive except as permitted by the RWIC. These requirements parallel existing requirements in the train coordination provision at § 214.325. FRA notes that the RWIC of the working limits and the train crew assigned to the locomotive have to communicate directly with one another and have a clear understanding of the procedures to be followed.

Paragraph (a)(6)(iii) prohibits the crew of the locomotive from leaving the locomotive unattended or go off duty unless the crew communicates with the RWIC and the RWIC establishes an alternate means of on-track safety protection. “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). Thus, the operator of a remote-control unit could serve as the engineer and even though he would not be located on the locomotive, it would meet the definition of “attended”.

The last requirement of paragraph (a)(6) addresses the concern of movement of any cars that may be coupled to the locomotive were those cars to be uncoupled. Paragraph (a)(6)(iv) 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. Cars coupled to the locomotive on the opposite end of the roadway workers must have sufficient braking capability to control movement.

Note: Paragraph (6) does not allow the use of any other type of on-track equipment to establish on-track safety, just the use of a locomotive. Such on-track equipment might not prevent resistance to a rolling freight car that was kicked or other rolling equipment that a locomotive or train might. Further, another piece of on-track equipment adjacent to the roadway work group is likely to be part of the roadway work group, and FRA does not want an operator of such a piece of equipment to be performing substantive track maintenance or repair duties with a machine while simultaneously also being required to provide for on-track safety for the roadway work group by way of acting as a physical block. FRA believes such an allowance could diminish the safety of roadway workers on the ground, and could lead to confusion.

This procedure mimics some of the provisions of train coordination under existing § 214.325, which is a method of establishing working limits on controlled track. However, it is critical that this provision not be confused with train coordination. When train coordination is used, on-track safety is derived through the use of a train’s occupancy authority. On non-controlled track, no occupancy authority exists, and additional trains could move into the same segment of track at any time.

Paragraph (a)(7) allows the use of block register territory rules as a method to render track inaccessible and establish working limits on non-controlled track. Generally, in block register territory, trains can only occupy a block of track after its crew reviews a log book or register sheet to ensure no other trains or equipment are occupying that block. After verifying that no other trains are occupying a block, the train crew wishing to occupy that 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.

Under paragraph (a)(7), working limits are established when a RWIC or lone worker complies with the applicable railroad procedures for occupying a block register territory and makes 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. Some railroads may use an electronic

spreadsheet in lieu of a log book. Note: It is permissible in block register territory to be joint with a train or OTE and a RWIC or lone worker may permit the train or equipment into his established working limits; although no dispatcher is involved.

Section 214.327 permits the RWIC or lone worker to utilize a provision in paragraphs (a)(1)-(a)(6), or paragraph (a)(8) of this section to establish working limits, rather than utilizing this block register territory procedure. The lone worker or RWIC has the absolute right to render such track in a block register territory inaccessible via the other provisions of this section if they chose to do so, for any reason.

Roadway workers are already required by existing § 214.313(a) of the RWP regulation to follow all on-track safety rules and procedures of a railroad. Thus, in complying with paragraph (a)(7), roadway workers are required to comply with all applicable rules governing the occupation of track in a block register territory.

FRA notes that while block register territory is generally considered non-controlled track, where a train dispatcher or other employee must authorize occupancy or movement on a track in block register territory, this section would not apply. FRA considers such track controlled track, and the permissible on-track safety methods for controlled track under the RWP regulation would apply.

Paragraph (a)(8) addresses the establishment of working limits on non-controlled main tracks within yard limits and restricted limits via the use of a bulletin. This provision permits working limits to be established whereby trains are issued bulletins in advance of occupying main track, which would notify them of the working 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 crews or operators must receive permission from the RWIC to enter the working limits. Working limits established in this manner would 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). Unplanned work that would not allow notifications to be issued appropriately to train crews or operators will require another form of working limits or on-track safety.

Where maximum authorized speed is restricted speed as defined by § 214.7, paragraph (a)(8) requires that red flags or signs be displayed at the limits of the roadway worker(s) working limits. This requirement provides an extra measure of safety by providing train crews notice that, unless they have received permission through working limits, they must stop their movement. Where restricted speed is in effect, train crews or operators must stop their movement within one-half the range of vision. Therefore, crews that have not received permission to enter working limits from the RWIC, and who come upon such a red flag or sign, must stop their movement within one-half the distance to the flag.

Where the maximum authorized speed is greater than restricted speed, advance warning flags or signs must be displayed if 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 working limits if they had not received permission to enter the limits from the roadway worker in charge.

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, railroad's 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).

Paragraph (b) requires trains move at restricted speed in working limits unless otherwise authorized by the RWIC and is intended as a fail-safe provision to afford the highest level of safety in the absence of authority for higher speed. It does not permit a roadway worker to authorize a higher speed for a train than would be otherwise permitted by the operating rules and instructions of the railroad.

In paragraph (c), the exclusion of operable locomotives or other on-track equipment differs from the restriction on movement of trains and equipment within working limits on controlled track. On controlled track, those movements can be controlled, by definition. However, on non-controlled track, the presence of an operable locomotive represents a threat to roadway workers from the possibility of its operation and movement by someone unaware of the presence of the roadway workers.

A locomotive could be rendered inoperative by locking or removing controlling handles, or by tagging them in conformance with the rules of the railroad.

On a small railroad, the locomotive engineer might also be a roadway worker. If that person has the only reverser handle for the only locomotive in his possession, and no other railroad's crews are permitted to operate on the track, then that railroad's track is rendered inaccessible.

§ 214.329 Train approach warning provided by watchmen/lookouts.

Roadway workers in a roadway work group who foul any track outside of working limits shall be given warning of approaching trains by one or more watchmen/lookouts in accordance with the following provisions:

- (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.*
- (b) Watchmen/lookouts assigned to provide train approach warning shall devote full attention to detecting the approach of trains and communicating a warning thereof, and shall not be assigned any other duties while functioning as watchmen/lookouts.*
- (c) The means used by a watchman/lookout to communicate a train approach warning shall be distinctive and shall clearly signify to all recipients of the warning that a train or other on-track equipment is approaching.*
- (d) Every roadway worker who depends upon train approach warning for on-track safety shall maintain a position that will enable him or her to receive a train approach warning communicated by a watchman/lookout at any time while on-track safety is provided by train approach warning.*
- (e) Watchmen/lookouts shall communicate train approach warnings by a means that does not require a warned employee to be looking in any particular direction at the time of the warning, and that can be detected by the warned employee regardless of noise or distraction of work.*

- (f) *Every roadway worker who is assigned the duties of a watchman/lookout shall first be trained, qualified and designated in writing by the employer to do so in accordance with the provisions of § 214.349.*
- (g) *Every watchman/lookout shall be provided by the employer with the equipment necessary for compliance with the on-track safety duties which the watchman/lookout will perform.*

Guidance. Section 214.329 establishes the procedures for on-track safety of groups that utilize train approach warning. A reference to the definition of train approach warning is useful to the understanding of this section. Section 214.329 specifies the circumstances and manner in which roadway work groups may use this method of on-track safety. Prescribed here is the minimum amount of time for roadway workers to retreat to a previously arranged place of safety, the duties of the watchman/lookout, and the fundamental characteristics of train approach warning communication.

It must be particularly noted that the 15-second train approach time does not include the time taken for a roadway worker to move clear of the track and into a place of safety. If that movement takes 10 seconds, then a train must be visible in time for a warning to be given 25 seconds before the train arrives.

FRA amended paragraph (a) to change “maximum speed authorized” to instead read “maximum authorized speed.” This amendment provides clarity to Sections § 214.329(a) and reflects the proper word ordering for the new term defined in § 214.7. A roadway worker may not utilize a temporary speed restriction to reduce the required sight distance, but instead must calculate the required sight distance based on the “maximum authorized speed” as defined in § 214.7

FRA also modified paragraph (a) of this section by adding a sentence to the end of the paragraph that reads “[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.” It was always expected that roadway workers clear all tracks upon being given train approach warning, as by clearing onto another track where only train approach warning (or no form on-track safety) is being 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 prohibit the use of another track as a place of safety.

Paragraph (e) states that the warning method shall not require a warned employee to be looking in a particular direction to detect the warning. The warned employee is one who is fouling or near the track, and who is being protected by the watchman/lookout.

A railroad may elect to use a chain of watchmen/lookouts to relay the warning of an approaching train. Since a watchman/lookout is required to maintain a vigilant watch, it is possible that a clear visual signal may be used for communication among watchmen/lookouts.

Radio communication or a cell phone may also be used as a supplement to the equipment issued to the watchman/lookout, but extreme care must be taken to guard against breaks in communication caused by radio or phone failure. In particular, the portable radios commonly used for such purposes might suffer battery failure with no warning, thus breaking a vital communication link. A radio and/or cell phone alone is not proper equipment to provide auditory warning by a watchman/lookout without other equipment, in compliance with §214.329.

Paragraph (g) requires 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 specify the means to be used by watchmen/ lookouts to communicate a warning, and that they be equipped according to that provision.

The rule does not include a provision for train approach warning by any means other than the use of watchmen/lookouts. FRA is not aware of any other means of effectively performing this function with the requisite reliability, and will not place requirements for an untried system in this rule. However, the Advisory Committee report states that "FRA will incorporate a near-term time-specific requirement to utilize on-track personal warning systems for roadway workers working alone under any conditions not requiring positive protection." FRA realizes that the technological advancements incorporated in ATCS, PTC, or PTS might in the future provide another method of establishing on-track safety in compliance with this subpart, although such technology is not specifically provided for in the current rule. Opportunities to employ advancements in this area will be handled pursuant to the waiver process. FRA will therefore be most interested in knowing when such systems are developed, tested, and proven reliable.

The regulation is intended to provide an effective method of on-track safety for roadway workers. A roadway worker's first responsibility upon receiving train approach warning is to move to occupy a place of safety so as to not be struck by an approaching train or piece of on-track equipment.

It is not permissible for a watchman/lookout to assist, for example, a welder to remove tools or other equipment after he has provided the warning to clear the track. The watchman/lookout remains a watchman/lookout after providing the warning and may assume no other duties until informed that everyone is clear of the track.

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). 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 often be in violation of existing § 214.329. 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 location of the roadway workers. 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.

FRA has observed watchman/lookouts standing in the foul while performing their duties. FRA recognizes that occasionally a watchman/lookout must stand in the foul in order to secure adequate sight distance to provide the required warning. However, this is a practice that should be avoided whenever possible and discussed in the job briefing. As stated in § 214.313(b), roadway workers are only permitted to foul a track when necessary for the performance of their duty. The FAMES Committee reported several fatalities in their report on Train Approach Warning where the Watchman/Lookout was struck by a train while providing On-track Safety for a roadway work group.

§ 214.331 Definite train location.

A roadway worker may establish on-track safety by using definite train location only where permitted by and in accordance with the following provisions:

- (a) A Class I railroad or a commuter railroad may only use definite train location to establish on-track safety at points where such procedures were in use on January 15, 1997.*
- (b) Each Class I or commuter railroad shall include in its on-track safety program for approval by FRA in accordance with § 214.307 of this part a schedule for phase-out of the use of definite train location to establish on-track safety.*
- (c) A railroad other than a Class I or commuter railroad may use definite train location to establish on-track safety on subdivisions only where:*
 - (1) Such procedures were in use on January 15, 1997, or*
 - (2) The number of trains operated on the subdivision does not exceed:*
 - (i) Three during any nine-hour period in which roadway workers are on duty, and*
 - (ii) Four during any twelve-hour period in which roadway workers are on duty.*
- (d) Definite train location shall only be used to establish on-track safety according to the following provisions:*
 - (1) Definite train location information shall be issued only by the one train dispatcher who is designated to authorize train movements over the track for which the information is provided.*

- (2) *A definite train location list shall indicate all trains to be operated on the track for which the list is provided, during the time for which the list is effective.*
- (3) *Trains not shown on the definite train location list shall not be operated on the track for which the list is provided, during the time for which the list is effective, until each roadway worker to whom the list has been issued has been notified of the train movement, has acknowledged the notification to the train dispatcher, and has canceled the list. A list thus canceled shall then be invalid for on-track safety.*
- (4) *Definite train location shall not be used to establish on-track safety within the limits of a manual interlocking, or on track over which train movements are governed by a Traffic Control System or by a Manual Block System.*
- (5) *Roadway workers using definite train location for on-track safety shall not foul a track within ten minutes before the earliest time that a train is due to depart the last station at which time is shown in approach to the roadway worker's location nor until that train has passed the location of the roadway worker.*
- (6) *A railroad shall not permit a train to depart a location designated in a definite train location list before the time shown therein.*
- (7) *Each roadway worker who uses definite train location to establish on-track safety must be qualified on the relevant physical characteristics of the territory for which the train location information is provided.*
- (e) *Each on-track safety program that provides for the use of definite train location shall discontinue such use by June 12, 2017.*

Guidance. Paragraph (e) requires railroads discontinue using definite train location as a form of on-track safety by June 12, 2017.

§ 214.333 Informational line-ups of trains.

- (a) *A railroad is permitted to include informational line-ups of trains in its on-track safety program for use only on subdivisions of that railroad upon which such procedure was in effect on March 14, 1996.*
- (b) *Each procedure for the use of informational line-ups of trains found in an on-track safety program shall include all provisions necessary to protect roadway workers using the procedure against being struck by trains or other on-track equipment.*
- (c) *Each on-track safety program that provides for the use of informational line-ups shall discontinue such use by June 12, 2017.*

Guidance. Paragraph (c) requires railroads discontinue the use of informational line-ups as a form of on-track safety by June 12, 2017.

§ 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, § 213.323, § 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.*

Guidance. Section 214.335 specifies requirements for on-track safety to be provided for roadway work groups. Other sections of the regulation discuss matters affecting the group, such as the different types of on-track safety protection available to a group and the job briefing necessary for a group, but this section prescribes what procedures are required to fully comply with this subpart. As defined in §214.7, a roadway work group “means two or more roadway workers organized to work together on a common task.” Examples of roadway work groups include, but are not limited to, a large or small track gang, a pair of signal maintainers, a welder and welder helper, and a survey party.

Paragraph (a) indicates that employers shall not require or permit roadway work groups to foul a track unless they have established on-track safety through working limits, train approach warning, or definite train location. Note that, per § 214.331, as of June 12, 2017, definite train location is no longer an acceptable means of providing on-track safety.

Paragraph (b) states that a roadway worker who is a member of a roadway work group may not foul a track without having been informed by the roadway worker in charge that on-track safety is being provided.

§ 214.336 On-track safety procedures for certain roadway work groups and adjacent tracks.

Guidance. On July 1, 2014, § 214.336 replaced former § 214.335(c). Former § 214.335(c) required adjacent track on-track safety for a roadway work group if such work group was engaged in “large-scale maintenance or construction.” The principle behind the reference to large-scale maintenance or construction is the potential for distraction or the possibility that a roadway worker or roadway maintenance machine might foul the adjacent track and be struck by an approaching or passing train. Under this criterion, and the limited guidance provided in the preamble to the 1996 final rule that enacted former § 214.335(c), many railroads previously had not provided on-track safety on adjacent tracks for surfacing operations, small tie-renewal operations, or similar maintenance operations that, while smaller in scale, still included on-track, self-propelled equipment that may be similarly or equally distracting to the roadway workers on the ground. § 214.336 eliminates this interpretive issue by establishing new, more objective criteria for determining whether adjacent track on-track safety is required for a roadway work group.

In developing § 214.336 to address the increasing number of roadway worker fatalities on an adjacent track, the Railroad Safety Advisory Committee (RSAC) Working Group that formulated the consensus recommendation to FRA regarding the adoption of § 214.336 considered that most of the fatalities on an adjacent track occurred when a roadway work group with at least one of the roadway workers on the ground was engaged in a common task with on-track, self-propelled equipment on an occupied track. In those circumstances, there was a potential risk of a roadway worker in the group being distracted from the danger of an oncoming train due to the noise and dust generated by the operation of on-track, self-propelled equipment, the need to avoid entanglement in the operation of that equipment, and the need to monitor the quality of the work being performed.

§ 214.336(a)(1) Procedures; general – General rule

(a) Procedures; general.

(1) *General rule. Except as provided in paragraph (e) of this section, on-track safety is required for each adjacent controlled track when a roadway work group with at least one of the roadway workers on the ground is engaged in a common task with on-track, self-propelled*

equipment or coupled equipment on an occupied track. The required on-track safety shall be established through § 214.319 (Working limits, generally) or § 214.329 (Train approach warning provided by watchmen/lookouts) and as more specifically described in this section.

Guidance: Paragraph (a)(1) requires adjacent track on-track safety when a roadway work group with at least one of the roadway workers on the ground is engaged in a common task with on-track, self-propelled equipment or coupled equipment (including single-unit, self-propelled equipment or units connected to non-powered on-track equipment by tow bars) on an occupied track.

The concept of a “common task” is at the core of determining whether roadway workers are part of the same work group, and thus subject to the same adjacent controlled track on-track safety procedures per the triggering language in paragraph (a). Generally, a common task is one in which two or more roadway workers must coordinate and cooperate in order to accomplish the objective. Other considerations are whether the roadway workers are under one supervisor at the worksite, or whether the work of each roadway worker contributes to a single objective or result. A railroad may not subdivide a common task into individual tasks to avoid the use of on-track safety procedures required by this rule.

For example, a foreman and five trackmen engaged in replacing a turnout would be engaged in a common task. A signal maintainer assigned to adjust the switch and replace wire connections in the same turnout at the same time as the track workers would be considered a member of the work group for the purposes of on-track safety. On the other hand, a bridge inspector working on the deck of a bridge while a signal maintainer happens to be replacing a signal lens on a nearby signal would not constitute a roadway work group just by virtue of their proximity.

On-track self-propelled equipment would also include hi-rail equipped Speedswings, or other on/off track roadway maintenance machines (RMM), while they are on the rail exclusively. Equipment straddling the rail would not be included. The intent is that “coupled equipment” means equipment coupled to self-propelled equipment. Coupled equipment could be, for example, a flat car, a gondola, an air dump, hopper, etc. coupled to (e.g.,) a Brandt Roadrailer, or it could be a push cart being towed by a spiker or other machine utilizing a tow bar as described in § 214.525(a).

The on-track safety must be provided in accordance with § 214.319 (Working limits, generally) (which includes § 214.321 (Exclusive track occupancy), § 214.323 (Foul time), and § 214.325 (Train coordination)), or § 214.329 (Train approach warning provided by watchmen/lookouts), and as more specifically described in this section.

This general rule is set forth in paragraph (a)(1), which also directs the reader to the exceptions described in paragraph (e). The more specific procedures for adjacent controlled track on-track safety are set forth in paragraphs (b) and (c), concerning movements on an adjacent controlled track at freight train speeds over 25 mph or passenger train speeds over 40 mph, and at freight train speeds of 25 mph or less or passenger train speeds of 40 mph or less, respectively.

It should be noted, a roadway worker in charge (RWIC) encountering an adjacent track (controlled or non-controlled track whose track center is less than 25’ from the centerline of the occupied track) always retains the right to utilize a more restrictive form of on-track safety if he or she deems it necessary — even if all of the requisite conditions requiring adjacent controlled track on-track safety under § 214.336 are not present. (See paragraph (d)). For example, a three-person surfacing gang with all roadway workers including the RWIC acting in the capacity of machine operators (no on-ground workers working common with the on-track, self-propelled

equipment) could choose to establish adjacent track on-track safety, if the RWIC deemed it necessary for safety purposes.

For further in-depth guidance, see Supplementary Guidance 214.336(a)(1) Procedures, General – General Rule

§ 214.336(a)(2) Procedures; general – Special circumstance arising in territories with at least three tracks, if an occupied track is between two adjacent controlled tracks

(2) Special circumstance arising in territories with at least three tracks, if an occupied track is between two adjacent controlled tracks. If an occupied track has two adjacent controlled tracks, and one of these adjacent controlled tracks has one or more train or other on-track equipment movements authorized or permitted at a speed of 25 mph or less (or 40 mph or less for one or more passenger train or other passenger on-track equipment movements), and the other adjacent controlled track has one or more concurrent train or other on-track equipment movements authorized or permitted at a speed over 25 mph (or over 40 mph for one or more passenger train or other passenger on-track equipment movements), the more restrictive procedures in paragraph (b) of this section apply.

Guidance: Paragraph (a)(2) addresses the special circumstance arising in territories with at least three tracks, if an occupied track is between two adjacent controlled tracks. If one of these adjacent controlled tracks has one or more freight train or other on-track equipment movements authorized or permitted at a speed of 25 mph or less (or 40 mph or less for one or more passenger train or other passenger on-track equipment movements), and the other adjacent controlled track has one or more concurrent freight train or other on-track equipment movements authorized or permitted at a speed over 25 mph (or greater than 40 mph passenger train or other passenger on-track equipment movements), the more restrictive procedures in paragraph (b) of this section apply. This special circumstance requires that all work (i.e., both on-ground work and equipment movement) on or between the rails of the occupied track and on both sides of the occupied track cease, since, as will be further discussed below, there is no side of the occupied track meeting the specified conditions for an exception to these procedures. See § 214.336(e)(1).

Thus, for example, if a work group is occupying Track #2, and Track #2 has two adjacent controlled tracks (Tracks #1 and #3), if the RWIC intends to authorize or permit movements through the working limits of Track #3 at speeds greater than 25 mph for freight or greater than 40 mph for passenger, despite the fact that the maximum authorized speed on Track #1 is 25 mph for freight, all work must cease (both on-ground work and equipment movement) during any concurrent (simultaneous) movements authorized or permitted or for warnings provided on both Tracks #1 and #3. The more restrictive application governs.

§ 214.336(a)(3) Definitions.

(3) Definitions. As used in this section—

Adjacent controlled track means a controlled track whose track center is spaced 19 feet or less from the track center of the occupied track.

Adjacent track means a controlled or non-controlled track whose track center is spaced less than 25 feet from the track center of the occupied track.

Inter-track barrier means a continuous barrier of a permanent or semi-

permanent nature that spans the entire work area, that is at least four feet in height, and that is of sufficient strength to prevent a roadway worker from fouling the adjacent track.

Minor correction means one or more repairs of a minor nature, including, but not limited to, welding, spiking, anchoring, hand tamping, and joint bolt replacement, that are accomplished with hand tools or handheld, hand-supported, or hand-guided power tools. The term does not include machine spiking, machine tamping, or any similarly distracting repair.

