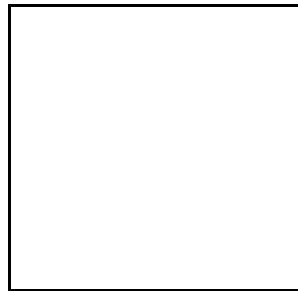


# **Railroad Workplace Safety**

## **Compliance Manual**



**United States**  
**Department of Transportation**  
**Federal Railroad Administration**  
Office of Safety Assurance and Compliance  
**December 16, 1996**



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# CHAPTER 1

## General

### Introduction:

This manual is issued as a supplement to the Federal Railroad Administration Track Safety Enforcement Manual and the Signal and Train Control Enforcement Manual. It prescribes the manner in which Federal and State Track, and Signal and Train Control, Inspectors shall engage in investigative and monitoring activities to assure railroad compliance with rules, regulations, orders, and standards issued by the Federal Railroad Administrator. It is an instrument of program management issued solely for the guidance of FRA personnel. It neither creates nor abridges any private right or obligation. The guidance provided by this manual may be revoked or modified without prior notice by memorandum of the Associate Administrator for Safety.

The directives contained in this manual are designed to assure maximum effective use of available resources and compliance with these directives will result in the uniform application and enforcement of Federal safety regulations throughout the Nation. This uniformity is necessary for effective program management.

Federal and State inspectors engaged in railroad workplace safety investigation activities should refer to this manual as often as necessary to obtain a clear understanding of their roles in the implementation of the railroad workplace safety program. Inspectors in doubt as to the meaning of any paragraph in the manual must promptly apply to their Regional Track Specialist for an explanation.

Discussions of the Bridge Worker Safety Standards in Chapter 7 and Roadway Worker Protection Standards in Chapter 8 give an interpretation of specific sections, but is not to be construed as a modification, alteration, or revision of the published standards.

### Program Goal:

The goal of the Railroad Workplace Safety Program is to prevent injuries and fatalities to persons engaged in the inspection, repair, maintenance and construction of railroad bridges. A properly implemented railroad workplace safety program will provide a major contribution to the safety and well being of all persons who work on railroad bridges. Adherence to the guidelines specified in this manual will permit inspectors to accomplish an important part of this established goal.

### Basis For Regulation and Inspection

#### Statutory authority:

The underlying authority governing the implementation of a railroad workplace safety regulatory program is contained in the Federal Railroad Safety Act of 1970 (Act). Section 202 of the Act provides for the Secretary of Transportation (delegated to the Federal Railroad Administrator) to prescribe, as necessary, appropriate rules, regulations, orders, and standards in all areas of railroad safety.

The Act also provides authority for:

- Penalties for failure to comply with a safety rule; and
- Authority to examine railroad property and records.

In addition to civil penalties, other extraordinary compliance provisions are expressly provided in Section 203 of the Act. An Emergency Order (E.O.) may be issued by the Federal Railroad

Administrator when the Administrator has determined through testing, inspection, investigation, or research that a facility is in unsafe condition and creates a hazard of death or injury to persons.

Section 19 of the Rail Safety Improvement Act of 1988 (RSIA), amended section 202 of the Federal Railroad Safety Act of 1970 (FRSA), by adding new subsection (n), which specifically provides that FRA shall "...issue such rules, regulations, orders, and standards as may be necessary for the safety of maintenance-of-way employees, including standards for bridge safety equipment, such as nets, walkways, handrails, and safety lines, and requirements relating to instances when boats shall be used."

### **Regulatory Authority**

On January 30, 1991, FRA published a Notice of Proposed Rulemaking on Bridge Worker Safety Standards (NPRM) that set forth proposals to address those hazards encountered by railroad bridge employees. The proposal included standards for fall protection, personal protective equipment, and contingencies for working over or adjacent to water. As noted in the preamble of the NPRM, pertinent, applicable regulations promulgated by the Occupational Safety and Health Administration (OSHA) existed, but confusion concerning the authority and enforcement of those standards was prevalent. FRA determined that the safety interests of railroad employees would best be served through a regulatory program of its own.

The final rule was issued in the Federal Register of June 24, 1992 and amended in the Federal Register of June 16, 1994.

The Bridge Worker Safety Rule sets forth a comprehensive regulatory program to address and reduce the exposure to risk faced by those who work on railroad bridges, including personal fall arrest systems, safety nets, standards for scaffolding, contingencies for working over or adjacent to water, and head, eye, face, and foot protection.