Occupied track means a track on which on-track, self-propelled equipment or coupled equipment is authorized or permitted to be located while engaged in a common task with a roadway work group with at least one of the roadway workers on the ground.

Guidance: Paragraph (a)(3) adds definitions of four terms used exclusively in § 214.336 (“adjacent controlled track,” “inter-track barrier,” “minor correction,” and “occupied track”). This paragraph also adds a definition for the term “adjacent track” to this section that is similar to the definition in § 214.7.

For purposes of this section, “adjacent controlled track” means “a controlled track whose track center is spaced 19 feet or less from the track center of the occupied track.” In contrast, the definition of “adjacent tracks” in § 214.7 includes any tracks, controlled or non-controlled (though this is implied, rather than explicitly stated), whose track centers are spaced less than 25 feet apart. The new definition of “adjacent track” in this section (“a controlled or non-controlled track whose track center is spaced less than 25 feet from the track center of the occupied track”) describes the track with respect to its relationship to the occupied track, and also explicitly states that the term could be applied to either a controlled or a non-controlled track. This helps ensure that the reader is aware of the distinctions between that term and the term “adjacent controlled track.” Additionally, as noted in the discussion of the amendments to § 214.7, the existing definition of “adjacent tracks” at § 214.7 still applies to any other sections in Part 214 that reference the term, either in its plural or singular form, unless otherwise provided. To ensure that the terms do not conflict in any way, FRA has added qualifying language (“Unless otherwise provided, as used in this part—”) to the beginning of the general definitions section in § 214.7.

As a practical matter, FRA will apply a rule of reason to the precision used in measuring track centers, so that minor alignment deviations within the limits of the Federal Track Safety Standards (49 CFR 213) would not themselves place such short segments of track within the definition of adjacent tracks.

The third definition in § 214.336(a)(3) is of the term “inter-track barrier,” which means “a continuous barrier of a permanent or semi-permanent nature that spans the entire work area, that is at least four feet in height, and that is of sufficient strength to prevent a roadway worker from fouling the adjacent track.” This definition was added to clarify that only sturdy and continuous barriers that are at least four feet high are permissible for purposes of qualifying for the exception discussed in § 214.336(e)(1)(iii).

In general, a high-level passenger platform may meet the criteria for an inter-track barrier. An installed 4-strand wire fence or 4' high chain link fence may also qualify. Typically, 3-strand wire fences would not qualify as they usually are not 48" high. Plasticized lightweight fabric fencing would not meet the required criteria as it is not considered permanent or semi-permanent and can be defeated by vandals. Engineered heavy gauge plastic fencing, which cannot be easily cut or defeated may be acceptable.

Inter-track barriers must also be continuous. Any break in the barrier, within the established working limits of the occupied track, would nullify the use of the barrier for the exception denoted in § 214.336(e)(1)(iii). Thus, a crosswalk extending through the middle of a 4' high inter-track platform chain link fence would render the inter-track barrier not continuous if the working limits went from one end of the fence to the other end – even if the roadway workers were not working near the break in the fence.

The fourth definition is of the term “minor correction,” which means “one or more repairs of a minor nature, including but not limited to, welding, spiking, anchoring, hand tamping, and joint bolt replacement that is accomplished with handheld, hand-supported, or hand-guided power tools. The term does not include machine spiking, machine tamping, or any similar type of repair.” This term was added to provide guidance as to what type of work a roadway work group may perform under the exceptions for hi-rail vehicles and automated inspection cars being used for “inspection or minor correction purposes” (see paragraphs (e)(3)(i) and (e)(3)(ii)).

FRA includes welding as an example of “minor correction.” However, any welding operations taking place where the roadway work group would foul an adjacent track for any reason are already required to establish on-track safety on that adjacent track under the existing RWP regulations, even in the absence of § 214.336's requirements. The exceptions noted in § 214.336(e) do not effect this existing requirement for on-track safety.

The definition “minor correction” itself is based, in part, on the language in Subpart B of Part 214, which describes “repairs or inspections of a minor nature” for purposes of an exception to the fall protection requirements for bridge workers. See § 214.103(d). FRA recognized that the language in the bridge worker rule also contained the condition that the work be “completed by working exclusively between the outside rails [of the occupied track].” As FRA has decided not to impose that same limitation here, the language has been tailored to ensure that the hi-rail vehicles or automated inspection cars are not being used in such a manner so as to create similar levels of noise and dust generated by the operation of on-track, self-propelled equipment performing, for example, machine tamping or machine surfacing.

The terminology, “handheld, hand-supported or hand-guided power tools” would include any power tool (gasoline, hydraulic, or pneumatic) utilized to perform basic track maintenance. This would include, but is not limited to hydraulic hand-tools (self-contained, operated off of a power pack or a truck PTO (power takeoff)), track or bridge jacks, rail saws, rail drills, thermite weld shears, hydraulic expanders, mall and profile grinders, bonder grinders, hand-held power bolt machines, jumping jack type hand tampers or spike pullers, etc., as well as gasoline or pneumatic comparable power tools.

The fifth definition to be used for purposes of § 214.336 is “occupied track.” FRA has defined the term “occupied track” to mean “a track on which on-track self-propelled equipment or coupled equipment is authorized or permitted to be located while engaged in a common task with a roadway work group with at least one of the roadway workers on the ground.”

FRA limits the hi-rail vehicle exception in paragraph (e)(3)(i) to those hi-rail vehicles being used for inspection or “minor correction” purposes described above. It is important to note that hi-rail vehicles being used for purposes other than inspection or minor correction activities may be considered “on-track, self-propelled equipment or coupled equipment” subject to the requirements of § 214.336(a)-(d) depending on the type of work being performed and if engaged in a common task with a roadway work group with at least one of the roadway workers on the ground (unless otherwise excepted by paragraph (e)).

This definition for occupied track also contains the words “authorized or permitted to be” in front of the word “located” to make clear that if a roadway work group and an on-track roadway maintenance machine, for example, were to be physically located on a track without authorization or permission, FRA would not consider the track to be an “occupied track” for purposes of enforcing this section. Instead, FRA would enforce other sections of the rule, for example §§ 214.313(c) and 214.335(a), that would prohibit an operator of such a machine from fouling a track without appropriate on-track safety on that track.

The occupied track definition includes the verbiage “a roadway work group with at least one of the roadway workers on the ground” to make clear that even a single roadway worker on the ground triggers the requirements of § 214.336. See Supplementary Guidance, [§ 214.336\(a\)\(3\) Procedures, general; Definitions](#) for further clarification regarding this section.

§ 214.336(b) Procedures for adjacent-controlled track movements Over 25 mph for freight and over 40 mph for passenger

(b) Procedures for adjacent-controlled track movements over 25 mph (or over 40 mph if passenger movements). *If a train or other on-track equipment is authorized to move on an adjacent controlled track at a speed greater than 25 mph, or at a speed greater than 40 mph for a passenger train or other passenger on-track equipment movement, each roadway worker in the roadway work group that is affected by such movement must comply with the following procedures:*

Guidance: Paragraph (b) lists the procedures to follow for one or more adjacent controlled track movements greater than 25 mph for freight trains (or greater than 40 mph for passenger equipment) (i.e., if a train or other on-track equipment is authorized by the dispatcher or by the applicable timetable or permitted by the RWIC to move on an adjacent controlled track at a speed greater than 25 mph freight or 40 mph passenger). Paragraph (c) lists the procedures to follow when one or more adjacent controlled track movements are authorized or permitted at a freight speed of 25 mph or less (40 mph or less for passenger train). If, for example, a RWIC, in his or her discretion, permits a freight train through the working limits on an adjacent controlled track at 30 mph, but the train is actually traveling at a speed of only 20 mph, the procedures in paragraph (b) would still apply. It is the speed that the train is authorized to travel, not the train's actual speed, that controls.

§ 214.336(b)(1) Ceasing work and occupying a predetermined place of safety

(1) Ceasing work and occupying a predetermined place of safety. *Except for the work activities as described in paragraph (e) of this section, each affected roadway worker shall, as described in Table 1 of this section, cease all on-ground work and equipment movement that is being performed on or between the rails of the occupied track or on one or both sides of the occupied track, and occupy a predetermined place of safety upon receiving either a watchman/lookout warning or, alternatively, a notification that the roadway worker in charge intends to permit one or more train or other on-track equipment movements through the working limits on the adjacent controlled track.*

Guidance: Paragraph (b)(1) generally requires that, upon receiving a watchman/lookout warning or notification of one or more pending movements on an adjacent controlled track (as applicable), each roadway worker in the roadway work group shall, as described in [Table 1](#) of this section, cease all on-ground work and equipment movement that is being performed on or between the rails of the occupied track or on one or both sides of the occupied track, and

occupy a predetermined place of safety (PPOS). Table 1 indicates the areas where the work must cease and, in addition to providing clarifications of the rule text, expands upon the requirements.

Under some circumstances, it may be safer for the roadway worker to stay between the rails of the occupied track, and this is permitted to be an appropriate PPOS, as determined by the RWIC.

Table 1 provides clarification as to what is meant by “a predetermined place of safety.” Footnote 1 in Table 1 stipulates that a PPOS, as used in the table, “means a specific location that an affected roadway worker must occupy upon receiving a watchman/lookout’s warning of approaching movement(s) (‘warning’) or a roadway worker in charge’s (‘RWIC’s’) notification of pending movement(s) on an adjacent track (‘notification’), as designated during the on-track safety job briefing required by § 214.315. The PPOS may not be on a track, unless the track has working limits on it and no movements permitted within such working limits by the RWIC. Thus, under these circumstances, the space between the rails of the occupied track . . . may be designated as a place to remain in position or to otherwise occupy upon receiving a warning or notification.” See Supplementary Guidance, § 214.336(b)(1) Ceasing Work and Occupying a Predetermined Place of Safety for further clarification.

Additionally, Note 1 of Table 1 further explains that the RWIC must determine any change to a PPOS, and communicate such change to all affected roadway workers through an updated on-track safety job briefing.

Paragraph (b) limits the applicability of the procedures (which include the requirement to cease work) to only those roadway workers that would be “affected by” the adjacent controlled track movement(s). In some situations, a RWIC may have authority limits that span a greater distance than the established working limits of the roadway work group, and he or she may want to permit a train into the limits of the authority on an adjacent controlled track, but hold the train short of the working limits of the roadway work group on the occupied track. In such situations, the rule does not require any work within the working limits of the roadway work group to cease because the roadway workers would not be affected by the movement (i.e., the train would not be passing by the work area).

The inclusion of the word “affected” to this section is consistent with how the existing notification procedures regarding a change in the on-track safety procedures have been written and applied (see § 214.315(d), which states in part, “[s]uch information shall be given to all roadway workers affected before the change is effective, except in cases of emergency”). If no notification is necessary for certain roadway workers because the change in on-track safety does not affect them, then it follows that those roadway workers would not need to cease work. Thus, this issue is not unique to the adjacent controlled track context. For example, if a RWIC had “track and time” (a form of exclusive track occupancy, which is one method of establishing working limits) on a single main track from milepost MP 10 to MP 20, but explained in the on-track safety job briefing that the roadway work group’s working limits were only from MP 15 to MP 20, then the RWIC would be permitted to allow a train to come into the larger authority limits up to a designated point (i.e., between MP 10 and MP 15) short of the smaller working limits (i.e., between MP 15 and MP 20) given to the roadway workers, without first having to notify those roadway workers of the pending movement because they would not be “affected” by this movement.

In other cases, the limits of the track authority and the working limits for the roadway work group may be the same at the commencement of work activities, but as the roadway work is completed along the track, the RWIC may decide that it is best to “roll up,” or shorten, the working limits of the group (and may even formally relinquish a portion of the authority limits to

the dispatcher). In such cases, the RWIC must inform each affected roadway worker in the roadway work group of the new working limits through an updated on-track safety job briefing. See § 214.315(d). FRA believes that it is safe to apply the same principles that have been applied outside of the adjacent controlled track context (e.g., to single main track territory), regarding each “affected” roadway worker, to the adjacent controlled track context, especially since the train (or other on-track equipment movement) would be traveling on the adjacent controlled track rather than the occupied track, where an accidental incursion into the working limits of the roadway work group would likely be more dangerous.

§ 214.336(b)(1) When work must cease

Guidance : When work must cease depends upon which method of on-track safety is being used. If on-track safety is established on the adjacent controlled track through train approach warning in accordance with § 214.329 (either as the sole method of on-track safety or in addition to working limits), all work must cease upon receiving a watchman/lookout warning. See § 214.336(b)(1). On the other hand, if working limits are established on the adjacent controlled track and the roadway work group has not been assigned a watchman/lookout, all work must cease upon receiving a notification that the roadway worker in charge intends to permit one or more train movements or other on-track equipment movements within the working limits on the adjacent controlled track. See § 214.336(b)(1). This notification must occur before the roadway worker in charge (RWIC) releases the working limits (or a portion thereof that would affect one or more of the roadway workers in the roadway work group), in order to comply with existing § 214.319(c). See also, 214.336 Table 1, Footnote 1. It should be noted that despite the use of the phrase “through the working limits,” the “cease work” procedures would also be triggered if, for example, a roadway worker in charge decided to permit a train through, or within, part of the limits, but not all the way through the entire limits.

Additionally, FRA wants to make explicit that a machine operator resupplying a machine with materials, a mechanic repairing a machine, or a machine being fueled all constitute work subject to the RWP rules (or “roadway work,”). The first activity is “roadway work” because the gathering or distribution of materials necessary to the performance of track maintenance duties is part of those duties, and the last two activities are maintenance of roadway maintenance machinery. See § 214.7 (definition of “roadway worker”). Adjacent track on-track safety is required when activities described above are performed between the rails of the occupied track. Employees undertaking such activities are exposed to dangers described elsewhere in this document from trains passing on adjacent track. Paragraph (b) requires work to cease between the rails of the occupied track during adjacent controlled track movements authorized or permitted at speeds over 25 mph freight/40 mph passenger.

§ 214.336(b)(1) Where work must cease

Guidance: Where the work must cease would depend upon various factors, including the speed of the movement on the adjacent controlled track, the method(s) of on-track safety being used on one or both sides of the occupied track, and whether the work that is being performed meets one of the exceptions in paragraph (e). In order to help roadway workers and the regulated community at large better understand how these factors determine which procedures they are to follow, Table 1 summarizes how the procedures apply to different factual scenarios. The accompanying diagrams (Figure 1), which were created to correspond to the same example numbers in Table 1, help the reader visualize the factual scenarios. While FRA refers to the tracks in Table 1 and in the diagrams in Figure 1 with specific track numbers, both Table 1 and the diagrams are intended to apply to similarly-situated tracks, regardless of the actual number or letter of the track.

Table 1 is part of the rule text of § 214.336 and provides examples of the application of the rest of the rule text. FRA notes that Table 1 describes the “side” with an adjacent controlled track as “the side from the vertical plane of the near running rail of the occupied track extending outward through to the fouling space of the adjacent controlled track.” Note that the occupied track extends all the way to the fouling point of the adjacent controlled track on both sides of the occupied track, regardless of the track center distance between the occupied track and the adjacent controlled track. Thus, there no longer is a space between fouling points for track centers greater than approximately 13’-3”. Work must cease within the former designated “space between fouling points” unless it is permitted by Table 1 or by an exception noted in paragraph (e). Note: While work may have to cease outside the vertical plane of the rail of the occupied track, it may yet be a permissible location to clear to as a predetermined place of safety, if designated in the job briefing.

In certain situations, the rule permits work while exclusively positioned on the side of the occupied track opposite from the adjacent track upon which movement has been authorized or permitted. Specifically, as shown in Example 2 of Figure 1, workers positioned beyond the occupied track running rail farthest from the adjacent track where movement is authorized may continue to work. This includes any workers on other adjacent track located beyond that occupied track running rail opposite from the adjacent track upon which movement has been authorized and which has working limits on it and no movements permitted within such working limits by the RWIC. See § 214.336(e)(1)(ii). FRA believes that it is safe to work on the side of an occupied track with working limits on the closest adjacent track on that side and no movements within such limits on that side. Establishing the near running rail as a demarcation point is a “bright line” approach that will make it easier both for roadway workers and the regulated community at large to follow and for FRA inspectors to enforce.

Table 1 also illustrates the interrelation of various sections of the rule. For example, Footnote 2 (which is referenced in the center column of examples 1–4, and 6) reminds the reader that, per § 214.336(a)(2), work cannot continue on or between the rails of the occupied track during freight movement(s) on an adjacent controlled track at 25 mph or less or passenger movements at 40 mph or less if there is a simultaneous movement permitted on the other adjacent controlled track at more than 25 mph for freight movements or 40 mph for passenger movements.

Another clarifying point in the table worth noting is that, while the rule permits train approach warning to be used as a method for providing on-track safety for an adjacent controlled track, work that is being performed under train approach warning on both sides of an occupied track (assuming there is an adjacent controlled track on each side of the occupied track) must cease on both sides of the occupied track upon receiving a watchman/lookout warning for a train or other on-track equipment movement (at any speed) on the adjacent controlled track on either side. See Table 1, Ex. 4. This is the practical effect of not meeting the conditions for permitting work to continue on a side of the occupied track under the exception in paragraph (e)(1)(ii), which permits work on a side with one or more adjacent tracks only if the closest adjacent track has working limits on it and no movements permitted within such working limits. The cessation of work on both sides of the occupied track is necessary to ensure that a roadway worker will not mistake a watchman/lookout’s warning regarding a train on Track #1, for example, for a warning regarding a train on Track #3, and vice versa.

Additionally, upon receiving the warning for a train on Track #1 in the above scenario, it would not be safe for a roadway worker to occupy Track #3 as a predetermined place of safety, as a train could arrive on that track at any time during the movement on Track #1. Rather, the PPOS must be clear of all tracks that do not have working limits established on them, but may

be the space between the rails of the occupied track under these circumstances. See Table 1, note 1.

§ 214.336(b)(2)(i) Resuming work after trailing-end has passed

(2) Resuming work.

- (i) An affected roadway worker may resume on-ground work and equipment movement (on or between the rails of the occupied track or on one or both sides of the occupied track as described in Table 1 of this section) only after the trailing-end of all trains or other on-track equipment moving on the adjacent controlled track (for which a warning or notification has been received in accordance with paragraph (b)(1) of this section) has passed and remains ahead of that roadway worker.*

Guidance: Regarding when the work required to cease in paragraph (b)(1) is permitted to resume, paragraph (b)(2)(i) provides that an affected roadway worker may resume on-ground work and equipment movement (on or between the rails of the occupied track or on one or both sides of the occupied track as described in Table 1 of this section) only after the trailing-end of all trains or other on-track equipment moving on the adjacent controlled track (for which a warning or notification has been received in accordance with paragraph (b)(1) of this section) has passed and remains ahead of that roadway worker.

Each affected roadway worker whose work is not subject to an exception shall not be permitted to resume such work until after the entire movement (the trailing-end of the movement) has passed by the location of the roadway worker.

§ 214.336(b)(2)(ii) If the train or other on-track equipment stops before its trailing-end has passed

- (ii) If the train or other on-track equipment stops before its trailing-end has passed all of the affected roadway workers in the roadway work group, the work to be performed (on or between the rails of the occupied track or on one or both sides of the occupied track as described in Table 1 of this section) ahead of the trailing-end of the train or other on-track equipment on the adjacent controlled track may resume only—*
 - (A) If on-track safety through train approach warning (§ 214.329) has been established on the adjacent controlled track; or*
 - (B) After the roadway worker in charge has communicated with a member of the train crew or the on-track equipment operator and established that further movements of such train or other on-track equipment shall be made only as permitted by the roadway worker in charge.*

Guidance: If the train or other on-track equipment stops before its trailing-end has passed all of the affected roadway workers in the roadway work group, the work to be performed (on or between the rails of the occupied track or on one or both sides of the occupied track as described in Table 1 of this section) ahead of the trailing-end of the train or other on-track equipment on the adjacent controlled track may resume only under two circumstances. First, this work may resume if on-track safety through train approach warning (TAW) has been established on the adjacent controlled track and the roadway workers comply with all requirement of § 214.329. See § 214.336(b)(2)(ii)(A). Second, work may resume if the roadway worker in charge has communicated with a member of the train crew or on-track equipment operator and established that further movements of such train or other on-track equipment shall be made only as permitted by the roadway worker in charge. See §

214.336(b)(2)(ii)(B).

It should be noted that the TAW option provided in § 214.336(b)(2)(ii)(A) would not be permitted alongside the train on the adjacent controlled track (or for a certain distance on the occupied track ahead of the location of the train on the adjacent controlled track), since the train, if it were traveling at the “maximum speed authorized on that track” would already be at the roadway worker’s location (or, at certain distances, would be able to reach the roadway worker’s location sooner than 15 seconds) and would not permit the watchman/lookout to give the roadway worker any (or sufficient) time to clear. Under such circumstances, work would not be permitted to resume until the conditions in § 214.336(b)(2)(ii)(B) have been met, or until the train resumes its movement and its trailing-end passes the affected roadway worker’s location, whichever comes first.

§ 214.336(c) Procedures for adjacent-controlled track movements 25 mph or less for freight or 40 mph or less for passenger

(c) Procedures for adjacent-controlled track movements 25 mph or less (or 40 mph or less if passenger movements). *If a train or other on-track equipment is authorized or permitted to move on an adjacent controlled track at a speed of 25 mph or less, or at a speed of 40 mph or less for a passenger train or other passenger on-track equipment movement, each roadway worker in the roadway work group that is affected by such movement must comply with the procedures listed in paragraph (b) of this section, except that equipment movement on the rails of the occupied track and on-ground work performed exclusively between the rails (i.e., not breaking the plane of the rails) of the occupied track may continue, provided that no on-ground work is performed within the areas 25 feet in front of and 25 feet behind any on-track, self-propelled equipment or coupled equipment permitted to move on the occupied track.*

Guidance: The procedures for adjacent controlled track movements at a speed of 25 mph or less for freight trains and 40 mph or less for passenger trains are the same as those procedures for adjacent controlled track movements at a speed greater than 25 mph freight/40 mph passenger, except that certain work would be permitted to continue on the occupied track, due to the lower speed of the movements. As discussed above, in paragraph (a)(2), FRA makes clear that if an occupied track has two adjacent controlled tracks, and one of those adjacent controlled tracks has movements authorized at a speed of 25 mph freight/40 mph passenger or less, and the other has one or more concurrent adjacent controlled track movements authorized at a speed greater than 25 mph freight/40 mph passenger, the more restrictive procedures in paragraph (b) apply.

Paragraph (c) provides that “equipment movement on the rails of the occupied track and on-ground work performed exclusively between the rails (i.e., not breaking the plane of the rails) of the occupied track may continue” during low-speed movements on adjacent controlled tracks, “provided that no on-ground work is performed within the areas 25 feet in front of and 25 feet behind any on-track, self-propelled equipment or coupled equipment that is moving or permitted to move on the occupied track.” Thus, unless the work falls under one of the exceptions in paragraph (e), an affected roadway worker (after receiving a warning or notification of an adjacent controlled track movement at any speed) would be required to cease all on-ground work within the areas 25 feet in front of and 25 feet behind any on-track, self-propelled equipment or coupled equipment that is moving or permitted to move on the occupied track.

See Supplementary Guidance, § 214.336(c) Procedures For Adjacent Controlled Track Freight Movements 25 Mph Or Less Or 40 Mph Or Less Passenger Movements for additional

clarification.

The 25-foot buffer zone condition prohibits any on-ground work performed 25 feet or less in front of or behind any roadway maintenance machine. However, this does not prohibit work alongside equipment on a side of the occupied track which has no adjacent track, has an adjacent track with working limits and no permitted movement, or has an adjacent track but an inter-track barrier between the adjacent track and the occupied track.

The rule does not require a distance between on-ground roadway workers and smaller roadway maintenance machines that are not rail-mounted and machines that are not self-propelled, such as pneumatic hand tampers. Rail mounted RMM's that are pushed along by laborers such as bolt machines, platers, tie boring drills, etc., are also exempt from the rule requiring a distance between on-ground roadway workers and these smaller RMM's, as they are not self-propelled.

The phrase "permitted to move" is included in this paragraph to permit some (very limited) flexibility where preventative measures are in place to ensure that specific equipment does not move and pose a danger or distraction to the on-ground roadway workers in its immediate vicinity. FRA makes clear, however, that stationary on-track, self-propelled equipment or coupled equipment located on the occupied track is considered to be "permitted to move" for purposes of this section unless it is expressly prohibited from moving by the RWIC (and discussed in an on-track safety job briefing) or an operating rule of the railroad.

See Supplementary Guidance, § 214.336(c) Procedures For Adjacent Controlled Track Freight Movements 25 Mph Or Less Or 40 Mph Or Less Passenger Movements for further clarification.

Paragraph (c) permits the continuation of on-ground work that is performed "exclusively between the rails (i.e., not breaking the plane of the rails) of the occupied track," provided that the on-ground work is performed outside the 25-foot areas discussed above. This provides a clear, "bright line" approach to make it easier both for roadway workers and the regulated community at large to follow and for FRA inspectors to enforce. As a result, on-ground roadway workers must be mindful not to break the plane of the rail with his or her person or tools (including hand tools such as spike mauls, etc.) towards a side of the occupied track on which work is prohibited during a movement on an adjacent controlled track under this paragraph. (Note: FRA would not enforce this requirement for a level board used to check crosslevel, track gage, SpeedLiner stringline clamp or other similar implement, which sits on the ball of the rail and extends slightly beyond the plane of the rail for proper support, but which is applied while standing exclusively between the rails of the occupied track. See Table 1, note 2.) If, however, work is permitted on a side of the occupied track opposite of the adjacent controlled track that a train movement is occurring on, then the roadway worker is permitted to break the plane of the rail on that side.

It should also be noted that paragraph (c) only directly addresses work that a roadway worker in the roadway work group affected by the movement on the adjacent controlled track may continue performing despite movement on an adjacent controlled track. Work that is not permitted to continue under paragraph (c) and not subject to one of the exceptions in paragraph (e) is permitted to resume only after the trailing-end of all movements (for which a warning or notification (as applicable) has been received in accordance with paragraph (b)(1) of this section) has passed by (and remains ahead of) the affected roadway worker (including any equipment or tools that he or she is using).

§ 214.336(d) Discretion of roadway worker in charge

(d) Discretion of roadway worker in charge. *Nothing in this subpart prohibits the*

roadway worker in charge from establishing on-track safety on one or more adjacent tracks as he or she deems necessary consistent with both the purpose and requirements of this subpart.

Guidance: This paragraph emphasizes that the on-track safety procedures of this section are minimum requirements, and that a RWIC is free to establish on-track safety on one or more adjacent tracks as he or she deems necessary, consistent with both the purpose and requirements of this subpart.

None of the exceptions identified in § 214.336(e)(1) - (3) are applicable if the RWIC determines that adjacent track on-track safety is required. (Note: This could include a hi-rail or other rail bound machine engaged in inspection or minor correction activities - including welding, if the RWIC deems it necessary that he/she have adjacent controlled track protection).

Questions have arisen regarding an RWIC who deems on-track safety on an adjacent track necessary, even when the requirements of § 214.336 are not triggered. As stated in the final rule's preamble discussion "[t]he language concerning the discretion of the roadway worker in charge was added to emphasize that the roadway worker in charge would still be permitted to establish on-track safety on an adjacent track, regardless of whether it was controlled or non-controlled, if that on-track safety was reasonably necessary given the nature of the work that was to be performed." As such, if an RWIC expressed a reasonable reason as to why he/she believed adjacent track on-track safety was necessary, FRA's position is that the decision of the RWIC is final and is not be subject to railroad review.

§ 214.336(e) Exceptions to the requirements in paragraphs (a), (b), and (c) for adjacent-controlled track on-track safety

(e) Exceptions to certain requirements for adjacent-controlled-track on-track safety. *No on-track safety (other than that required by paragraph (f) of this section or provided under paragraph (d) of this section) is required by paragraphs (a) through (c) of this section for an adjacent controlled track during the times that the roadway work group is exclusively performing one or more of the following work activities:*

Guidance: There are five exceptions when adjacent controlled track on-track safety would either not have to be established at all under specific circumstances. This paragraph is not meant to exempt roadway workers from having to establish on-track safety in accordance with paragraphs (d) (Discretion of roadway worker in charge) or (f) (Procedures for components of roadway maintenance machines fouling an adjacent controlled track). Rather, paragraph (e) is meant to exempt roadway workers from the requirements in paragraphs (a), (b), and (c) for adjacent controlled track on-track safety during the times that the roadway work group is exclusively performing one or more of the work activities listed in paragraphs (e)(1) through (3).

§ 214.336(e)(1), On-ground work performed on a side of the occupied track meeting specified condition(s)

(1) On-ground work performed on a side of the occupied track meeting specified condition(s). *A roadway work group with all of its on-ground roadway workers (other than those performing work in accordance with another exception in paragraph (e) of this section) performing work while exclusively positioned on a side of the occupied track as follows and as further specified in Table 1 of this section:*

- (i) The side with no adjacent track;*
- (ii) The side with one or more adjacent tracks, the closest of which has working limits on it and no movements permitted within such working limits by the*

roadway worker in charge; or

(iii) The side with one or more adjacent tracks provided that that it has an inter-track barrier between the occupied track and the closest adjacent track on that side.

Guidance: The first exception to the requirement for adjacent controlled track on-track safety is for on-ground work performed on a side of the occupied track meeting specified condition(s) that would ensure that those performing the work would not be exposed to the danger caused by a train movement on an adjacent track on that side. There are three types of conditions that make it safe for on-ground work to be performed on the side of an occupied track opposite an adjacent track where there is no on-track safety or on which movement has been authorized into the working limits.

The first type of condition is a side of an occupied track with no adjacent track. See § 214.336(e)(1)(i). This means that either that side has no track whatsoever, or that the closest track on that side is at least 25 feet away from the occupied track (as measured from track center to track center). In the latter situation, there is sufficient distance to prevent inadvertent fouling of an adjacent track.

If, on the other hand, a side of the occupied track has one or more adjacent tracks (i.e., one or more tracks within 25 feet), then work is permitted on that side only if either (1) the closest adjacent track on that side has working limits on it and no movements permitted within such working limits by the RWIC, or (2) there is an inter-track barrier (meeting specified criteria) between the occupied track and the closest adjacent track on that side. See 214.336(e)(1)(ii), 214.336(e)(1)(iii), and 214.336(a)(3) (definition of “inter-track barrier”).

Most likely, the exception under paragraph (e)(1)(iii) (inter-track barriers) will be used primarily in commuter territories that already have permanent, sturdy chain-linked fences in place, often to prevent passengers from crossing the tracks. Most other semi-permanent barriers, such as concrete extra-tall jersey barriers (since standard jersey barriers are less than four feet in height), would be labor intensive to set up for a short work project. Regarding the use of plastic safety fencing, FRA notes that those fences are not typically permanently or semi-permanently installed, and FRA is also concerned that this material may be easily defeated by vandals, thereby weakening the plastic fencing or leaving gaps in it through which a roadway worker could trip and fall through. As a result, FRA does not consider plastic safety fencing as an acceptable “inter-track barrier” for purposes of this section. However, heavy gauge engineered plastic fencing may be permissible if it cannot be cut or defeated by a knife or other common tool. Such fencing typically requires specialized tools not commonly possessed by vandals to cut it. Such fencing securely fastened to posts driven into the ground would constitute a semi-permanent fence, so long as it meets the designated conditions noted in this section.

Inter-track barriers must be continuous. Any break in the barrier within the established working limits of the occupied track would nullify the use of the barrier for the exceptions denoted in 214.336(e)(1)(iii). However, some commuter railroads install passenger escape openings periodically within their platform fencing. So long as the opening is constructed by two fence sections that overlap each other sufficiently so as to provide a continuous barrier to prevent a roadway worker inadvertently fouling an adjacent track, such fencing is considered to be “continuous”.

Since an inter-track barrier would not prevent inadvertent fouling of the adjacent controlled track by roadway maintenance machines, the exception in paragraph (e)(1)(iii) exempts the roadway workers from the procedures in paragraphs (a), (b), and (c) only; they must still follow the procedures in paragraph (f), which generally provides that components of roadway maintenance machines shall not foul an adjacent controlled track unless working limits have

been established on the adjacent controlled track and there are no movements permitted within the working limits by the roadway worker in charge that would affect the roadway worker operating such machine.

See Supplementary Guidance, § 214.336(e)(1), On-Ground Work Performed on a Side of the Occupied Track Meeting Specified Conditions(s) for further clarification.

§ 214.336(e)(2) Maintenance or repairs performed either alongside, or within the perimeter of, machines or equipment on the occupied track

(2) Maintenance or repairs performed either alongside, or within the perimeter of, a roadway maintenance machine or coupled equipment on the occupied track.

- i. One or more roadway workers performing maintenance or repairs alongside a roadway maintenance machine or coupled equipment, provided that such machine or equipment would effectively prevent the worker from fouling the adjacent controlled track on the other side of such equipment, and that such maintenance or repairs are performed while positioned on a side of the occupied track as described in paragraph (e)(1)(i), (ii), or (iii) and Table 1 of this section.*
- ii. One or more roadway workers on or under a roadway maintenance machine or coupled equipment performing maintenance or repairs within the perimeter of the machine or equipment, provided that no part of their person breaks the plane of the rail of the occupied track except when toward one of the sides of the occupied track as described in paragraph (e)(1)(i), (ii), or (iii) and Table 1 of this section. A boom or other equipment extending beyond the body of a roadway maintenance machine or coupled equipment toward an adjacent controlled track is not considered to be within the perimeter of the machine or coupled equipment.*

Guidance: The second exception to the requirements for adjacent controlled track on-track safety is for maintenance or repairs performed alongside roadway maintenance machines or coupled equipment (located on the occupied track), provided that such machine or equipment would effectively prevent the worker from fouling the adjacent controlled track on the other side of such equipment, and that such maintenance or repairs are performed while positioned on a side of the occupied track where there should essentially be no danger posed by any other adjacent track (i.e., a side of the occupied track as described in paragraph (e)(1)(i), (ii), or (iii) and Table 1 of this section).

FRA has adopted a bright line approach that would generally not permit a roadway worker to break the plane of a rail (into the gage of the occupied track towards an adjacent controlled track on which a movement is authorized or permitted). However, in order to, for example, change out a grinding stone, the rail must necessarily be crossed. As such, FRA has decided to adopt this physical barrier concept for any work that would need to cross the plane of the rail into the gage of the occupied track. Thus, the rule permits one or more roadway workers to perform maintenance or repairs alongside a roadway maintenance machine or coupled equipment, provided that (1) such machine or equipment would effectively prevent the worker from fouling the adjacent controlled track on the other side of such equipment, and (2) that such maintenance or repairs are performed while positioned on a side of the occupied track as described in paragraph (e)(1)(i), (ii), or (iii) and Table 1 of this section. FRA specifically refrained from using the word “barrier” to describe this first condition in the rule text so that it would not be confused with the exception involving an “inter-track barrier.” The second condition ensures that the roadway worker will remain out of harm’s way because he or she will need to be positioned (standing, kneeling, sitting, squatting, or lying with both feet outside of

the gage of the track) for the most part on a side which has no adjacent track, has an adjacent track with working limits and no permitted movement, or has an adjacent track but an inter-track barrier between the adjacent track and the occupied track while performing such maintenance or repairs. For example, paragraph (e)(2) permits a roadway worker to refuel a roadway maintenance machine, if the machine would effectively prevent the worker from fouling the adjacent controlled track on the other side of such equipment and he or she is able to do so while positioned (for the most part) on a side which has no adjacent track, has an adjacent track with working limits and no permitted movement, or has an adjacent track but an inter-track barrier between the adjacent track and the occupied track.

FRA has also included maintenance or repairs performed on or under a roadway maintenance machine or coupled equipment on the occupied track and within the perimeter of that machine or equipment in the exception to the adjacent controlled track on-track safety requirements.

The provision states that a roadway worker performing maintenance or repairs is not considered to be within the perimeter of the roadway maintenance machine or coupled equipment if any part of his or her person breaks the plane of the rail of the occupied track, except toward one of the sides which has no adjacent track, has an adjacent track with working limits and no permitted movement, or has an adjacent track but an inter-track barrier between the adjacent track and the occupied track. Booms or other equipment extending beyond the body of a roadway maintenance machine or coupled equipment are not considered to be within the perimeter of the machine or coupled equipment.

This perimeter exception applies to a worker positioned on or under the equipment while within the perimeter of the equipment, without regard to whether the maintenance or repairs are performed while positioned on a side of the occupied track. A repair person who is working beneath a machine should not be forced to extract himself or herself each time a train passed on an adjacent controlled track as this could increase the risk of injury to the worker, and that a roadway worker working while performing repairs under the machine is not at risk of being struck by a train on the adjacent track.

Within the perimeter of the machine means that the roadway worker is either in the machine, exclusively positioned under the machine, or on the deck or roof of the machine. A hand or tool extended beyond the edge of the perimeter of the machine on the side closest to the track which movement has been permitted or authorized would constitute a violation of the provision required to utilize the exception. A roadway worker standing on the deck of an idler car of a crane reeving new cable for the machine would be in compliance with the exception provided no part of the roadway worker extended outside the perimeter of the idler car.

A roadway worker located under a machine could also be considered to be within the perimeter of the machine in certain instances. For example, under the machine means any position other than standing or crouching where more than the feet alone are positioned under some component of the machine exclusively between the rails of the occupied track. A roadway worker lying on his back with only his head and perhaps an arm physically below the machine (no part of the body toward the adjacent controlled track) in order to keep from being drenched by oil as he removed a cylinder, pump, hose, etc., would constitute being within the perimeter of the machine.

Extensions to the body of the machine directed towards the adjacent controlled track (such as the extension that can be deployed on a Torsion Beam tamper to permit tamping the diverging lead rail on a turnout) are not considered to be within the perimeter of the machine. Nor would standing on the wing of a ballast regulator on the side closest to the adjacent controlled track be considered to be within the perimeter of the machine. Standing or sitting under the elevated boom of a crane while the roadway worker was not physically on the machine would also not

comply, because the boom would not serve to restrict movement of the roadway worker towards the adjacent controlled track – even if not extended towards the adjacent controlled track.

Questions from the regulated community have arisen over whether adjacent controlled track on-track safety is required for a roadway maintenance machine operator(s) or work equipment mechanic(s) working on a machine or machines in a storage track located 19 feet or less from the centerline of an adjacent controlled track after the members of the roadway work group have departed.

Repair and maintenance of RMM's has always been considered roadway work subject to the requirements of the RWP regulation. Obviously, though, a single operator or mechanic working on a machine as described above is a lone worker and thus not subject to the requirements of § 214.336. However, he or she is fouling a track and on-track safety is required on the track the machine is located on. (Note: Most often, the switch or switches governing entrance to the storage track containing the machines are lined against entry into the storage track and locked out and tagged using an effective securing device, thereby creating Inaccessible Track under § 214.327).

Should a second operator join a roadway worker servicing the same machine, a roadway work group is now created and the requirements of § 214.336 are triggered. However, the exceptions in § 214.336(e) would provide relief from the requirements to establish on-track safety on the adjacent controlled track under most instances. Work performed on one of the sides of the occupied track which has no adjacent track, has an adjacent track with working limits and no permitted movement, or has an adjacent track but an inter-track barrier between the adjacent track and the occupied track would not require on-track safety be established, nor would work performed alongside, or within the perimeter of, an RMM as specified by Paragraph (e)(2). The near proximity of the adjacent controlled track upon which movements are occurring, as well as the danger and potential for distraction when a roadway work group performs repair work on a side of a machine toward an adjacent controlled track upon which high speed train movements may be authorized necessitates the use of adjacent controlled track protection when the conditions mandated by paragraph (e) cannot be fulfilled.

§ 214.336(e)(3) Work activities involving certain equipment and purposes

(3) Work activities involving certain equipment and purposes. One or more on-ground roadway workers engaged in a common task on an occupied track with on-track, self-propelled equipment or coupled equipment consisting exclusively of one or more of the types of equipment described in paragraphs (e)(3)(i) through (iii) of this section. If such a roadway work group ("excepted group") is authorized or permitted to operate on the same occupied track and within the working limits of a separate roadway work group performing work that is subject to the requirements of this section ("non-excepted group") or vice versa (i.e., a non-excepted group is authorized or permitted to operate on the same occupied track and within the working limits of an excepted group), the groups must conduct an on-track safety job briefing to determine if adjacent-controlled-track on-track safety is necessary for the excepted group. Such determination shall be made by the roadway worker in charge of the working limits; however, if the groups are in such proximity where the ability of the roadway workers in the excepted group to hear or see approaching trains and other on-track equipment is impaired by background noise, lights, sight obstructions or any other physical conditions caused by the equipment, then this exception does not apply, and adjacent-controlled-track on-track safety must be provided to both groups. This exception otherwise applies to work activities involving one or more of the following types of equipment:

- (i) *A hi-rail vehicle or other rail-bound vehicle (other than a catenary maintenance tower vehicle) being used for inspection or minor correction purposes, provided that such vehicle is not coupled to one or more railroad cars. In accordance with § 214.315(a), where multiple hi-rail or rail-bound vehicles being used for inspection or minor correction are engaged in a common task, the on-track safety job briefing shall include discussion of the nature of the work to be performed to determine if adjacent-controlled-track on-track safety is necessary.*
- (ii) *An automated inspection car being used for inspection or minor correction purposes.*
- (iii) *A catenary maintenance tower car or vehicle, provided that all of the on-ground workers engaged in the common task (other than those performing work in accordance with another exception in paragraph (e) of this section) are positioned within the gage of the occupied track for the sole purpose of applying or removing grounds.*

Guidance: The third exception to the requirements for adjacent controlled track on-track safety is for work activities involving certain types of equipment used for certain purposes. Specifically, this exception applies to one or more on-ground roadway workers engaged in a common task on an occupied track with on-track, self-propelled equipment or coupled equipment consisting exclusively of one or more of three types of equipment: hi-rail or other rail-bound vehicles; automated inspection cars; and catenary maintenance tower cars.

In situations where two roadway work groups not engaged in a common task share the same working limits (commonly referred to as piggybacking or “JO” onto another RWIC’s authority limits) and one of the groups is performing excepted minor correction or inspection work with a hi-rail or other rail-bound vehicle and the other group requires adjacent controlled track on-track safety under 214.336, then the groups must conduct an on-track safety job briefing to determine if adjacent controlled track on-track safety is necessary for the excepted group. The determination as to whether on-track safety is necessary for the excepted group shall be made by the RWIC of the working limits, who has the discretion to require on-track safety for the excepted group. If the two groups are in such proximity where the ability of the roadway workers in the excepted group to hear or see approaching trains and other on-track equipment is impaired by background noise, lights, sight obstructions or any other physical conditions caused by the equipment, then this exception does not apply, regardless of the RWIC’s initial determination, and adjacent-controlled-track on-track safety must be provided to both groups.

Additionally, the rule requires that, in accordance with § 214.315(a)(3), where multiple hi-rail vehicles are engaged in a common task, the on-track safety briefing shall include discussion of the nature of the work to be performed to determine if adjacent controlled track on-track safety is necessary. This restriction is intended to ensure that work to be performed by hi-rail vehicles that is equally as distracting as that performed by other types of on-track, self-propelled equipment or coupled equipment is subject to the requirements of this section.

The first type of equipment excepted is hi-rail vehicles or other rail-bound vehicles engaged in inspection or minor correction. A hi-rail vehicle is defined by § 214.7 as “a roadway maintenance machine that is manufactured to meet Federal Motor Vehicle Safety Standards and is equipped with retractable flanged wheels so that the vehicle may travel over the highway or on railroad tracks.”

The term “minor correction”, as defined in § 214.336(a)(3), “means one or more repairs of a minor nature, including but not limited to, welding, spiking, anchoring, hand tamping, and joint bolt replacement, that are accomplished with hand tools or handheld, hand-supported, or hand-guided power tools. The term does not include machine spiking, machine tamping, or any similar distracting repair.” Handheld, hand-supported, or hand-guided power tools would

include any power tool (gasoline, electric, hydraulic or pneumatic) utilized to perform basic track maintenance. This would include, but is not limited to hydraulic (self-contained, operated off a power-pak or the truck PTO), track or bridge jacks, rail saws, rail drills, thermite weld shears, hydraulic expanders, mall and profile grinders, bonder grinders, hand-held power bolt machines, jumping jack type hand tampers or spike pullers, under certain conditions chain saws, etc., as well as gasoline or pneumatic comparable power tools. Such activities could include basic track welding or grinding, thermite welding, continuous welded rail adjustment, cutting in a plug rail, spotting in ties by hand, etc., or any activity accomplished exclusively using hand tools such as listed above. However, if in the performance of these duties a roadway worker must foul the adjacent track, on-track safety must be provided, irrespective of whether or not the work activity meets the criteria for minor correction or if during the use of such equipment; under paragraph (d) the RWIC, for safety purposes (excessive noise, dust or other distractions), were to deem adjacent controlled track on-track safety necessary, then it must be provided.

See Supplementary Guidance, § 214.336(e)(3) Maintenance or Repairs Performed Alongside, or Within the Perimeter of, Machines or Equipment on the Occupied Track for further clarification.

Questions have arisen with regard to what types of hi-rail or rail-bound vehicles used for the performance of inspection or minor correction work would trigger the requirement for adjacent controlled track protection. However, it is not the specific type of hi-rail or rail-bound vehicle that triggers the requirement, but what is being done by the vehicle and/or the roadway work group. If the work performed does not meet the criteria for minor correction or inspection, then adjacent controlled track on-track safety is required.

For example, a hi-rail truck used only for transportation purposes in conjunction with an on-ground roadway worker or roadway work group engaged in an activity that did not comport to minor correction or inspection would not meet this exception and would require adjacent controlled track on-track safety for the adjacent controlled track as the hi-rail meets the definition of an on-track, self-propelled piece of equipment. The exception is not applicable because the roadway work group is engaged in an activity that does not meet the criteria of minor correction.

Railroads have asked whether the use of a truck-mounted crane to unload a plug rail or a hydraulic expander from a boom truck constitutes minor correction work if done in conjunction with the replacement of a rail or perhaps as needed in adjusting CWR. This activity, if it involved roadway worker(s) on the ground performing this common task with on-track self-propelled machinery, would not qualify as minor correction work. The unloading of rail or other equipment/materials via a hi-rail truck's crane is not considered "minor correction" work as the use of a crane is not one of the items listed under § 214.336's definition of "minor correction," and does not involve the use of hand tools or handheld, hand-supported, or hand-guided power tools per that definition. Rather, that activity involves the use of machinery on the on-track equipment itself to perform the work.

Work that may precede or follow a minor correction, such as unloading the rail or other large load such as a hydraulic expander, can be considered a distinct and separate operation from the remaining minor correction work. This would require adjacent controlled track on-track safety only for the work that preceded or followed the minor correction and would allow the work group to utilize the exception for the minor correction work.

The second type of equipment excepted is "automated inspection cars." The level of distraction posed during the use of automated inspection cars is comparable (or the same) to that encountered during the task of inspecting or performing minor correction. If there are other

roadway maintenance machines (presumably on-track, self-propelled equipment or coupled equipment not meeting the exception) performing a common task with such equipment, then the roadway work group would require adjacent controlled on-track safety while a roadway worker was on the ground working common with the automated inspection car by virtue of the presence of the other equipment.

An automated inspection car includes rail-mounted, non-highway, self-propelled or coupled equipment whose primary purpose is to take measurements or collect data concerning the railroad right of way, such as rail-bound track geometry cars, gage restraint measurement system cars, and rail flaw detector cars. It does not generally include a locomotive equipped with vehicle-track interaction because the primary purpose of that locomotive is to haul freight or passenger cars, rather than to take measurements or collect data concerning the railroad right of way. If, however, such locomotive is hauling only a rail-bound geometry car that is taking measurements and collecting data along the railroad right-of-way, then this coupled equipment would be considered an automated inspection car for purposes of this section.

The third type of equipment excepted is catenary maintenance tower cars or vehicles. FRA knows of no adjacent track fatalities where a roadway work group had been engaged in a common task with a catenary maintenance tower car on the occupied track, and the duties normally performed by an employee operating a catenary maintenance tower car tend to be less distracting to on-ground roadway workers and produce less dust and noise than a typical on-track roadway maintenance machine. Some of these maintenance machines are railroad cars and others are vehicles, but both are subject to the conditions of this exception.

The rule requires that all of the on-ground workers engaged in the common task with catenary tower vehicles or cars (other than those performing work in accordance with another exception in paragraph (e) of this section) be positioned within the gage of the occupied track for the sole purpose of applying or removing grounds. Note that these roadway workers are permitted to break the vertical plane of the rail of the occupied track in order to apply or remove a ground (as it is not always possible to do so without breaking the plane of the rail) as long as they would still be positioned for the most part within the gage of the occupied track (i.e., standing, kneeling, sitting, or squatting with both feet between the rails of the occupied track).

Work performed by a catenary tower car not engaged in applying grounds would normally not require adjacent controlled track protection because the entire gang is generally working from the raised deck of the car. However, if the RWIC (foreman) places himself on the ground as is occasionally required when stringing wire, even momentarily, adjacent controlled track on-track safety will be required for that period the RWIC is on the ground. Use of the extension plank from the deck of the car to service pull-offs, etc., may require protection, as would a rotating deck if the extension fouls the adjacent track.

The use of multiple catenary tower cars for activities such as de-icing of main messenger and contact wire would certainly trigger the requirement to conduct a job safety briefing to determine if distractions are present such that adjacent controlled track on-track safety is required.

§ 214.336(f) Procedures for components of roadway maintenance machines fouling an adjacent controlled track

- (f) *Procedures for components of roadway maintenance machines fouling an adjacent controlled track. Except as provided for in § 214.341(c), a component of a roadway maintenance machine shall not foul an adjacent controlled track unless working limits have been established on the adjacent-controlled-track and there are no movements*

permitted within the working limits by the roadway worker in charge that would affect any of the roadway workers engaged in a common task with such machine.

Guidance: “Roadway maintenance machine” is singular to ensure that the prohibition is applied to each machine. Further, a movement that is permitted within the working limits, but not all the way “through” would still trigger the prohibition against fouling in this paragraph. Finally, a movement permitted within the limits of the authority, but short of the group’s working limits (that would therefore not affect the roadway workers) would not trigger this prohibition.

This prohibition is not meant to be so broad as to forbid a roadway worker from using readily portable tools or equipment similar to a hydraulic tamping gun or a spike puller fed off the machine’s pressurized hydraulic supply system, on an adjacent controlled track while afforded on-track safety through train approach warning. FRA urges employers and employees use common sense in determining which tools or equipment they would permit to be used or use under TAW. If there is any doubt as to whether the tools or equipment could be readily removed, the employee must not foul the track with those tools or equipment under TAW provided by watchmen/lookouts (§ 214.329). The issue of fouling a track with heavier tools or equipment is not unique to the adjacent controlled track context.

The exception provided by § 214.341(c) is intended for outriggers on boom (log loader) or bucket trucks where the outriggers might foul of the adjacent track, but would not be in a position such that the outrigger could be struck by moving equipment (trains or on-track equipment). The specific procedural instructions to ensure clearance between the machine and passing trains must be included in the railroad’s On-track Safety Program. A regulator wing would not meet this condition if it has the capability to place the wing in the foul of the adjacent track and be in a position that could be struck by moving equipment. The larger regulators may be able to reach with their wing as far as 13 feet from the centerline of the occupied track. Although the lowered wing is normally below the clearance envelope, an extended wing striking a buried catch basin, abandoned signal foundation, etc., or other such impediment can easily derail the machine and thereby put the machine itself into the foul of the adjacent track, whereby it could be struck by a passing train. Therefore, under 214.341(c), it is not possible to have procedural instructions necessary to provide adequate clearance for regulator wings.

As a final note, § 214.336(f) is applicable only when all of the required elements of the triggering language in § 214.336(a) are in effect. If for example, a ballast regulator operator is working exclusively with a surfacing gang with no roadway workers on the ground working common with the consist - the requirements of paragraph (f) would not be applicable.

Table 1–Summary of On-Track Safety Procedures for Certain Roadway Work Groups and Adjacent Tracks

Example No./ Diagram No. (see Figure 1)	“Side A” of the Occupied Track—the side from the vertical plane of the near running rail of the occupied track extending outward through to the fouling space of the adjacent controlled track (“No. 1’ Track” or “No. 1”)		On or Between the Rails of the Occupied Track (“No. 2’ Track” or “No. 2”), where On-Track Safety Is Established through Working Limits	“Side B” of the Occupied Track—either (1) the side with no adjacent track or (2) the side from the vertical plane of the near running rail of the occupied track extending outward through to the fouling space of the adjacent controlled track (“No. 3’ Track” or “No. 3”)	
	Method of On-Track Safety on Side A	Requirements	Requirements	Requirements	Method of On-Track Safety on Side B
1	Working limits or train approach warning	Upon receiving a notification or warning for movement(s) (“movement notification or warning”) for No. 1, cease work and occupy a predetermined place of safety (“PPOS”). ¹	Upon movement notification or warning for No. 1, cease work and occupy a PPOS, except work may continue during movement(s) on No. 1 auth’d. at 25 mph or less (or 40 mph or less for passenger train movements) if maintain 25’ spacing. ²	Work ³ is not required to cease during movement(s) on No. 1.	Not applicable (N/A), because there is no adjacent track
2	Working limits	Upon movement notification for No. 1, cease work and occupy a PPOS. Work ³ is not required to cease during movement(s) on No. 3.	Upon movement notification for No. 1 or No. 3, cease work and occupy a PPOS, except work may continue during movement(s) on No. 1 or No. 3 auth’d. at 25 mph or less (or at 40 mph or less for passenger train movements) if maintain 25’ spacing. ²	Upon movement notification for No. 3, cease work and occupy a PPOS. Work ³ is not required to cease during movement(s) on No. 1.	Working limits
3	Working limits	Upon movement notification for No. 1, cease work and occupy a PPOS. Work ³ is not required to cease during movement(s) on No. 3.	Upon movement notification for No. 1 or warning for No. 3, cease work and occupy a PPOS, except work may continue during movement(s) on No. 1 or No. 3 auth’d. at 25 mph or less (or at 40 mph or less for passenger train movements) if maintain 25’	Upon movement warning for No. 3 or notification for No. 1, cease work and occupy a PPOS.	Train approach warning

			spacing. ²		
4	Train approach warning	Upon movement warning for No. 1 or No. 3, cease work and occupy a PPOS.	Upon movement warning for No. 1 or No. 3, cease work and occupy a PPOS, except work may continue during movement(s) on No. 1 or No. 3 auth'd. at 25 mph or less (or at 40 mph or less for passenger train movements) if maintain 25' spacing. ²	Upon movement warning for No. 3 or No. 1, cease work and occupy safety PPOS.	Train approach warning
5	None, but with inter-track barrier	Work is prohibited on No. 1 and up to barrier ("Side A1"). Work is not required to cease between barrier and near running rail of occupied track ("Side A2") during movement(s) on No. 1.	Work is not required to cease during movement(s) on No. 1.	Work is not required to cease during movement(s) on No. 1.	N/A, because there is no adjacent track
6	None, but with inter-track barrier	Work is prohibited on Side A1. Work ³ is not required to cease on Side A2 during movement(s) on No. 1 or No. 3.	Work is not required to cease during movement(s) on No. 1. Upon movement notification or warning for No. 3, cease work and occupy a PPOS, except work may continue during movement(s) on No. 3 auth'd. at 25 mph or less (or at 40 mph or less for passenger trains) if maintain 25' spacing. ²	Upon movement notification or warning for No. 3, cease work and occupy a PPOS. Work ³ is not required to cease during movement(s) on No. 1.	Working limits or train approach warning

¹ As used in the above table, a "predetermined place of safety" (or "PPOS") means a specific location that an affected roadway worker must occupy upon receiving a watchman/lookout's warning of approaching movement(s) ("warning") or a roadway worker in charge's ("RWIC's") notification of pending movement(s) on an adjacent track ("notification"), as designated during the on-track safety job briefing required by § 214.315. The PPOS may not be on a track, unless the track has working limits on it and no movements permitted within such working limits by the RWIC. Thus, under these circumstances, the space between the rails of the occupied track (No. 2 in this table) may be designated as a place to remain in position or to otherwise occupy upon receiving a warning or notification. The RWIC must determine any change to a PPOS, and communicate such change to all affected roadway workers through an updated on-track safety job briefing.

² On-ground work is prohibited in the areas 25' in front of and 25' behind equipment on the occupied track (No. 2), and must not break the plane of a rail on No. 2 towards a side of No. 2 unless work is permitted on that side. Note, however, that per § 214.336(a)(2), work would no longer be

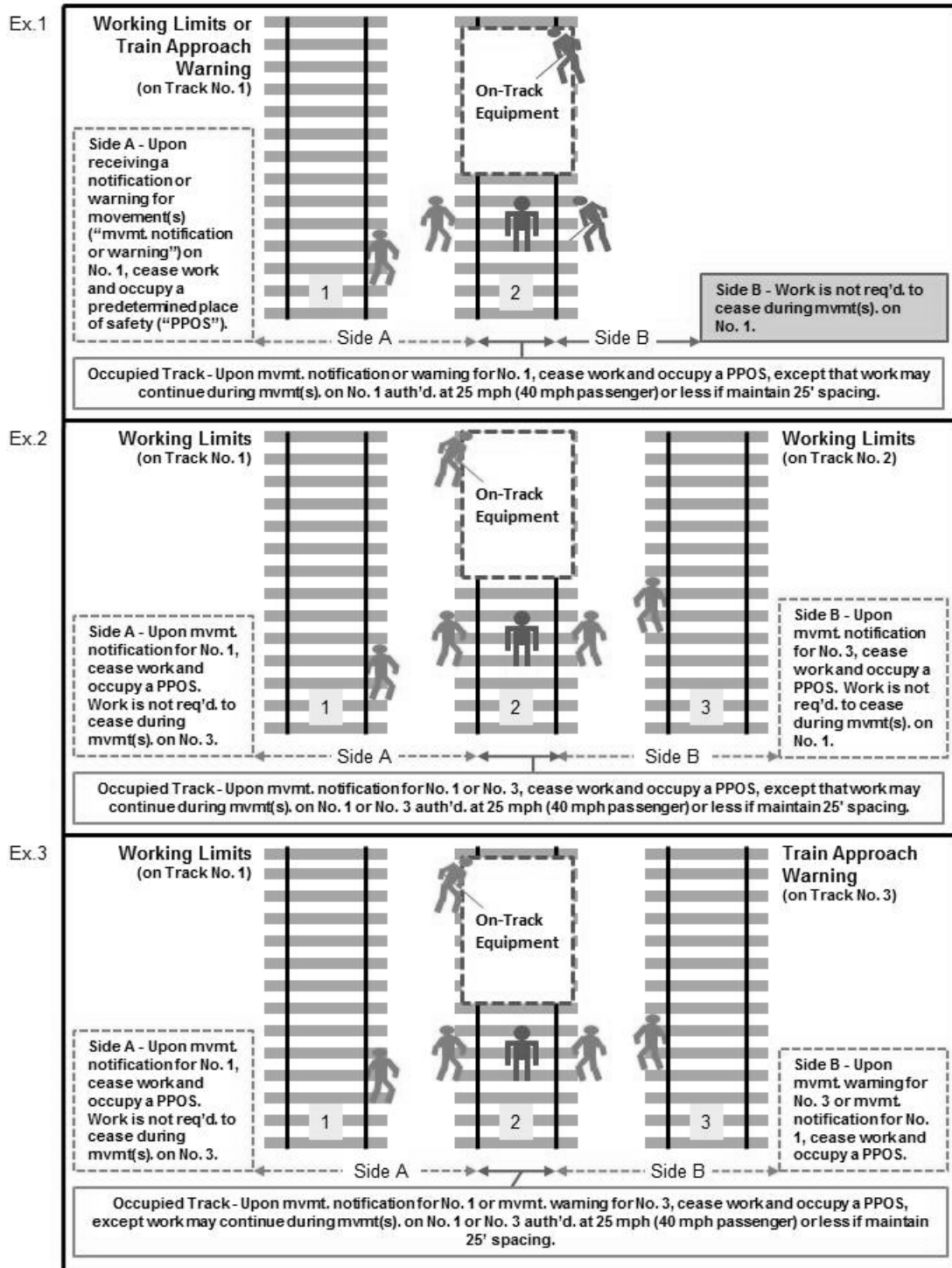
permitted to continue on or between the rails of the occupied track during movement(s) on an adjacent controlled track at 25 mph or less (or at 40 mph or less for passenger trains or other passenger on-track equipment movements) if there is a simultaneous movement on the other adjacent controlled track at more than 25 mph (or at more than 40 mph per hour for passenger train movements or other passenger on-track equipment movements).

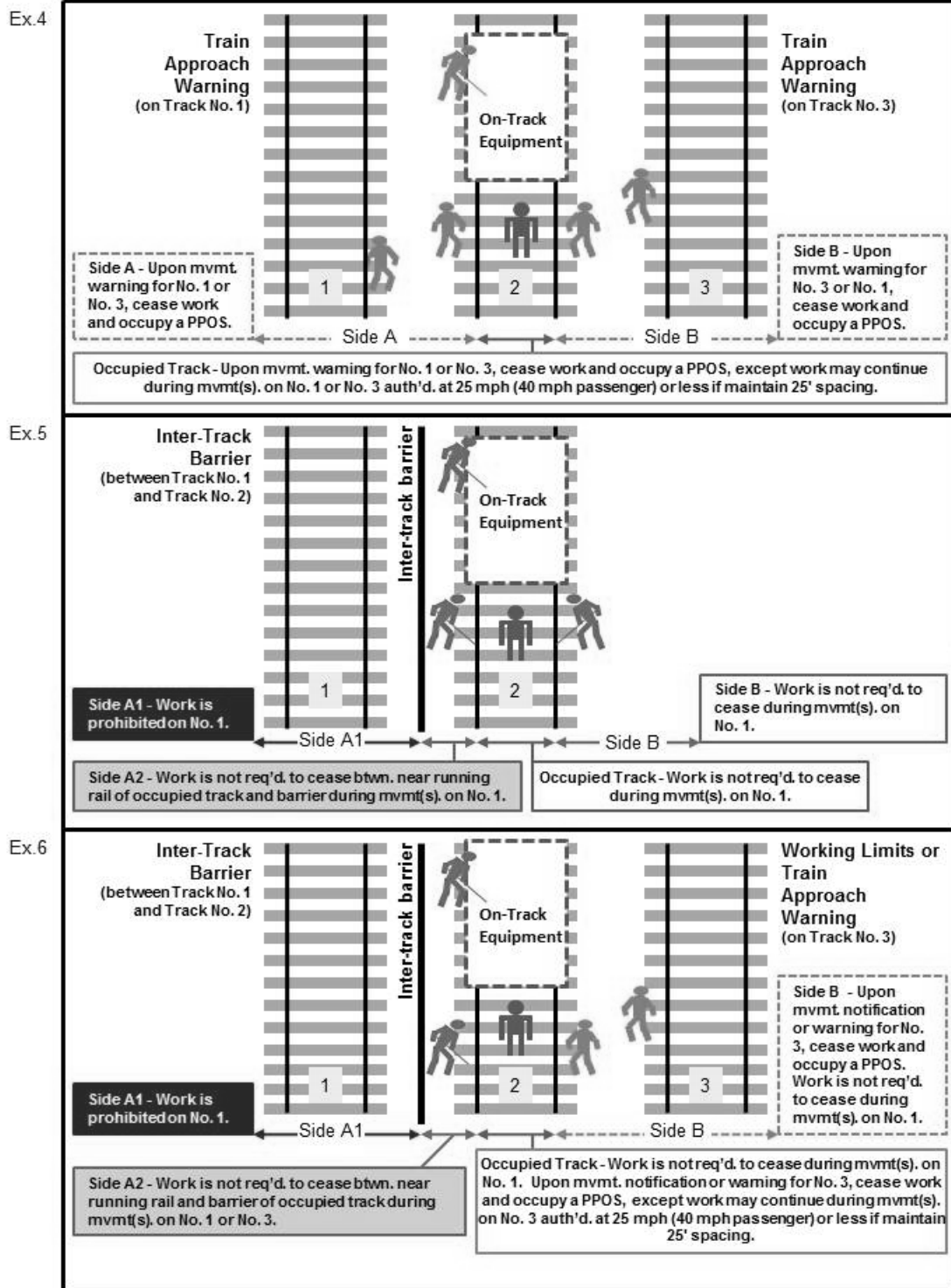
³ Work that does not break the plane of the near running rail of the occupied track (No. 2) is not required to cease during such movements; work that breaks the plane of the near running rail of the occupied track may also continue: 1) during the times that work is permitted on or between the rails of the occupied track in accordance with § 214.336(c) (Procedures for adjacent controlled track movements 25 mph or less, or 40 mph or less for passenger train movements or other passenger on-track equipment movements); or 2) if such work is performed alongside or within the perimeter of a roadway maintenance machine or coupled equipment in accordance with § 214.336(e)(2).

Figure 1, Examples Applying §214.336, On-Track Safety Procedures for Certain Roadway Work Groups and Adjacent Tracks

Examples Applying §214.336 (1 – 6)

FIGURE 1 - EXAMPLES APPLYING § 214.336, ON-TRACK SAFETY PROCEDURES FOR CERTAIN ROADWAY WORK GROUPS AND ADJACENT TRACKS
(All tracks are controlled, with centerlines less than 19 feet apart.)





Supplementary Guidance for § 214.336**§ 214.336(a)(1) Procedures; general – General rule**

A three-person surfacing crew, exempt from the requirements associated with securing adjacent controlled track on-track safety while each is on his or her machine performing the common task associated with the surfacing operation, would require adjacent controlled track on-track safety if the RWIC dismounted from his or her machine and walked back behind the machine to sight the rail or to check crosslevel. On-track safety could be established by utilizing another operator to be a watchman/lookout for the RWIC. The procedure for arranging the required on-track safety must be discussed in the job briefing prior to the RWIC dismounting his or her machine. Should an operator from the same three-person consist (no person working on the ground common with the roadway work group) find it necessary to dismount his or her machine to move clear of any track to perform a specific function not common to the roadway work group's task (e.g., take a cigarette break, eat lunch in the shade), adjacent controlled track on-track safety would not be necessary so long as the roadway worker moved directly across the track without stopping to perform any other task. FRA considers such actions to be consistent with its policy of permitting roadway workers to cross tracks without requiring on-track safety.

Similarly, an operator from the same consist, who has been designated to be a watchman/lookout for the RWIC, assumes that role when he or she dismounts from the machine. He or she must immediately move to the location for which he will provide train approach warning (TAW) without delay – but he becomes a watchman/lookout as soon as he has dismounted the machine and remains so until he has returned to his machine. Under TAW, the watchman/lookout provides protection for himself as well as the other members of the roadway work group. He must assume his position and be in place prior to the RWIC moving into position to perform an on-ground task or function. Should a train or on-track equipment approach on an adjacent controlled track, the watchman/lookout must provide the designated warning and the watchman/lookout and RWIC must comply with the requirements of either paragraph (b) or (c).

§ 214.336(a)(3) Procedures; general – Definitions

FRA and industry through the RSAC process determined that 19 feet is a reasonable and safe threshold at which to trigger the requirement to establish on-track safety on an adjacent track and that it would be reasonable to cover controlled tracks within that 19-foot zone but to exclude non-controlled tracks. All known adjacent track fatalities since the promulgation of the original RWP regulation have occurred in territories with track centers of 15 feet or less, and the 19-foot threshold, provides an additional safety factor built in to prevent fatalities as well as injuries that could occur as a result of a shifted load/lading or debris, stones, or track construction/maintenance materials becoming airborne while trains pass roadway workers. The lack of fatalities on non-controlled adjacent tracks may be attributable to the reduced operating speeds on non-controlled tracks, where railroad operating rules generally require that movements must stop short of obstructions within half the range of vision. Thus, on-track safety is required for “adjacent controlled track within 19 feet of the centerline of the occupied track” for certain work activities. Note, that this section also uses the broader term “adjacent track” or “adjacent tracks” in paragraphs (a)(3) (see definition of “inter-track barrier”), (d), and (e)(1)(i) through (iii), as further discussed, below.

§ 214.336(b)(1) Ceasing work and occupying a predetermined place of safety

Questions have arisen regarding the operation of machines where the operator for the machine may not be located in the cab of the machine, but remains on the ground immediately adjacent to the machine. What must the operator or laborer engaged in such work do when a warning is issued or movement is authorized or permitted at a speed greater than 25 MPH F/40 MPH P where the machine may consist of multiple cars or combination pieces of significant length. As all work must cease (machine and laborers), the affected roadway workers must clear to their predetermined place of safety. If the predetermined place of safety is determined to be between the rails of the occupied track in the job safety briefing, then operator or laborer movement up to the frame of the machine would be acceptable if the length of the machine and/or its coupled equipment precludes going anywhere else.

FRA recognizes that the seated position for many machine operators may be outside or partially outside the vertical plane of the rail of the occupied track. However, these roadway workers are still within the perimeter of the machine and will be considered between the rails of the occupied track so long as they remain on or within the body of the machine.

If during the job briefing, it is determined that roadway workers will clear to a PPOS outside of the vertical plane of the rail of the occupied track, they may do so, so long as they are not in the foul of the adjacent track where movement has been authorized or permitted or warning has been provided or to another track where working limits have not been established. It is possible that the established PPOS could be a location where the roadway worker may have to cease work during train movement.

§ 214.336(c) Procedures for adjacent-controlled track movements 25 mph or less for freight or 40 mph or less for passenger

Questions have arisen regarding the applicability of paragraph (c) when the running rail is not in place, as would occur during specific operations associated with rail laying gangs. If work continues as a train passes on an adjacent controlled track as permitted under paragraph (c), then no portion of the body may extend beyond the location where the rail would have been present unless otherwise permitted by § 336(e)(1)(i) or (iii). Roadway workers may utilize the tie plate seat bearing area indicated on the tie to determine the location of the vertical plane of the rail when the rail is not present. Within a rail gang, the rail is rolled out typically ahead of the adzler and several machines are equipped with a crawler track on one side and a flanged wheel for the other side. A machine riding only one rail meets the criteria for on-track, self-propelled equipment and therefore would require the 25-foot buffer zone for the on-ground roadway workers ahead and behind each machine or machines possessing such characteristics when a train is passing on the adjacent controlled track. A machine, such as a large Pettibone crane that straddles the rail in the same gang, does not meet the requirements for on-track, self-propelled equipment and thus the 25-foot buffer zone is not enforceable for that machine under Paragraph (c).

Thus, a locomotive crane driving H-pile for a bridge replacement from the occupied track could continue to drive the outside batter pile (side opposite from the adjacent controlled track on which movement is authorized or permitted) and pile between the running rails (assuming the rear of the crane car body did not foul the adjacent controlled track) if the RWIC limits authorized or permitted train speed through the working limits to 25 MPH F/40 MPH P, or less. So long as it is established in the job safety briefing that the crane will not move and is specifically covered in the railroad's on-track safety program, a roadway worker standing between the running rails of the occupied track could approach the crane leads

without waiting until the trailing end of the train has passed. He then could set his keel marks on the pile to determine pile refusal.

Obviously, the same application could occur for other RMM's, but it must be understood by all roadway workers that they may only enter the 25-foot buffer zone ahead and behind the roadway maintenance machine if that machine will not move during the operation. Again, this must be discussed in the job briefing and be specifically covered in the railroad's on-track safety manual procedures.

For example, on one railroad, work equipment mechanics performing repairs on a machine are required to employ lock-out/tag-out procedures and set cones in front and to the rear of the machine. Operators are prohibited, by the railroad's on-track safety manual, from moving their machines until the cones are removed and locks and tags are removed from the battery isolation switch or other disabling point. While the cones are in place, roadway workers may breach the 25-foot buffer space ahead and behind the machine. Once the cones are no longer in place, the machine is considered movable and under paragraph (c) the buffer space must be maintained.

§ 214.336(e)(1) On-ground work performed on a side of the occupied track meeting specified condition(s)

Questions have arisen regarding the correlation between established working limits, limits of track occupancy authority, and the inter-track barrier location in relationship to the working limits. In order for the "inter-track barrier" exception to apply, the barrier must span "the entire work area," per that term's definition in paragraph (a). A Track Bulletin Form B/Conditional Stop or other comparable form of authority and/or on-track safety under the NORAC Rules on the Occupied Track defines not only the authority limits but often the established working limits as well. However, if in the on-track safety job briefing, the work area was defined as extending only from the end of the inter-track barrier to the first opening, or even to the other end of the inter-track barrier (if the barrier is continuous and roadway workers were instructed not to go beyond either end of the inter-track barrier or opening) then the defined work area becomes the working limits and the inter-track barrier exception (§ 336(e)(iii)) would apply. Note that the inter-track barrier exception only applies if the roadway work group is exclusively performing work on the occupied track and the barrier spans the entire work area between the occupied track and the closest adjacent track. See § 214.336(e)(1). If a roadway work group's work area extends beyond the ends of the barrier, the exception is not applicable, and adjacent track on-track safety must be utilized for the entire length of the work area.

§ 214.336(e)(3) Maintenance or repairs performed either alongside, or within the perimeter of, machines or equipment on the occupied track

FRA has received inquiries regarding the applicability of § 214.336 to certain routine maintenance activities being performed on roadway maintenance machines (RMMs) that are not the types of roadway work activities on an occupied track specifically addressed by regulation (e.g., while located in a siding prior to a roadway work group beginning track maintenance activities for the day, roadway workers performing visual inspections, checking oil and fuel levels, and starting RMMs). Specifically, FRA has received inquiries asking whether such work would constitute "inspection or minor correction" activities for purposes of qualifying for the exception in § 214.336(e)(3)(i).

The exception in § 214.336(e)(3)(i) specifically applies to hi-rail vehicles and other rail-bound vehicles “being used for inspection or minor correction” activities. Thus, the plain language of that exception does not apply to routine inspection work performed on RMMs, as the RMMs are not “being used for” any inspection or minor correction activities. Rather, the work is being performed on the RMMs. The inspection and minor correction exception was generally intended to apply to work performed on track/signal structures, and did not contemplate work performed on RMMs.

In the amended final rule, FRA made clear that maintenance or repairs not performed either within the perimeter of a machine, or on a side of the machine specified in the exceptions in § 214.336(e)(1)-(2), required that on-track safety be established on an adjacent controlled track. Most repair work on RMMs can be performed within these exceptions, but repair work performed on the side of the machine toward an adjacent controlled track on which movement is authorized or permitted, or no on-track safety, was established would trigger the on-track safety requirements of § 214.336.

However, the rule’s preamble did not discuss the rule’s applicability to the routine inspection of RMMs or certain work activities incidental to such inspections that are typically performed prior to beginning, or after completing, the day’s roadway work activities, and that the adjacent track rule was not intended to address. For purposes of providing enforcement guidance to the railroad industry on this point, FRA does not consider visual inspections, the checking of oil/fluid levels, the clearing of an RMM walkway, or other routine or incidental inspection activities to trigger the adjacent track on-track safety requirements of the final rule. This is a logical extension of the § 214.336(e)(3)(i) “inspection or minor correction” exception to RMMs, as that exception was generally intended to apply to roadway work activities on an occupied track that do not require the fouling of an adjacent track and that also do not have the same type of distraction potential that the rule was promulgated to address.²

FRA reminds railroads, however, that when such routine or incidental inspection activities are taking place, on-track safety is required (as it has been since the promulgation of the original part 214 Roadway Worker Protection (RWP) rule) on the track on which those activities are taking place because inspection of RMMs “on or near track or with the potential of fouling a track” is one of the duties listed in the definition of “roadway worker.” Further, if during the performance of a visual or other routine or incidental inspection of an RMM there is the potential to foul any adjacent track, then the RWP rule requires on-track safety to be established on that adjacent track, even in the absence of the adjacent track rule’s requirements. Finally, as discussed in the amended final rule, repair or maintenance activities (e.g., activities, including fueling an RMM, involving repairs or maintenance of an RMM with tools, assembly or disassembly of an RMM component) that are performed on RMMs on an occupied track that do not otherwise fall within a § 214.336(e) exception, are subject to the on-track safety requirements of § 214.336.

Railroads have questioned FRA whether the use of a basket equipped aerial hi-rail truck (commonly termed “Snooper Truck”) employed while roadway workers in the basket are over the side of the bridge during bridge inspection or maintenance would trigger the requirement for adjacent controlled track on-track safety or the requirements to cease work under the requirements of Paragraph (b). Bridge inspection via the use of a hi-rail equipped snooper truck is normally an inspection activity covered under the exception requirements

² The definition of minor correction was tailored to “ensure that hi-rail vehicles or automated inspections cars are not being used in such a manner so as to create dust generated by the operation of on-track, self-propelled equipment performing machine tamping or machine surfacing, for example.”

noted in § 214.336(e)(3)(i) — unless the basket of the vehicle fouled an adjacent controlled track with all other elements of the triggering language being present or the RWIC, for safety purposes, deems adjacent track on-track safety necessary.

With regard to the use of the same snoopier truck in conjunction with bridge maintenance with at least one roadway worker on the ground (bridge deck) working common with the bridge maintenance activity would trigger the requirements for adjacent controlled track on-track safety because of the bridge worker left on the deck of the bridge for the same reason that it does with a boom truck unloading a plug rail. The truck/basket itself is a machine performing the work and not a hand tool or a hand-held, hand-supported or a hand-guided power tool and thus does not meet the definition of minor correction work. But note, under 214.336(e)(2), the use of the truck basket to provide vertical support for roadway workers performing maintenance during the period when the basket is between the vertical plane of the rails of the occupied track or outside the vertical plane of the rail of the occupied track, but on the field side of the rail opposite to the side where movement is authorized or permitted would constitute a barrier preventing inadvertent fouling of the adjacent controlled track, thereby relieving the roadway workers in the basket from the need to cease work under paragraph (b).

Similarly, it is typical of these pieces of on-track self-propelled equipment that they can be controlled from either the basket or from a remote station to the rear of the vehicle. So long as the operator to the rear of the vehicle performs movement control of the basket while on the vehicle and within the perimeter of the vehicle, or the operator is utilizing a control pendant while on the ground and in a position where the truck body itself would act as a barrier to inadvertent fouling of the adjacent controlled track, the operator would not have to cease work under paragraph (b) when movement is authorized or permitted on the adjacent track.

Note: The use of a truck equipped horizontal lifeline on the side of the snoopier truck on the occupied track closest to the adjacent controlled track side for which movement will be authorized or permitted would be outside the perimeter of the on-track self-propelled or coupled equipment for purposes of employing exception (e)(2)(ii) to cease work under paragraphs (b) and (c).

§ 214.337 On-track safety procedures for lone workers.

- (a) *A lone worker who fouls a track while performing routine inspection or minor correction may use individual train detection to establish on-track safety only where permitted by this section and the on-track safety program of the railroad.*
- (b) *A lone worker retains an absolute right to use on-track safety procedures other than individual train detection if he or she deems it necessary, and to occupy a place of safety until such other form of on-track safety can be established.*
- (c) *Individual train detection may be used to establish on-track safety only:*
 - (1) *By a lone worker who has been trained, qualified, and designated to do so by the employer in accordance with § 214.347 of this subpart;*
 - (2) *While performing routine inspection and minor correction work;*
 - (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;*

- (4) *Where the lone worker is able to visually detect the approach of a train moving at the maximum speed authorized on that track, and move to a previously determined place of safety, not less than 15 seconds before the train would arrive at the location of the lone worker;*
- (5) *Where no power-operated tools or roadway maintenance machines are in use within the hearing of the lone worker; and*
- (6) *Where the ability of the lone worker to hear and see approaching trains and other on-track equipment is not impaired by background noise, lights, precipitation, fog, passing trains, or any other physical conditions.*
- (d) *The place of safety to be occupied by a lone worker upon the approach of a train may not be on a track, unless working limits are established on that track.*
- (e) *A lone worker using individual train detection for on-track safety while fouling a track may not occupy a position or engage in any activity that would interfere with that worker's ability to maintain a vigilant lookout for, and detect the approach of, a train moving in either direction as prescribed in this section.*
- (f) *A lone worker who uses individual train detection to establish on-track safety shall first complete a written Statement of On-track Safety. The Statement shall designate the limits of the track for which it is prepared and the date and time for which it is valid. The statement shall show the maximum authorized speed of trains within the limits for which it is prepared, and the sight distance that provides the required warning of approaching trains. The lone worker using individual train detection to establish on-track safety shall produce the Statement of On-track Safety when requested by a representative of the Federal Railroad Administrator.*
- (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.*

Guidance. Section 214.337 establishes specific on-track safety procedures for the lone worker. Paragraph (a) sets forth the general requirement that restricts the use of individual train detection to circumstances prescribed in this section and the corresponding on-track safety program of the railroad.

Concern has been raised about roadway workers who must foul the track in order to make the track inaccessible (49 C.F.R. §214.327). The specific concern is whether these workers need to have on-track safety protection while in the process of establishing on-track safety for the work to be performed. This type of activity is typically found with lone workers who may need to install a portable derail or to secure a switch in order to establish on-track safety.

When looking at the individual roadway worker's responsibility, found at §214.313, roadway workers are not to foul the track unless necessary for the performance of their duties and they are responsible for determining that on-track safety is being provided prior to fouling the track. When fouling the track to make the track inaccessible, roadway workers are fouling in performance of their duties and should make sure they are protected. In many cases, roadway workers are able to use individual train detection in accordance with §214.337(c). However, §214.337(c)(3) prohibits the use of individual train detection within the limits of a manual interlocking, a controlled point, or a remotely controlled hump yard facility. Of course, as §214.327 makes clear, inaccessible track may be used as a method of protection only on non-controlled track (see definition of "controlled track" in §214.7), so the factors that

would preclude using individual train detection will not ordinarily be present where inaccessible track is being established.

Based on the foregoing, lone workers need protection when fouling the track, even if only to establish on-track safety and the Roadway Worker Protection regulation strictly prohibits a lone worker from using individual train detection while performing any type of associated work activities in a manual interlocking, controlled point, or remote hump yard facility.

Paragraph (b) states that a decision to not use individual train detection should rest solely with the lone worker, and may not be reversed by any other person. On the other hand, improper use of individual train detection where this rule or the on-track safety program of the railroad prohibits it would be subject to review.

Paragraph (c)(3) states individual train detection may be used to establish on-track safety only 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. In a hump yard, equipment can simultaneously move in either direction on a multitude of tracks. Similarly, within the limits of a manual interlocking or a controlled point, a particular physical layout may contain multiple switches, tracks, diamonds, or a movable bridge(s). As such, the prohibition on using ITD in those locations recognized that it would be difficult for a lone worker to perform work while safely detecting trains that could be approaching from multiple directions on multiple tracks.

FRA allows the use of ITD at controlled points that consist of signals only. The use of ITD at a controlled point consisting of signals only presents no more danger than using ITD for on-track safety on any track within a traffic control system. There is no additional risk to lone worker safety because if a controlled point consists of signals only, there are no switches, diamonds, or movable bridges that the lone worker needs to monitor for purposes of train detection on multiple tracks.

The Federal Railroad Administration (FRA) is frequently asked about signal installations in dark territory that convey switch position. Specifically, these installations appear to be an interlocking, but are operated by a train crew to manipulate a switch. This type of signal installation is neither defined nor addressed in the Roadway Worker Protection regulation. FRA is frequently asked whether such locations are considered manual interlockings or simply power operated switches, and whether Individual Train Detection (ITD) is permissible at these locations.

49 C.F.R. §214.7 includes a definition of the term manual interlocking and controlled point. FRA has concluded that the installations in question which may have some physical resemblance to interlockings, but are operated by train crews manipulating the switch, electronically or by hand, are considered “hand/power operated switches.” FRA has determined the following:

- The signals at these installations do not convey train movement authority, nor do they meet the basic requirements of §236.750, Interlocking automatic and §236.751, Interlocking manual; and
- The hand/power switches at these installations are not controlled by a train dispatcher or control operator; and are not part of a manual interlocking or controlled point.

Accordingly, the use of ITD, (§214.337), is permissible as the minimum form of on-track safety at these hand/power installations, although not allowed at manual interlockings and controlled points. When using ITD, at these installations, or any other locations where such

use is permitted, the lone worker may determine that a more restrictive form of on-track safety is required, and this decision cannot be reversed by any other person.

Aside from hand/power operated switches, switches that can be manipulated by hand as well as by a train dispatcher/operator are considered “dual control switches.” These switches are located within manual interlockings and controlled points and the use of ITD within these installations is prohibited.

Questions have arisen regarding the limits of a remotely controlled hump yard. Section 214.337(c)(3) prohibits the use of individual train detection inside the limits of a remotely controlled hump yard facility. There was agreement among the Working Group that a remotely controlled hump yard facility began at the crest of a hump. The segment of a hump yard from the crest, through the retarders, and to the end of classification tracks would clearly be within the limits of a remotely controlled hump yard facility. However, there was no consensus in the Working Group as to the limit of such a facility at the far pull-out end, in part due to the myriad of physical layouts in existing hump yards. Unlike the voluminous number of manual interlockings and controlled points that exist (the other two locations in which the use of individual train detection is prohibited by § 214.337), there are a limited number of remotely controlled hump yard facilities in the United States, and enforcement problems for FRA have not been noteworthy to date. Also, the varying physical layouts for these facilities would make it difficult to attempt to propose language defining the limits of the pull-out ends of such facilities which could reasonably apply to all existing layouts. Finally, if a lone worker is unsure whether the track he or she needs to foul is within the limits of a remotely controlled hump yard facility, or if there is any question regarding the safety of fouling any track, the existing individual train detection regulation already contains an absolute right for a lone worker to utilize an on-track safety procedure other than individual train detection.

FRA has chosen not to propose a definition for the term “remotely controlled hump yard facility”. If a dispute regarding the limits of a remotely controlled hump yard facility arises, FRA will, on a case-by-case basis, provide assistance in identifying that facility’s limits based on the particular physical layout or the facility.

Paragraph (c)(4) establishes a method of on-track safety for the lone worker, in which the roadway worker is capable of visually detecting the approach of a train and moving to a previously determined location of safety at least 15 seconds before the train arrives. This safety method requires the lone worker to be in a state of heightened awareness, since no other protection system will be in place to prevent one from being struck by a train or other on-track equipment. The corresponding subparagraphs to paragraph (c) provide detailed requirements for the use of this form of on-track safety.

As in the discussion of train approach warning, it must be particularly noted that the 15-second train approach time does not include the time taken for a roadway worker to move clear of the track and into a place of safety. If that movement takes 10 seconds, then a train must be visible in time for a warning to be given 25 seconds before the train arrives.

FRA has received questions regarding whether a roadway worker can use ITD to place a hi-rail vehicle on a non-controlled track. Only if all of the elements of §214.337(c) are met is this acceptable. Once on the track, movements may be conducted under the provisions of the railroad operating rules [§214.301(c)].

Paragraph (c)(5) makes it explicitly clear that no power operated tools or roadway maintenance machines can be in use within the hearing range of lone worker using individual train detection. Even though power tools can be made quiet so that they won't

impair an individual's hearing ability, they still are defined as a power tool and shall not be utilized by a lone worker using individual train detection. Although a "quiet" tool might not impair the hearing, the level of concentration required to operate such a device could have an impact on the individual's ability to detect approaching trains.

Paragraph (d) states that a lone worker may not clear onto a track unless working limits are established on that track. To establish working limits by becoming a flagman would require the lone worker:

- 1) be equipped with the proper equipment and
- 2) have the capability to stop trains in both directions.

Therefore, unless both of these requirements are met, it is not acceptable for a lone worker to clear onto a track upon the approach of a train and establish his or her own flagging type working limits.

Paragraph (f) prescribes the concept of a written Statement of On-track safety, prepared by the lone roadway worker. The reasoning behind this requirement is to assist the roadway worker in focusing on the nature of the task, the risks associated with the task, and the form of on-track safety necessary to safely carry out assigned duties.

The regulation does not specify the maximum area which an on-track safety statement can encompass. However, the statement of on-track safety must always apply to the current task and conditions.

Paragraph (g) to this section prohibits the use of ITD as an acceptable form of on-track safety for a lone worker using machinery, equipment or material that cannot be readily removed from a track by hand. This paragraph addresses concerns that a lone worker might not be able to remove a piece of equipment he or she is using before the arrival of an approaching train, making a track unsafe for the passage of the train. This amendment is also intended to help ensure a lone worker does not have to struggle to remove a piece of equipment located on a track such that the lone worker is not able to remove the equipment from the track and occupy a place of safety in the time specified by paragraph (c)(4) of this section. Because § 214.337 is specific to lone workers, this obviously requires a lone worker to be able to remove such equipment by hand by his or herself, as, by definition, lone workers work independently from other roadway workers and are not part of a roadway work group.

§ 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.*

Guidance. Section 214.339 requires audible warning from locomotives before trains approach roadway workers. The implementation of this requirement will necessitate railroad rules regarding notification to trains that roadway workers are on or about the track. This notification could take the form of portable whistle posts, train movement authorities, or highly visible clothing to identify roadway workers and increase their visibility. This section is mandatory, and FRA intends that it will preempt any local restrictions on the sounding of locomotive whistles.

FRA encourages but does not mandate the use of highly visible reflective clothing and personal protective equipment to help provide clear indication to locomotive engineers and train operators that roadway workers are present in the vicinity of railroad tracks. The type of clothing or other visible indication of the presence of roadway workers is left up to the railroad. The method to be used by the railroad should be practical and effective, considering the varying situations on different railroads.

Paragraph (a) states that each railroad shall have in effect, and comply with, written procedures which govern the audible warning to be given by trains or locomotives. Such procedures must require an audible warning be given when approaching roadway workers or roadway maintenance machines that are either on the track on which the movement is occurring, or are about the track and at the risk of fouling. Locomotive engineers and inspectors must determine at what point it is necessary to sound a warning when roadway workers are not on the track occupied by the train. Trains must provide an audible warning to any roadway worker near enough to the track to have the potential to foul the track prior to the arrival of the train. When citing defects or violations for failure to give an audible warning, inspectors should be able to describe the relative position of the roadway workers with the approaching train, and why there was a potential to foul that track.

The same would apply to roadway maintenance machines that are moving or are in use on a track adjacent to an approaching locomotive. Roadway machines might obscure the locomotive engineer's view of roadway workers on the ground in the vicinity of a machine. This section requires an audible warning must be provided for a hi-rail vehicle on a track adjacent to the track on which a train is moving. Such warning must be provided regardless of whether it is known a roadway worker is present in the vehicle. Again, the hi-rail might obscure the locomotive engineer's view of a roadway worker on the ground in the vicinity of the vehicle.

While these examples focus on roadway workers and roadway maintenance machines located on a track adjacent to the track occupied by an approaching train, it is not FRA's intent to limit the adoption of railroad procedures which might require an audible warning be given for workers or equipment located further than the adjacent track.

Paragraph (a) also requires the procedures adopted by a railroad address both the initial horn warning to be given, and subsequent warnings. FRA notes that an audible warning consisting only of the locomotive horn being blown for one sequence by a train or locomotive upon the approach and passage of a large roadway work group, such as a tie and surfacing production crew that is spaced out over a long distance, may violate this section. At a minimum in such situations, the governing procedures must require that the locomotive horn be sounded and bell be rung upon the approach of each unit of such a work crew. Note: on big production gangs, one might have 35 machines all spaced very closely together. Therefore, FRA defines a unit as a separate grouping of machines or equipment.

Both historically and today, roadway workers commonly acknowledge an approaching train that is sounding an audible warning and the train crew stops sounding the warning. The

Federal Railroad Administration (FRA) is frequently asked whether a roadway worker's acknowledgment and the engineer's subsequent decision to stop sounding the whistle are in compliance with the regulation. The concern is determining when the length or duration of the audible warning is sufficient.

Since the regulation does not specify the duration of the warning, the engineer must exercise discretion predicated on his or her best judgment for effectively warning roadway workers on or about the track. This discretion only applies to the duration of the audible warning, since the warning itself is clearly required. Compliance with the responsible carrier's rules and institutional knowledge should help the engineer/operator arrive at the appropriate duration of audible warning. These instructions do not in any way or manner relieve the requirement to sound the horn and ring the bell of locomotives approaching roadway workers.

FRA is cognizant of the sensitivity of residents who live in close proximity to railroad tracks. As such, when maintenance equipment is obviously being stored on siding tracks adjacent to a main track, FRA would generally not take exception to a train that does not sound its horn for equipment that is clearly not in use and without any roadway workers present.

FRA understands that railroads do field noise complaints regarding train horns, particularly in the area of highway-rail grade crossings, and, to a lesser extent, in areas where a roadway work group might be performing its work at a particular point in time (temporary work location, versus a fixed highway-rail grade crossing location). However, FRA emphasizes that the requirement to provide an audible warning to roadway workers of the approach of a train is a safety-critical component of the RWP regulation, providing additional notice to roadway workers that a train is approaching. Since the promulgation of the RWP regulation in 1997, railroads have been required to comply with the requirements of this section even within highway-rail grade crossing quiet zones. This is because the audible warning is intended to provide an additional level of protection to prevent roadway workers from being struck and injured or killed by trains. The safety-critical nature of this section necessitates the requirement that an audible warning be provided to a roadway work group. As explained in the 1996 final rule implementing subpart C, "[t]his section is not optional for a railroad, and FRA intends that this provision covers the same subject matter as that of any state or local restrictions on the sounding of locomotive whistles." 61 FR 65972.

Paragraph (a) also requires that the procedures adopted by a railroad address alternative warnings in areas where sounding the horn adversely affects roadway workers. Such alternative warnings may be provided for in locations such as tunnels, locomotive shops or passenger terminals, where a train horn could create a hearing hazard for roadway workers and other people. Alternative warning procedures could also be implemented in yards, where a locomotive might frequently pass roadway workers due to the back and forth movement cycles that are common in switching and classification operations. The frequent sounding of horns in such situations can defeat the effectiveness of the warning.

Paragraph (b) states that required audible warnings cannot substitute for on-track safety procedures prescribed in Part 214. The on-track safety must be one of the forms of protection prescribed by the RWP regulation. The audible warning requirement is intended to provide an additional measure of safety in the event that roadway workers might be fouling the track upon which a train or locomotive is approaching.

In the past FRA has received inquiries regarding audible warnings during shoving movements, and also regarding multiple-unit (MU) passenger train equipment not equipped with a bell. With regard to MU equipment not equipped with a bell, such equipment would still be in compliance with § 214.339 so long as the horn was sounded to provide an audible

warning when necessary.

With regard to audible warnings during shoving movements, the requirement to provide an audible warning is predicated on the locomotive engineer or train operator being able to see roadway workers ahead of his or her movement. Therefore, if a locomotive engineer does not have the capability to see roadway workers ahead of his or her movement (e.g., a significant number of cars ahead of the locomotive), and does not sound the horn, the engineer would not be considered to be in violation of this section. However, with increased remote-control operations in the railroad industry, in which a large percentage of moves are considered shoving movements, railroads need to address remote control operations with respect to this section in their adopted procedures.

§ 214.341 Roadway maintenance machines.

- (a) *Each employer shall include in its on-track safety program specific provisions for the safety of roadway workers who operate or work near roadway maintenance machines. Those provisions shall address:*
- (1) *Training and qualification of operators of roadway maintenance machines.*
 - (2) *Establishment and issuance of safety procedures both for general application and for specific types of machines.*
 - (3) *Communication between machine operators and roadway workers assigned to work near or on roadway maintenance machines.*
 - (4) *Spacing between machines to prevent collisions.*
 - (5) *Space between machines and roadway workers to prevent personal injury.*
 - (6) *Maximum working and travel speeds for machines dependent upon weather, visibility, and stopping capabilities.*
- (b) *Instructions for the safe operation of each roadway machine shall be provided and maintained with each machine large enough to carry the instruction document.*
- (1) *No roadway worker shall operate a roadway maintenance machine without having been trained in accordance with § 214.355.*
 - (2) *No roadway worker shall operate a roadway maintenance machine without having knowledge of the safety instructions applicable to that machine. For purposes of this paragraph, the safety instructions applicable to that machine means:*
 - i. The manufacturer's instruction manual for that machine; or*
 - ii. The safety instructions developed to replace the manufacturer's safety instructions when the machine has been adapted for a specific railroad use. Such instructions shall address all aspects of the safe operation of the crane and shall be as comprehensive as the manufacturer's safety instructions they replace.*
 - (3) *No employer shall assign roadway workers to work near roadway machines unless the roadway worker has been informed of the safety procedures applicable to persons working near the roadway machines and has acknowledged full understanding.*
- (c) *Components of roadway maintenance machines shall be kept clear of trains passing on adjacent tracks. Where operating conditions permit roadway maintenance machines to be less than four feet from the rail of an adjacent track, the on-track safety program of the*

railroad shall include the procedural instructions necessary to provide adequate clearance between the machine and passing trains.

Guidance. Section 214.341 addresses specific issues concerning roadway maintenance machines that need to be included in individual railroad's on-track safety program. FRA decided to address the hazards associated with these machines separately from those associated with trains, as the nature of the hazard is different. Referencing the definition of this term is a good place to start to understand this section. Roadway maintenance machines are devices, the characteristics or use of which are unique to the railroad environment. The term includes both on-track and off-track machines. A roadway maintenance machine need not have a position for the operator on the machine nor need it have an operator at all; it could operate automatically, or semi-automatically.

This provision excludes hand-powered devices in order to distinguish between hand tools, which are essentially portable, and devices which either are larger, move faster, or produce more noise than hand tools. Hand-held power tools are not included in the definition, but because of the noise they produce, and because of the attention that must be paid to their safe operation they are addressed specifically in § 214.337, on-track safety for lone workers.

Examples of devices covered by this section include, but are not limited to, crawler and wheel tractors operated near railroad tracks, track motor cars, ballast regulators, self-propelled tampers, hand-carried tampers with remote power units, powered cranes of all types, highway-rail cars and trucks while on or near tracks, snow plows self-propelled and pushed by locomotives, spreader-ditcher cars, locomotive cranes, electric welders, electric generators, air compressors, on-track and off-track.

Roadway maintenance machines have a wide variety of configurations and characteristics, and new types are being developed regularly. Each type presents unique hazards and necessitates unique accident prevention measures. Despite the wide diversity of the subject matter, FRA attempted to provide some guidance for the establishment of on-track safety when using roadway maintenance machines.

Paragraph (a), requires that a railroad's on-track safety program include specific provisions providing for the safety of employees operating or working near roadway maintenance machines. The requirement for issuance of on-track safety procedures for various types of roadway maintenance machines may be met by general procedures that apply to a group of various machines, supplemented wherever necessary by any specific requirements associated with particular types or models of machines.

In paragraph (a)(3), FRA emphasizes the need for communication between machine operators and roadway workers working around roadway maintenance machines (on-track, off-track, and on-off track). Railroads, in their on-track program, must provide specific instructions on how roadway workers are to secure acknowledgment from roadway maintenance machine operators that it is safe to enter the danger (red) zone of the machine.

In paragraph (b)(2), FRA has removed the former requirement that the operator of a roadway maintenance machine have "complete" knowledge of the safety instructions applicable to that machine. Based on feedback received from the regulated community, FRA has been informed that requiring that the knowledge be "complete" suggests that a roadway worker operator have instant recall of every instruction contained in the manual. This reading of the rule was not FRA's intention. FRA intends each operator to have sufficient knowledge of the safety instructions so that the operator would be able to safely operate the machine without reference to the manual under routine conditions, and know

where in the manual to look for guidance when operation of the machine is not routine.

The second change to paragraph (b)(2) addresses what is meant by “knowledge of the safety instructions applicable to that machine.” FRA intends this term to mean the manufacturer's instruction manual for that machine. However, it has come to FRA's attention that some portion(s) of a manufacturer's instruction manual may not be applicable to a particular machine if the machine has been adapted for a specific railroad use. In that case, FRA requires that the employer ensure that such instructions be amended or supplemented so that they shall address all aspects of the safe operation of the machine and be as comprehensive as the manufacturer's safety instructions they replace. The purpose of this requirement is to ensure that the safety instructions provided address all known safety concerns related to the operation of the machine. If some type of functionality is added to the machine through adaption, the safety instructions would need to address the known safety concerns and proper operation of that additional function. On the other hand, if the adaption removes an operational functionality, the safety instructions would no longer need to address the function that was removed, although it could be possible that the removal of a device could create other safety hazards that may need to be addressed in the safety instructions in order to be considered comprehensive. To ensure that the safety instructions for a machine are comprehensive, some employers may choose to provide a completely new safety instruction manual for adapted equipment; however, other employers may choose to simply void certain pages or chapters of the manufacturer's manual, and provide a supplemental manual to address the safety instructions related to the adapted functions of the equipment.

Paragraph (c) provides an exception to the rule concerning on-track safety foul of the adjacent track when a component of a roadway maintenance machine may be technically in the foul, but the component is located in a position where it could not be struck by a train. An example might be the foot of an outrigger on a stationary bucket truck. Specific instructions associated with the placement of the RMM and component must be addressed in the railroad's on-track safety policy, if this exception is to be utilized.

§ 214.343 Training and qualification, general.

- (a) No employer shall assign an employee to perform the duties of a roadway worker, and no employee shall accept such assignment, unless that employee has received training in the on-track safety procedures associated with the assignment to be performed, and that employee has demonstrated the ability to fulfill the responsibilities for on-track safety that are required of an individual roadway worker performing that assignment.*
- (b) Each employer shall provide to all roadway workers in its employ initial or recurrent training once every calendar year on the on-track safety rules and procedures that they are required to follow.*
- (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.*
- (d) Each employer of roadway workers shall maintain written or electronic records of each roadway worker qualification in effect. Each record shall include the name of the employee, the type of qualification made, and the most recent date of qualification. These records shall*

be kept available for inspection and photocopying by the Federal Railroad Administrator during regular business hours.

Guidance. § 214.343 sets forth the general training and qualification requirements for roadway workers. Specifically, paragraphs (a) prohibits an employer from assigning an employee the duties of a roadway worker (and prohibits an employee from accepting such an assignment), until that employee has received training in the on-track safety procedures associated with the assignment. The regulation does not specify that this training must be performed in a classroom environment. This initial training could be performed at the job site prior to the worker fouling the track. This training must include at a minimum the six basic elements defined in § 214.345. Any employee who is assigned new job functions must demonstrate the ability to fulfil the responsibilities associated with that new position before assuming such duties. Paragraph (b) requires that roadway workers receive initial and recurrent training once every calendar year on the on-track safety rules and procedures they are required to follow. Paragraph (d) requires employers of roadway workers to maintain records of each roadway worker qualification in effect.

Adequate training is integral to any safety program. Hazards exist along a railroad and not all are obvious through the application of common sense without experience or training. An employee who has not been trained to protect against those hazards presents a significant risk to both himself and others.

Roadway workers can be qualified to perform various duties based on their training and demonstrated knowledge. Training will vary depending on the designation of a roadway worker. Furthermore, roadway workers should generally know the designations of others in their group, so that proper on-track safety protection arrangements can be made. Under paragraph (d), written or electronic records of these qualifications must be kept and made available for inspection and copying by the FRA.

The term "demonstrated proficiency" is used in this and other sections and means that the employee being qualified must show to the employer 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, for example, 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 in accordance with the requirements of this subpart.

Paragraph (c) of the 1996 Final Rule permitted railroad employees other than roadway workers who are associated with on-track safety procedures, and whose primary duties involved the movement and protection of trains, 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. FRA modified this paragraph by adding the words "[e]xcept as provided for in § 214.353" to the beginning of paragraph (c). This change reflects the amendment of the existing rule text of § 214.353 to also expressly govern, in certain respects, the training of employees other than "roadway workers" (typically transportation employees such as conductors) who act as roadway workers in charge.

The training and qualification of roadway workers and other employees who are associated with on-track safety, but are not roadway workers, is a critical element of any roadway worker protection program. There are various levels of training based on the function of the worker in relation to on-track safety. Regardless of the roadway worker's function, it is essential that he or she and others associated with on-track safety have sufficient knowledge to assure that protection is properly applied.

A number of railroads utilize transportation employees, whose primary function is the movement and protection of trains, to provide on-track safety to contractors or fulfill the role of a flagman. These employees are not necessarily roadway workers but are sometimes directly involved with on-track safety in accordance with the roadway worker safety regulation. For example, conductors may provide on-track safety to contractors engaged by a railroad to perform work covered under the roadway worker protection regulation. The concern addressed is the frequency of training of individuals whose primary duty is not that of roadway worker.

The above employees must, of course, be capable of performing their functions correctly and safely. Accordingly, if a conductor is to provide on-track safety for a roadway work group, it is incumbent on that employee to have the capability to fulfill all the obligations of a roadway worker in charge, §214.353(c). The regulation requires that the training and qualification for their primary function, under the railroad's program related to that function, will also include the means by which they will fulfill their responsibilities to roadway workers for on-track safety. For instance, a train dispatcher would not be considered a roadway worker, but would have to be capable of applying the railroad's operating rules when establishing working limits for roadway workers.

Paragraph (d) requires the employer of roadway workers maintain records of employees who have been trained and qualified on the on-track safety rules of the railroad. Each record shall include the name of the employee, the type of qualification made, and the most recent date of qualification. Railroad contractors and their employees performing roadway worker functions are held to the identical standards and requirements as railroads and railroad employee roadway workers. The nature of the work is identical, the nature of the risks are identical, and therefore, the training, recordkeeping, monitoring and other provisions should also remain identical.

Enforcement of training provisions of this regulation will use the provisions of § 214.343. The following sections related to training, §§ 214.345 through 214.357, provide specific training requirements for various classes of roadway worker employees, but the enforceable provisions are found in § 214.343.

§ 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:

- (a) Recognition of railroad tracks and understanding of the space around them within which on-track safety is required.*
- (b) The functions and responsibilities of various persons involved with on-track safety procedures.*
- (c) Proper compliance with on-track safety instructions given by persons performing or responsible for on-track safety functions.*
- (d) Signals given by watchmen/lookouts, and the proper procedures upon receiving a train approach warning from a lookout.*
- (e) The hazards associated with working on or near railroad tracks, including review of on-track safety rules and procedures.*
- (f) Instruction on railroad safety rules adopted to comply with § 214.317(b).*

Guidance. Section 214.345 sets forth the minimum content of training required of all roadway workers. All persons subject to this rule must have this training. This basic level of training is required in addition to any specialized training required for particular functions called for in sections 214.347 through 214.355. Any testing required to demonstrate proficiency need not be written, because the requirements can be fulfilled by a practical demonstration of ability and understanding.

The requirement in paragraph (f) is to mandate instruction on an employer's procedures governing safe walking across railroad tracks; and prevent injuries or fatalities when roadway workers walk across tracks.

§ 214.347 Training and qualification for lone workers.

Each lone worker shall be trained and qualified by the employer to establish on-track safety in accordance with the requirements of this section, and must be authorized to do so by the railroad that conducts train operations on those tracks.

- (a) *The training and qualification for lone workers shall include, as a minimum, consideration of the following factors:*
- (1) *Detection of approaching trains and prompt movement to a place of safety upon their approach.*
 - (2) *Determination of the distance along the track at which trains must be visible in order to provide the prescribed warning time.*
 - (3) *Rules and procedures prescribed by the railroad for individual train detection, establishment of working limits, and definite train location.*
 - (4) *On-track safety procedures to be used in the territory on which the employee is to be qualified and permitted to work alone.*
 - (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.*

Guidance. Section 214.347 requires a higher degree of qualification, as the lone worker is fully responsible for his or her own protection. A primary consideration is that the lone worker should never be forced to use individual train detection because of a lack of qualification to establish a more restrictive form of on-track safety. The lone worker should be qualified to use all available forms of on-track safety.

Unlike §214.353 (qualification of workers who provide on-track safety for roadway work groups), §214.347 does not specify physical characteristic qualifications or a recorded examination for lone workers. However, the regulation does require that the lone worker must demonstrate proficiency. A lone worker should have sufficient knowledge of the characteristics of the railroad to be able to obtain, understand, and use the information that he or she needs to perform as a lone worker. It is necessary that the lone worker know the speed limits of any segment of track and to be able to identify his or her location along the railroad by station, mile post, or other physical location. It is incumbent on each railroad to assure that lone workers have the capability to properly use any form of on-track safety that a lone worker could use to provide on-track safety.

Employees who are lone workers are required to demonstrate proficiency (initially and as part of the required periodic qualification) on a periodic basis, in addition to annual training. Inquiries about training indicate there is confusion regarding annual training and periodic qualification. The term “periodic qualification” as used in this regulation refers to employees who perform specific duties such as lone workers, watchman/lookouts, flagmen, RWICs, and roadway maintenance machine operators. FRA requires that employees receive “initial and periodic qualification” for each of the duties listed above. The required time frame for the qualification differs from the required annual training.

Although the term “periodic qualification” is not defined in the rule, each railroad should specify in its program the interval at which their periodic qualification will take place. Following its effective date, Part 243 will control the maximum period between required requalification. For purposes of § 214.347, § 243.201 will require recurrent qualification every three years.

FRA understands that many of the requirements in part 243 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, while FRA encourages railroads to comply with part 243’s requirements as soon as possible, each railroad should continue to specify in its on-track safety program the interval at which their “periodic” qualification will take place. Upon the effective applicability date of part 243’s requirements for a particular railroad, that railroad will then be required to comply with part 243’s qualification requirements at a minimum of every three calendar years.

As explained in the 1996 RWP final rule, in order to demonstrate proficiency as required, the roadway worker “. . . show to the employer 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 65,972.

When an employee (with only basic training) is promoted to perform duties such as lone workers, that employee must receive additional training and be qualified as required.

It is also important to note that a lone worker who would provide on-track safety for others during the course of a tour of duty would then be subject to the qualification requirements of §214.353.

Paragraph (a)(5) covers required training for the lone worker concerning the means to access the information in a railroad’s on-track safety manual when it is impracticable for the manual to be readily available. § 214.309(b) recognizes that it may be impractical for a lone worker or roadway worker in charge to physically carry the on-track safety manual on their person at all times. Rather, § 214.309(b) requires that the railroad have established provision for those situations so that a lone worker would have alternative access to the information in the on-track safety manual.

§ 214.349 Training and qualification of watchmen/lookouts.

- (a) *The training and qualification for roadway workers assigned the duties of watchmen/lookouts shall include, as a minimum, consideration of the following factors:*
- (1) *Detection and recognition of approaching trains.*
 - (2) *Effective warning of roadway workers of the approach of trains.*

- (3) *Determination of the distance along the track at which trains must be visible in order to provide the prescribed warning time.*
 - (4) *Rules and procedures of the railroad to be used for train approach warning.*
- (b) *Initial and periodic (as specified by § 243.201 of this chapter) qualification of a watchman/lookout shall be evidenced by demonstrated proficiency.*

Guidance. Section 214.349 sets forth the training and qualification requirements applicable to watchmen/lookouts and requires the initial and periodic qualification of watchman/lookout be evidenced by demonstrated proficiency. The definition of watchman/lookout is useful to understand the functions of roadway workers discussed in this section. Watchmen/lookouts must be able to perform the proper actions in the most timely manner without any chance of error in order to provide proper protection for those who are placed in their care.

§214.349 does not specify physical characteristic qualifications or a recorded examination for watchman/lookouts. However, the regulation does require that the lone worker must demonstrate proficiency. It is incumbent on each railroad to assure that watchman/lookouts have the capability to properly perform the functions associated with (a)(1) – (a)(4).

Inquiries about training indicate there is confusion regarding annual training and periodic qualification. The term “periodic qualification” as used in this regulation refers to employees who perform specific duties such as lone workers, watchman/lookouts, flagmen, RWICs, and roadway maintenance machine operators. FRA requires that employees receive “initial and periodic qualification” for each of the duties listed above. The required time frame for the qualification differs from the required annual training.

Although the term “periodic qualification” is not defined in the rule, each railroad should specify in its program the interval at which their periodic qualification will take place. Following its effective date, Part 243 will control the maximum period between required requalification. For purposes of § 214.349(b), § 243.201 will require recurrent qualification every three years.

FRA understands that many of the requirements in part 243 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, while FRA encourages railroads to comply with Part 243’s requirements as soon as possible. Each railroad should continue to specify in its on-track safety program the interval at which their “periodic” qualification will take place. Upon the effective applicability date of Part 243’s requirements for a particular railroad, that railroad will then be required to comply with Part 243’s qualification requirements and conduct recurrent qualification at a minimum of every three calendar years.

As explained in the 1996 RWP final rule, in order to demonstrate proficiency as required, the roadway worker must, “. . . show to the employer 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 65,972.

When an employee (with only basic training) is promoted to perform duties such as watchman/lookout, that employee must receive additional training and be qualified as required. The qualification of the watchman/lookout is based on his/her demonstrated proficiency.

§ 214.351 Training and qualification of flagmen.

- (a) *The training and qualification for roadway workers assigned the duties of flagmen shall include, as a minimum, the content and application of the operating rules of the railroad pertaining to giving proper stop signals to trains and holding trains clear of working limits.*
- (b) *Initial and periodic (as specified by § 243.201 of this chapter) qualification of a flagman shall be evidenced by demonstrated proficiency.*

Guidance. Section 214.351 requires that flagmen be qualified on the operating rules of the railroad on which they are working. Referencing the definition of flagman would be useful to identify the class of roadway workers discussed in this section. Generally, flagmen are already required to be qualified on the operating rules that apply to their work. Flagging is an exacting procedure, and a flagman must be ready to act properly at all times in order to provide proper protection for those under his or her care. The distinction between flagmen and watchmen/lookouts should be noted, in that flagmen function to restrict or stop the movement of trains, while watchmen/lookouts detect the approach of trains and provide warning thereof to other roadway workers.

When working limits are established to provide on-track safety, all movements of trains and equipment within working limits shall be made only under the direction of the RWIC. If a conductor/flagman is assigned to withhold movements, that employee may authorize movements under the direction of the RWIC. If a qualified roadway worker is not assigned to provide on-track safety for the work group, a conductor/flagman may perform this function but must have received the relevant training to assume those responsibilities (see [Table 2](#)). This would also be true of any employee that would be protecting a contractor to a railroad engaged in roadway worker functions.

The Rule does not apply to employers, or their employees, if they are not engaged by or under contract to a railroad. Personnel, who might work near railroad tracks on projects for others, such as cable installation for a telephone company or bridge construction for a highway agency, come under the jurisdiction of other Federal agencies with regard to occupational safety. However, FRA encourages on-track safety for those personnel as well.

Employees who are flagmen are required to demonstrate proficiency on a periodic basis. Inquiries about training indicate there is confusion regarding annual training and periodic qualification. The term “periodic qualification” as used in this regulation refers to employees who perform specific duties such as lone workers, watchman/lookouts, flagmen, RWICs, and roadway maintenance machine operators. FRA requires that employees receive “initial and periodic qualification” for each of the duties listed above. The required time frame for the qualification differs from the required annual training.

Although the term “periodic qualification” is not defined in the rule, each railroad should specify in its program the interval at which their periodic qualification will take place. Following its effective date, Part 243 will control the maximum period between required requalification. For purposes of § 214.349(b), § 243.201 will require recurrent qualification every three years.

FRA understands that many of the requirements in part 243 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, while FRA encourages railroads to comply with part 243’s requirements as soon as possible, each railroad should continue to specify in its on-track safety program the interval at which their “periodic” qualification will take place. Upon the effective applicability date of part 243’s requirements for a particular railroad, that railroad will then be required to

comply with part 243's qualification requirements at a minimum of every three calendar years.

As explained in the 1996 RWP final rule, in order to demonstrate proficiency as required, the roadway worker must, “. . . show to the employer 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.

When an employee (with only basic training) is promoted to perform duties such as a flagman, that employee must receive additional training and be qualified as required. The qualification of the flagman is based on their demonstrated proficiency.

§ 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 provide 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) and (c) and 214.313(d).*
 - (2) *The content and application of the operating rules of the railroad pertaining to the establishment of working limits.*
 - (3) *The content and application of the rules of the railroad pertaining to the establishment or train approach warning.*
 - (4) *The relevant physical characteristics of the territory of the railroad upon which the roadway worker is qualified.*
 - (5) *The procedures required to ensure that the roadway worker in charge of the on-track safety of 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.*

Guidance. Section 214.353 details training standards applicable to the roadway worker in charge who provides on-track safety for roadway work groups. This roadway worker has the most critical responsibilities under this subpart. This individual must be able to apply the proper on-track safety rules and procedures in various circumstances, to communicate with other railroad employees regarding on-track safety procedures, and to supervise other roadway workers in the performance of their on-track safety responsibilities.

Paragraph (a) specifically requires 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 in accordance with § 214.353. A reference to this requirement is also located in § 214.343(c), as discussed above. This addresses situations where employees other than roadway workers act as roadway workers in charge.

When transportation employees, such as conductors, are assigned to provide on-track safety for roadway workers, those employees must have received the relevant training to assume those responsibilities. The role of a roadway worker in charge is a critical one, as a roadway worker in charge is responsible for establishing and maintaining the appropriate form of on-track safety upon which the safety of an entire roadway work group often depends.

Roadway workers in charge must also be capable of conducting the on-track safety job briefings required by the RWP regulation, of handling a good faith challenge that may arise at a work site, and of locating relevant guidance in an on-track safety manual. Further, a roadway worker in charge must also know when adjacent track on-track safety is required on an adjacent controlled track. Any employee acting in the role of a roadway worker in charge must be trained as such.

Roadway workers, or any other employee acting in the role of a roadway worker in charge (i.e. a conductor), must be trained and qualified in accordance with § 214.353 and must receive annual training under § 214.343(b). The role of a roadway worker in charge is much different than that implicated by other levels of roadway worker qualification, due to both the many responsibilities involved and safety critical role such employees play.

If a conductor/flagman is assigned to withhold movements, that employee may authorize movements under the direction of the RWIC. If a qualified roadway worker (RWIC) is not assigned to provide on-track safety for the work group, a conductor/flagman may perform this function but must have received the relevant RWIC training to assume those responsibilities (see [Table 2](#)). This would also be true of any employee that would be protecting a contractor to a railroad engaged in roadway worker functions.

Paragraph (a)(1) requires the RWIC be trained and qualified on the content and application of the railroad rules governing the resolution of good faith challenges. FRA believes that special emphasis should be placed on the good faith challenge procedures in 214.353. The RWIC is most often the person best situated to address and resolve such challenges raised by roadway workers. 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, FRA believes the RWIC must at least know what the railroad's procedures are that govern the handling such challenge in the event a challenge is raised.

Paragraph (a)(5) requires a RWIC be trained on the railroad's procedures ensuring the RWIC remains immediately accessible to the roadway workers being protected by the on-track safety established by the RWIC. This paragraph parallels the requirement in § 214.315(a)(5) that the on-track safety job briefing given by a RWIC to a roadway worker include information on the accessibility of the RWIC, and on alternate procedures in the event the RWIC is no longer accessible to members of the roadway work group.

Lastly, under paragraph (b), although the term "periodic" is not defined in the rule, each railroad should specify in its program the interval at which their periodic qualification will take place. Following its effective date, Part 243 will control the maximum period between required requalification. For purposes of § 214.353(b), § 243.201 will require recurrent qualification every three calendar years.

[Table 2](#) provides a list of required training and qualification elements for employees other than roadway workers based on specific activities.

FRA has received question regarding what has been referred to as the bifurcation, or the splitting, of certain roadway worker in charge duties. This refers to scenarios where, for example, a roadway worker in charge may not be qualified on the physical characteristics of

a territory but a conductor who *is* qualified on the physical characteristics is assigned to serve as a pilot for the roadway worker in charge (analogous to a locomotive engineer being unfamiliar with the physical characteristics who is provided a pilot in accordance with § 240.231).

After evaluating this issue, FRA will continue to allow bifurcation of RWIC duties under the two limited scenarios involving physical characteristics qualification (pilot) and when obtaining track authority for an RWIC. For gangs working across a large system, FRA recognizes it may not always be possible for a 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. Further, FRA currently permits one employee to obtain a track permit for another employee who is acting as the roadway worker in charge. 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 roadway worker in charge.

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). However, FRA would take exception to a limited RWIC qualification where work was being performed on controlled track and where such limited qualification did not include the ability to use all of a railroad's controlled track working limits procedures. For example, limiting qualification to use of foul time only, when exclusive track occupancy is also an integral part of a railroad's on-track safety program, would not be permissible.

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

- (a) *The training and qualification of roadway workers who operate roadway maintenance machines shall include, as a minimum:*
- (1) *Procedures to prevent a person from being struck by the machine when the machine is in motion or operation.*
 - (2) *Procedures to prevent any part of the machine from being struck by a train or other equipment on another track.*
 - (3) *Procedures to provide for stopping the machine short of other machines or obstructions on the track.*
 - (4) *Methods to determine safe operating procedures for each machine that the operator is expected to operate.*
- (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.*

Guidance. Section 214.355 sets forth the on-track safety training and qualification requirements for roadway maintenance machine operators. As noted earlier, there is a wide variety of equipment requiring specific knowledge. However, FRA determined that establishing minimum qualifications closely associated with the type of machine to be operated, and the circumstances and conditions under which it is to be operated, was

necessary.

Employees who are roadway workers operating roadway maintenance machines are required to demonstrate proficiency on a periodic basis. Inquiries about training indicate there is confusion regarding annual training and periodic qualification. The term “periodic qualification” as used in this regulation applies to employees who perform specific duties such as lone workers, watchman/lookouts, flagmen, RWICs, and roadway maintenance machine operators. FRA requires that employees receive “initial and periodic qualification” for each of the duties listed above. The required time frame for the qualification differs from the required annual training.

Although the term “periodic qualification” is not defined in the rule, each railroad should specify in its program the interval at which their periodic qualification will take place. Following its effective date, Part 243 will control the maximum time interval between periodic requalification. For purposes of § 214.355(b), § 243.201 requires recurrent qualification at a minimum of every three calendar years.

When an employee (with only basic training) is promoted to perform duties such as roadway worker operating roadway maintenance machines, that employee must receive additional training and be qualified as required. The qualification of the roadway worker operating roadway maintenance machines is based on his/her demonstrated proficiency.

Note: Any employee who is promoted from a “basic worker” to a higher form of roadway worker qualification must demonstrate proficiency before assuming such duties.

§ 214.357 Training and qualification for operators of roadway maintenance machines equipped with a crane.

- a) *In addition to the general training and qualification requirements for operators of roadway maintenance machines set forth in §§ 214.341 and 214.355 of this subpart, each employer shall adopt and comply with a training and qualification program for operators of roadway maintenance machines equipped with a crane to ensure the safe operation of such machines.*
- b) *Each employer’s training and qualification program for operators of roadway maintenance machines equipped with a crane shall require initial and periodic qualification of each operator of a roadway maintenance machine equipped with a crane and shall include:*
 - 1) *Procedures for determining that the operator has the skills to safely operate each machine the person is authorized to operate; and*
 - 2) *Procedures for determining that the operator has the knowledge to safely operate each machine the person is authorized to operate. Such procedures shall determine that either:*
 - i. *The operator has knowledge of the safety instructions (i.e., the manufacturer’s instruction manual) applicable to that machine; or*
 - ii. *The operator has knowledge of the safety instructions developed to replace the manufacturer’s safety instructions when the machine has been adapted for a specific railroad use. Such instructions shall address all aspects of the safe operation of the crane and shall be as comprehensive as the manufacturer’s safety instructions they replace.*

- c) *Each employer shall maintain records that form the basis of the training and qualification determinations of each operator of roadway maintenance machines equipped with a crane that it employs.*
- d) *Availability of records: Each employer required to maintain records under this part shall make all records available for inspection and copying/photocopying to representatives of FRA, upon request during normal business hours.*
- e) *Training conducted by an employer in accordance with operator qualification and certification required by the Department of Labor (29 CFR 1926.1427) may be used to satisfy the training and qualification requirements of this section.*

Guidance. This section is intended to ensure that each railroad or contractor (or subcontractor) to a railroad ensures that operators of roadway maintenance machines equipped with a crane is adequately trained to ensure their vehicles are safely operated. The training requirements are intended to address both safe movement of the vehicles and safe operation of the cranes. FRA regulations apply to operators of roadway maintenance machines equipped with a crane, rather than OSHA's regulation related to crane operator qualification and certification found at 29 C.F.R. § 1926.1427.

Paragraph (a) clarifies that this section requires training in addition to the existing requirements already contained in this subpart. Paragraph (a) also includes a requirement that each employer adopt and comply with a training and qualification program for operators of roadway maintenance machines equipped with a crane to ensure the safe operation of such machines. The requirement in paragraph (a) to “adopt” and “comply” with a training and qualification program may seem redundant; however, the use of these terms together are intended to remind each employer that it will need to both “adopt” such a program and “comply” with its own program. Failure to adopt or comply with a program required by this section will be considered a failure to comply with this section.

Paragraph (b) requires that each employer's training and qualification program address initial and periodic qualification for each operator of a roadway maintenance machine equipped with a crane. Both initial training and periodic refresher training must, at a minimum, include certain procedures for addressing critical safety areas.

Paragraph (b)(1) requires that each employer develop procedures for determining that the operator has the skills to safely operate each machine the person is authorized to operate. FRA would expect that those procedures would include demonstrated proficiency as observed by a qualified instructor or supervisor.

Paragraph (b)(2) requires that each employer develop procedures for determining that the operator has the knowledge to safely operate each machine the person is authorized to operate. As explained in the analysis of § 214.341(b)(2), an operator must have knowledge of the safety instructions applicable to that machine, regardless of whether the machine has been adapted for a particular railroad use. Implicit in this rule is the requirement that the employer must supply the safety instructions for the crane. If the crane has been adapted for a specific use, the employer must ensure that the safety instructions are also adapted. FRA would expect the employer to employ or contract out for a qualified person to adapt the safety instructions, but in any case the employer is responsible for ensuring that the instructions address all aspects of the safe operation of the crane. When equipment has been adapted, the employer has a duty to provide revised safety instructions that comprehensively address each adapted feature as well as any feature supplied by the manufacturer that was not removed during the adaptation.

Paragraph (c) requires that each employer maintain records that form the basis of the

training and qualification determinations of each operator of roadway maintenance machines equipped with a crane that it employs. This requirement repeats the requirement contained in § 243.203 to maintain records. However, it is useful to repeat the requirement as a reminder to employers. In repeating this requirement, FRA does not intend to cause an employer to duplicate records kept in accordance with Part 243. Similarly, paragraph (d) requires that each employer make all records available for inspection and copying/photocopying to representatives of FRA, upon request during normal business hours, as is also required in Part 243.

In paragraph (e), FRA permits training conducted by an employer in accordance with operator qualification and certification required by the Department of Labor (29 C.F.R. § 1926.1427) to be used to satisfy the training and qualification requirements of this section. The purpose of this paragraph is to allow an employer to choose to train and certify an employee in accordance with OSHA's Final Crane Rule and opt out of the other requirements of this section for that employee. If the crane equipment is modified for railroad operations there may not be an accredited crane operator testing organization that could certify the operator in accordance with OSHA's Final Crane Rule. 29 C.F.R. § 1926.1427(b). However, there are some roadway maintenance machines equipped with a crane that are considered standard construction equipment and thus it would be possible to certify operators of that equipment through such an accredited organization. For this reason, FRA does not want to preclude the option for a person to be trained by the accredited organization and meet OSHA's requirements in lieu of FRA's requirements. Similarly, FRA envisions that some railroads or employers may employ some operators on roadway maintenance machines equipped with a crane who could be used exclusively within State or local jurisdictions in which the operators are licensed. Under those circumstances, the operator would be in compliance with OSHA's fourth option for certifying crane operators as it permits the licensing of such operators by a government entity. 29 C.F.R. § 1926.1427(e). FRA has no objection to the use of crane operators who meet OSHA's requirements and does not intend, by the addition of this section, to impose any additional regulatory requirements on such operators. Although the purpose of this section is to provide an alternative method of training and qualification that is tailored to the unique circumstances faced by most operators of roadway maintenance machines equipped with a crane working for the railroad industry, the purpose of paragraph (e) is to permit an employer to opt out of the alternative FRA requirements as long as the operator has met OSHA's training and certification requirements.

Table 2 - Training and Qualification of Employees Associated with Roadway Worker Protection

Section	Description	Dispatcher	Engineer	Conductor	Conductor providing on-track safety (1)
309	Each RWIC shall maintain a copy of the program				A
311	Good faith challenge and written procedure				A
315	On-track safety briefing				A
321	Exclusive track occupancy	D	D	D	D
323	Foul time	D			A
325	Train coordination		R	R	R
327	Inaccessible track			2	A
329	Train approach warning				A
335	Train approach warning large scale (adjacent track)				A
339	Audible train warning		R		A
341	Roadway maintenance machines				3
351	Flagmen	D	D	D	D
353	Physical characteristics	D	D	D	D

D Default training received through craft training.

R On-track training received in addition to craft qualification as required by 214.343.

A Additional qualification of employee providing on-track safety for roadway workers. Qualifications may be limited to those required for a specific situation. For example, a conductor providing on-track safety for a contractor working on a single controlled main track with exclusive track occupancy without roadway maintenance machines will not need to be qualified on roadway maintenance machine on-track safety, train approach warning, or inaccessible track. Only the elements that are utilized are applicable.

1. On-track safety qualification elements may be split between a conductor and roadway worker. For example, a conductor who is qualified to obtain a track permit but not on-track safety, a roadway worker may fulfill the other elements such as the on-track safety briefing, etc.
2. Railroad operating rule that would prohibit conductor from pulling spike in switch used to make track inaccessible.
3. An employee providing on-track safety is not required to be fully qualified to operate every roadway maintenance machine but must have knowledge of the general and specific on-track safety procedures for each machine.

Appendix – Defect Codes**Note:**

- 1) All codes correspond to the rule text. For example, 0303(a) corresponds to 214.303(a) and 0315(e)(iii) corresponds to 214.315(e)(iii).
- 2) For penalty schedule, please refer 49 CFR Part 214.
- 3) Defect code descriptions are not exact regulatory language. They are subject to change as needed.

CODE	DESCRIPTION
0303A	FAILURE OF A RAILROAD TO IMPLEMENT AN ON-TRACK SAFETY PROGRAM
0303B	FAILURE OF A RAILROAD TO INCLUDE AND USE INTERNAL MONITORING PROCEDURE
0305	FAILURE OF A RAILROAD TO COMPLY BY THE SPECIFIED DATES
0307Ai	FAILURE TO ADOPT ON-TRACK SAFETY PROGRAM
0307Aii	FAILURE TO PROVIDE ON-TRACK SAFETY PROGRAM TO FRA UPON REQUEST
0307B	FAILURE TO NOTIFY FRA OF ADOPTION OR CHANGE TO ON-TRACK SAFETY PROGRAM
0307C	FAILURE TO AMEND OR PROVIDE WRITTEN RESPONSE AFTER DISAPPROVAL OF ON-TRACK SAFETY PROGRAM
0309A	ON-TRACK SAFETY MANUAL NOT PROVIDED TO PRESCRIBED EMPLOYEES
0309A1	ON-TRACK SAFETY MANUAL NOT PROVIDED TO PRESCRIBED EMPLOYEES
0309A2	ON-TRACK SAFETY PROGRAM DOCUMENTS ISSUED IN FRAGMENTS
0309A3	FAILURE OF ROADWAY WORKER TO MAKE ON-TRACK SAFETY MANUAL AVAILABLE
0309B	FAILURE TO ESTABLISH PROVISION FOR LONE WORKER TO HAVE ALTERNATIVE ACCESS TO ON-TRACK SAFETY MANUAL
0309C	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
0311B	ROADWAY WORKER REQUIRED BY EMPLOYER TO FOUL A TRACK DURING AN UNRESOLVED CHALLENGE
0311C	ROADWAY WORKERS NOT PROVIDED WITH WRITTEN PROCEDURE TO RESOLVE CHALLENGES OF ON-TRACK SAFETY PROCEDURES
0313A	FAILURE OF ROADWAY WORKER TO FOLLOW RAILROADS ON-TRACK SAFETY RULES WHERE ROADWAY WORKER IS LOCATED

0313B	ROADWAY WORKER FOULING A TRACK WHEN NOT NECESSARY IN THE PERFORMANCE OF DUTY
0313C	ROADWAY WORKER FOULING A TRACK WITHOUT ASCERTAINING THAT PROVISION IS MADE FOR ON-TRACK SAFETY
0313D	ROADWAY WORKER FAILING TO NOTIFY EMPLOYER OF DETERMINATION OF IMPROPER ON-TRACK SAFETY PROVISIONS
0315A	FAILURE OF EMPLOYER TO PROVIDE JOB BRIEFING
0315A1	COMPLETE FAILURE OF EMPLOYER TO PROVIDE ON-TRACK SAFETY JOB BRIEFING
0315A2	PARTIAL FAILURE OF EMPLOYER TO PROVIDE ON-TRACK SAFETY JOB BRIEFING WITH INFORMATION ON THE MEANS BY WHICH OTS IS TO BE PROVIDED OR INSTRUCTIONS ON EACH ON-TRACK SAFETY PROCEDURE TO BE FOLLOWED
0315A3	PARTIAL FAILURE OF EMPLOYER TO PROVIDE ON-TRACK SAFETY JOB BRIEFING ON INFORMATION ABOUT ADJACENT TRACKS, OTS FOR SUCH TRACKS IF REQUIRED OR DEEMED NECESSARY BY THE RWIC, IDENTIFICATION OF ANY RMMS FOULING SUCH TRACKS
0315A4	PARTIAL FAILURE OF EMPLOYER TO PROVIDE ON-TRACK SAFETY JOB BRIEFING ON THE NATURE OF THE WORK TO BE PERFORMED OR THE LOCATION CHARACTERISTICS
0315A5	PARTIAL FAILURE OF EMPLOYER TO PROVIDE ON-TRACK SAFETY JOB BRIEFING ON THE ACCESSIBILITY OF THE RWIC AND ALTERNATIVE PROCEDURES IF THE RWIC IS NO LONGER ACCESSIBLE TO THE ROADWAY WORK GROUP
0315B	INCOMPLETE JOB BRIEFING
0315Ci	FAILURE TO DESIGNATE ROADWAY WORKER IN CHARGE OF ROADWAY WORK GROUP
0315Cii	DESIGNATION OF MORE THAN ONE ROADWAY WORKER IN CHARGE OF ONE ROADWAY WORK GROUP
0315Ciii	DESIGNATION OF NON-QUALIFIED ROADWAY WORKER IN CHARGE OF ROADWAY WORK GROUP
0315Di	FAILURE TO NOTIFY ROADWAY WORKERS OF ON-TRACK SAFETY PROCEDURES IN EFFECT
0315Dii	INCORRECT INFORMATION PROVIDED TO ROADWAY WORKERS REGARDING ON-TRACK SAFETY PROCEDURES IN EFFECT
0315Diii	FAILURE TO NOTIFY ROADWAY WORKERS OF CHANGE IN ON-TRACK SAFETY PROCEDURES
0315Ei	FAILURE OF LONE WORKER TO COMMUNICATE WITH DESIGNATED EMPLOYEE FOR DAILY JOB BRIEFING
0315Eii	FAILURE OF EMPLOYER TO PROVIDE MEANS FOR LONE WORKER TO RECEIVE DAILY JOB BRIEFING
0317A	ON-TRACK SAFETY RULES CONFLICT WITH THIS PART
0317B	FAILURE TO ADOPT OR COMPLY WITH RULES GOVERNING SAFE CROSSING OF TRACK
0317B3	FAILURE TO ESTABLISH ON-TRACK SAFETY IF REQUIRED

0317C1	FAILURE TO ADOPT OR COMPLY WITH OPERATING PROCEDURE IF THIS SECTION IS UTILIZED IN LIEU OF ESTABLISHING WORKING LIMITS
0317C2	FAILURE TO GRANT ABSOLUTE RIGHT TO ESTABLISH WORKING LIMITS IF REQUESTED BY RWIC OR LONE WORKER
0317C3	EXCEPT AS PERMITTED, ROADWAY WORKER FOULING TRACK WITHOUT ON-TRACK SAFETY
0317C4	ROADWAY MAINTENANCE MACHINE NOT PROPERLY EQUIPPED OR UTILIZED
0317D1	FAILURE TO INSPECT TUNNEL NICHE OR CLEARING BAY
0317D2	LACK OF ADEQUATE SIGHT DISTANCE
0317D3	FAILURE TO GRANT ABSOLUTE RIGHT TO ESTABLISH OTHER PLACE OF SAFETY OR TO ESTABLISH WORKING LIMITS IF REQUESTED BY RWIC OR LONE WORKER
0318A	USE OF BLUE SIGNAL PROTECTION BY WORKER PERFORMING NON-INCIDENTAL DUTIES AND/OR DUTIES OUTSIDE DEFINED LOCATION
0318B	USE OF BLUE SIGNAL PROTECTION BY CONTRACTOR PERFORMING NON-INCIDENTAL DUTIES OR NOT UNDER DIRECTION OF BLUE SIGNAL QUALIFIED WORKER AND/OR DUTIES OUTSIDE DEFINED LOCATION
0318C	USE OF BLUE SIGNAL IN LOCATIONS REQUIRING A 213.7 QUALIFIED INDIVIDUAL TO SUPERVISE RESTORATION OR RENEWAL.
0319A	NON-QUALIFIED ROADWAY WORKER IN CHARGE OF WORKING LIMITS
0319A1	NON-QUALIFIED RWIC OF WORKING LIMITS
0319A2	MORE THAN ONE RWIC OF WORKING LIMITS ON THE SAME TRACK SEGMENT
0319A3i	WORKING LIMITS RELEASED WITHOUT NOTIFYING ALL AFFECTED ROADWAY WORKERS
0319A3ii	WORKING LIMITS RELEASED BEFORE ALL AFFECTED ROADWAY WORKERS ARE OTHERWISE PROTECTED
0319B	MORE THAN ONE ROADWAY WORKER IN CHARGE OF WORKING LIMITS ON THE SAME TRACK SEGMENT
0319B1	FAILURE TO ADOPT REDUNDANT PROTECTIONS IN ON-TRACK SAFETY PROGRAM
0319B2	FAILURE TO COMPLY WITH REDUNDANT PROTECTIONS IDENTIFIED IN ON-TRACK SAFETY PROGRAM WHEN CONTROLLED TRACK WORKING LIMITS ARE ESTABLISHED
0319C1	WORKING LIMITS RELEASED WITHOUT NOTIFYING ALL AFFECTED ROADWAY WORKERS
0319C2	WORKING LIMITS RELEASED BEFORE ALL AFFECTED ROADWAY WORKERS ARE OTHERWISE PROTECTED
0320	ROADWAY MAINTENANCE MACHINE MOVEMENTS OVER SIGNALIZED NON-CONTROLLED TRACK MADE USING THE OPERATING RULES OF THE RAILROAD

0321B	IMPROPER TRANSMISSION OF AUTHORITY FOR EXCLUSIVE TRACK OCCUPANCY.
0321B1	FAILURE TO REPEAT AUTHORITY FOR EXCLUSIVE TRACK OCCUPANCY TO ISSUING EMPLOYEE.
0321B2	FAILURE TO RETAIN POSSESSION OF WRITTEN AUTHORITY FOR EXCLUSIVE TRACK OCCUPANCY.
0321B3	FAILURE TO RECORD AUTHORITY FOR EXCLUSIVE TRACK OCCUPANCY WHEN ISSUED.
0321B4i	FAILURE TO SPECIFY UNIQUE ROADWAY WORK GROUP NUMBER, EMPLOYEE NAME, OR UNIQUE IDENTIFIER
03231B4ii	FAILURE TO ADOPT PROCEDURE REQUIRING PRECISE COMMUNICATION BETWEEN RWIC OR LONE WORKER AND TRAINS OR OTHER ON-TRACK EQUIPMENT
0321C	LIMITS OF EXCLUSIVE TRACK OCCUPANCY NOT IDENTIFIED BY PROPER PHYSICAL FEATURES
0321D1	MOVEMENT AUTHORIZED INTO LIMITS OF EXCLUSIVE TRACK OCCUPANCY WITHOUT AUTHORITY OF ROADWAY WORKER IN CHARGE
0321D2	MOVEMENT AUTHORIZED WITHIN LIMITS OF EXCLUSIVE TRACK OCCUPANCY WITHOUT AUTHORITY OF ROADWAY WORKER IN CHARGE
0321D3	MOVEMENT WITHIN LIMITS OF EXCLUSIVE TRACK OCCUPANCY EXCEEDING RESTRICTED SPEED WITHOUT AUTHORITY OF ROADWAY WORKER IN CHARGE
0321E1	FAILURE TO COMPLY WITH OCCUPANCY BEHIND REQUIREMENTS VERIFYING PASSAGE OF THE TRAIN BY THE POINT TO BE OCCUPIED OR FOULED VISUALLY OR BY DIRECT RADIO CONTACT WITH A CREW MEMBER OF THE TRAIN OR BY CONTACTING THE DISPATCHER TO CONFIRM TRAIN PASSAGE
0321E2	FAILURE TO COMPLY WITH OCCUPANCY BEHIND REQUIREMENTS REQUIRING THE RAILROAD TO ADOPT AN OPERATING RULE PROHIBITING THE AFFECTED TRAIN(S) FROM MAKING A REVERSE MOVEMENT INTO OR WITHIN THE LIMITS BEING FOULED OR OCCUPIED
0321E3	FAILURE TO COMPLY WITH OCCUPANCY BEHIND REQUIREMENTS AFTER THE AFFECTED TRAINS HAVE PASSED THE POINT TO BE OCCUPIED OR FOULED, RWIC MUST RECORD ON THE AUTHORITY THE TIME(S) PASSED AND THE ENGINE NUMBER(S)
0321E4	FAILURE TO COMPLY WITH OCCUPANCY BEHIND REQUIREMENTS ASSOCIATED WITH A SEPARATE ROADWAY WORK GROUP BEING AFFORDED OTS BY THE RWIC
0322A	CONTENTS OF AUTHORITY ELECTRONICALLY DISPLAYED NOT READILY VIEWABLE
0322B	FAILURE TO TIMELY OBTAIN WRITTEN/PRINTED AUTHORITY OR OCCUPY PLACE OF SAFETY IF ELECTRONIC DISPLAY FAILS WHILE AUTHORITY IS IN EFFECT
0322C	FAILURE OF AUTHORIZED USERS OF THE ELECTRONIC DISPLAY SYSTEM TO BE UNIQUELY IDENTIFIED.

0322D	FAILURE OF AUTHORIZED USERS OF THE ELECTRONIC DISPLAY SYSTEM TO BE AUTHENTICATED PRIOR TO BEING GRANTED ACCESS TO THE SYSTEM
0322E	FAILURE TO ENSURE THE INTEGRITY OF THE DATA IS MAINTAINED DURING TRANSMISSION/RECEPTION, PROCESSING AND STORAGE OR SYSTEMS IMPLEMENTED AFTER JULY 1, 2017 DO NOT UTILIZE A MAC MEETING THE REQUIRED CRITERIA TO ENSURE THAT ALL DATA IS ERROR FREE
0322F	FAILURE OF ALL AUTHORITIES TRANSMITTED TO EACH ELECTRONIC DISPLAY DEVICE TO BE RETAINED IN THE DEVICE'S NON-VOLATILE MEMORY FOR NOT LESS THAN 72 HOURS
0322G	FAILURE OF THE RAILROAD OR EMPLOYER UTILIZING AN ELECTRONIC DISPLAY DEVICE IN SECURING AN AUTHORITY INVOLVED IN AN ACCIDENT/INCIDENT REQUIRING REPORTING TO FRA UNDER PART 225 TO PRESERVE THE DATA RECORDED BY THE DEVICE FOR ANALYSIS BY FRA OR NTSB FOR AT LEAST ONE YEAR FROM THE DATE OF THE ACCIDENT
0322H	FAILURE TO COMPLY WITH THE NIST REQUIREMENTS DESIGNATED
0323A	FOUL TIME AUTHORITY OVERLAPPING MOVEMENT AUTHORITY OF TRAIN OR EQUIPMENT
0323B	FAILURE TO REPEAT FOUL TIME AUTHORITY TO ISSUING EMPLOYEE
0323C	TRAIN DISPATCHER OR CONTROL OPERATOR PERMITTING MOVEMENT OF TRAINS OR OTHER ON-TRACK EQUIPMENT INTO WORKING LIMITS PRIOR TO RWIC REPORTING CLEAR OF TRACK
0323D	RWIC PERMITTING MOVEMENT OF TRAINS OR ON-TRACK EQUIPMENT INTO OR WITHIN WORKING LIMITS
0325A	TRAIN COORDINATION LIMITS ESTABLISHED WHERE MORE THAN ONE TRAIN IS AUTHORIZED TO OPERATE
0325B1	TRAIN COORDINATION ESTABLISHED WITH TRAIN NOT VISIBLE TO ROADWAY WORKER AT THE TIME
0325B2	TRAIN COORDINATION ESTABLISHED WITH MOVING TRAIN
0325B3	COORDINATED TRAIN MOVING WITHOUT AUTHORITY OF ROADWAY WORKER IN CHARGE
0325B4	COORDINATED TRAIN RELEASING MOVEMENT AUTHORITY WHILE WORKING LIMITS ARE IN EFFECT
0327A	IMPROPER CONTROL OF ENTRY TO INACCESSIBLE TRACK
0327A5	REMOTELY CONTROLLED SWITCH NOT PROPERLY SECURED BY CONTROL OPERATOR
0327B	TRAIN OR EQUIPMENT MOVING WITHIN INACCESSIBLE TRACK LIMITS WITHOUT PERMISSION OF ROADWAY WORKER IN CHARGE
0327C	UNAUTHORIZED TRAIN OR EQUIPMENT LOCATED WITHIN INACCESSIBLE TRACK LIMITS
0329A	FAILURE TO GIVE TIMELY WARNING OF APPROACHING TRAIN

0329Ai	FAILURE TO GIVE TIMELY WARNING OF APPROACHING TRAIN
0329Aii	FAILURE TO USE MAXIMUM AUTHORIZED SPEED IN FORMULATING SIGHT DISTANCE
0329Aiii	USE OF ANOTHER TRACK AS A PLACE OF SAFETY WITHOUT ESTABLISHING WORKING LIMITS ON THAT TRACK
0329B1	FAILURE OF WATCHMAN/LOOKOUT TO GIVE FULL ATTENTION TO DETECTING APPROACH OF TRAIN
0329B2	ASSIGNMENT OF OTHER DUTIES TO WATCHMAN/LOOKOUT
0329C	FAILURE TO PROVIDE PROPER WARNING SIGNAL DEVICES
0329D	FAILURE TO MAINTAIN POSITION TO RECEIVE TRAIN APPROACH WARNING SIGNAL
0329E	FAILURE TO COMMUNICATE PROPER WARNING SIGNAL
0329F1	ASSIGNMENT OF NON-QUALIFIED PERSON AS WATCHMAN/LOOKOUT
0329F2	NON-QUALIFIED PERSON ACCEPTING ASSIGNMENT AS WATCHMAN/LOOKOUT
0329G	FAILURE TO PROPERLY EQUIP A WATCHMAN/LOOKOUT
0331A	DEFINITE TRAIN LOCATION ESTABLISHED WHERE PROHIBITED
0331B	FAILURE TO PHASE OUT DEFINITE TRAIN LOCATION BY REQUIRED DATE
0331D1	TRAIN LOCATION INFORMATION ISSUED BY UNAUTHORIZED PERSON
0331D2	FAILURE TO INCLUDE ALL TRAINS OPERATED ON TRAIN LOCATION LIST
0331D5	FAILURE TO CLEAR A TRAIN BY TEN MINUTES AT THE LAST STATION AT WHICH TIME IS SHOWN
0331D6	TRAIN PASSING STATION BEFORE TIME SHOWN IN TRAIN LOCATION LIST
0331D7	NON-QUALIFIED PERSON USING DEFINITE TRAIN LOCATION TO ESTABLISH ON-TRACK SAFETY
0331E	FAILURE TO DISCONTINUE USE OF DEFINITE TRAIN LOCATION BY REQUIRED DATE
0333A	INFORMATIONAL LINE-UPS OF TRAINS USED FOR ON-TRACK SAFETY WHERE PROHIBITED
0333B	INFORMATIONAL LINE-UP PROCEDURES INADEQUATE TO PROTECT ROADWAY WORKERS
0333C	FAILURE TO DISCONTINUE INFORMATIONAL LINE-UPS BY REQUIRED DATE
0335A	FAILURE TO PROVIDE ON-TRACK SAFETY FOR A MEMBER OF A ROADWAY WORK GROUP
0335B	MEMBER OF ROADWAY WORK GROUP FOULING A TRACK WITHOUT AUTHORITY OF EMPLOYEE IN CHARGE
0336A1	FAILURE TO ESTABLISH ON-TRACK SAFETY FOR EACH ADJACENT CONTROLLED TRACK AS REQUIRED UNDER THIS SECTION

0336A2	FAILURE TO IMPLEMENT THE MORE RESTRICTIVE PROCEDURES REQUIRED BY PARAGRAPH (B) DURING SPECIAL CIRCUMSTANCE OF CONCURRENT MOVEMENT(S) ON TWO ADJACENT CONTROLLED TRACKS WHERE ONE MOVEMENT IS AUTHORIZED OR PERMITTED AT A SPEED OVER 25 MPH
0336B1	FAILURE OF ROADWAY WORKER TO CEASE WORK AND OCCUPY A PREDETERMINED PLACE OF SAFETY UPON RECEIVING A WARNING OR NOTIFICATION OF TRAIN OR OTHER ON-TRACK EQUIPMENT MOVEMENT(S) ON AN ADJACENT CONTROLLED TRACK
0336B2	RESUMPTION OF WORK BEFORE TRAILING-END OF ALL APPLICABLE MOVEMENTS HAS PASSED THE ROADWAY WORKER
0336C	FAILURE TO MAINTAIN 25-FOOT SPACING BETWEEN ON-TRACK, SELF-PROPELLED EQUIPMENT OR COUPLED EQUIPMENT AND ROADWAY WORKER(S) ON THE OCCUPIED TRACK DURING AN ADJACENT-CONTROLLED-TRACK MOVEMENT AT 25 MPH OR LESS
0336D	FAILURE TO IMPLEMENT ON-TRACK SAFETY PROCEDURES ON AN ADJACENT TRACK WHEN DEEMED NECESSARY BY THE ROADWAY WORKER IN CHARGE OF PROVIDING ON-TRACK SAFETY FOR A ROADWAY WORK GROUP
0336F	ROADWAY MAINTENANCE MACHINE COMPONENT FOULING AN ADJACENT CONTROLLED TRACK WITHOUT WORKING LIMITS OR WITH MOVEMENTS PERMITTED WITHIN WORKING LIMITS
0337B	FAILURE BY EMPLOYER TO PERMIT INDIVIDUAL DISCRETION IN USE OF INDIVIDUAL TRAIN DETECTION
0337C1	INDIVIDUAL TRAIN DETECTION USED BY NON-QUALIFIED EMPLOYEE
0337C2	USE OF INDIVIDUAL TRAIN DETECTION WHILE ENGAGED IN HEAVY OR DISTRACTING WORK
0337C3	USE OF INDIVIDUAL TRAIN DETECTION IN CONTROLLED POINT OR MANUAL INTERLOCKING
0337C4	USE OF INDIVIDUAL TRAIN DETECTION WITH INSUFFICIENT VISIBILITY
0337C5	USE OF INDIVIDUAL TRAIN DETECTION WITH INTERFERING NOISE
0337C6	USE OF INDIVIDUAL TRAIN DETECTION WHILE A TRAIN IS PASSING
0337D	FAILURE TO MAINTAIN ACCESS TO PLACE OF SAFETY CLEAR OF LIVE TRACKS
0337E	LONE WORKER UNABLE TO MAINTAIN VIGILANT LOOKOUT
0337F1	FAILURE TO PREPARE WRITTEN STATEMENT OF ON-TRACK SAFETY
0337F2	INCOMPLETE WRITTEN STATEMENT OF ON-TRACK SAFETY
0337F3	FAILURE TO PRODUCE WRITTEN STATEMENT OF ON-TRACK SAFETY TO FRA

0337G	USE OF INDIVIDUAL TRAIN DETECTION WHILE USING MACHINE, EQUIPMENT, OR MATERIAL THAT CANNOT BE READILY REMOVED BY HAND
0339A	FAILURE TO ADOPT OR COMPLY WITH AUDIBLE WARNING PROCEDURES GOVERNING INITIAL HORN WARNING, SUBSEQUENT WARNING(S) AND ALTERNATIVE WARNINGS WHERE HORN ADVERSELY AFFECTS ROADWAY WORKERS
0339B	FAILURE TO ADOPT OR COMPLY WITH AUDIBLE WARNING PROCEDURES WHERE AUDIBLE WARNING IS USED IN LIEU OF ON-TRACK SAFETY
0341A	FAILURE OF ON-TRACK SAFETY PROGRAM TO INCLUDE PROVISIONS FOR SAFETY NEAR ROADWAY MAINTENANCE MACHINES
0341B	FAILURE TO PROVIDE OPERATING INSTRUCTIONS
0341B1	ASSIGNMENT OF NON-QUALIFIED EMPLOYEE TO OPERATE MACHINE
0341B2	OPERATOR UNFAMILIAR WITH SAFETY INSTRUCTIONS FOR MACHINE
0341B3	ROADWAY WORKER WORKING WITH UNFAMILIAR MACHINE
0341C	ROADWAY MAINTENANCE MACHINE NOT CLEAR OF PASSING TRAINS
0343A1	FAILURE OF RAILROAD PROGRAM TO INCLUDE TRAINING PROVISIONS
0343A2	FAILURE TO PROVIDE INITIAL TRAINING
0343B	FAILURE TO PROVIDE ANNUAL TRAINING
0343C	ASSIGNMENT OF NON-QUALIFIED RAILROAD EMPLOYEES TO PROVIDE ON-TRACK SAFETY
0343D1	FAILURE TO MAINTAIN RECORDS OF QUALIFICATIONS
0343D2	INCOMPLETE RECORDS OF QUALIFICATIONS
0343D3	FAILURE TO PROVIDE RECORDS OF QUALIFICATIONS TO FRA
0353	TRAINING AND QUALIFICATION OF ROADWAY WORKERS IN CHARGE

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