This Part was amended in December, 1996, with the addition of Subpart C, Roadway Worker Protection. That program addresses the hazards associated with moving trains and other on-track equipment faced by all railroad roadway workers. Subpart C is presented and discussed in detail in Chapter 8 of this manual.

It is the responsibility of the Track Division in the FRA's Office of Safety Enforcement to develop and interpret safety rules for the protection of maintenance-of-way employees, including bridge and roadway workers. An inspector who discovers serious safety deficiencies not presently covered by these Standards should forward a full report with recommendations and supporting documentation to the Staff Director, Track Division, Office of Safety Assurance and Compliance, Washington, D.C.

Persons outside the Federal Government may petition the FRA for revisions in safety standards as provided in 49 CFR 211.



## CHAPTER 2

### Responsibilities and Duties

#### **Regional Railroad Safety Specialist - Track**

The Regional Railroad Safety Specialist - Track, hereinafter referred to as the Track Specialist, is responsible for technical guidance pertaining to the implementation and enforcement of the Railroad Workplace Safety Program within the region.

Regarding Railroad Workplace Safety, the Track Specialist:

- Assists the Regional Administrator and the Deputy Regional Administrator in planning and managing railroad workplace safety programs in the region;
- Assures that all Track inspectors in the Region are familiar with the provisions of the Railroad Workplace Safety Rule, 49 CFR Part 214;
- Assures that all Track inspectors in the Region understand how to provide for their own safety when on or about bridges and tracks, and that they are properly equipped with all personal protective equipment required for the safe accomplishment of their work;
- Evaluates and critiques all reports of violations of the Railroad Workplace Safety Rule submitted by each inspector within the region for legal and technical sufficiency and submits these reports to the Office of Chief Counsel and the Track Division, RRS 15, with recommendations for prosecution or other suitable disposition;
- Leads and coordinates special assessments, assignments, inspections and investigations involving railroad workplace safety;
- Leads and coordinates the investigation of serious accidents involving bridge and roadway workers within the region;
- Delineates safety procedures and methods for avoiding future accidents and prepares accident reports as assigned;
- Testifies as an expert witness at formal hearings when required by FRA;
- Evaluates and critiques inspectors' field reports concerning railroad bridge and roadway worker accidents and incidents, and determines if the causal factors are appropriately identified, if Federal laws were followed, and if there is a need for rule changes. Based on these field reports, the Track Specialist determines weaknesses in railroad workplace safety practices, and recommends appropriate corrective action to prevent reoccurrence;
- Represents the Federal Railroad Administration as a liaison between senior employees of railroad and labor organizations, to ensure compliance with applicable railroad workplace safety laws, orders, rules, and regulations, and represents the Agency on committees concerning employee safety policies and procedures;

- Provides guidance to Federal, State, and senior employees of railroad and labor organizations in the proper planning, organizing, leading, and controlling of railroad workplace safety concerns; and
- Conducts conferences and seminars for Federal and State personnel, employees of railroads, labor organizations, and other entities as may be applicable, to ensure uniform understanding and application of Federal regulations.

### **Regional Railroad Safety Specialist - Signal and Train Control**

The Regional Railroad Safety Specialist - Signal and Train Control (STC Specialist) will provide guidance to Signal and Train Control inspectors in the implementation and enforcement of the Railroad Workplace Safety Program among railroad signal and electrical maintenance personnel.

The STC Specialist will coordinate with the Track Specialist to provide uniform policy. The STC Specialist will directly supervise the work of the Signal and Train Control inspectors implementing and enforcing the Railroad Workplace Safety Program.

### **Regional Railroad Safety Specialist - Operating Practices**

The Regional Railroad Safety Specialist - Operating Practices will provide guidance, personally and through the Operating Practices inspectors, to inspectors of all disciplines regarding the operating rules aspects of the Roadway Worker Protection Program in the region.

### **Inspectors**

The provisions of this manual apply equally to all FRA safety personnel directed by proper authority to implement and enforce the Railroad Workplace Safety Program. The term "Inspector" used herein will refer to an FRA or state inspector of any discipline who has been properly assigned to carry out implementation and enforcement of the Railroad Workplace Safety Program.

The track inspectors have primary responsibility for the implementation and enforcement of the Railroad Workplace Safety Program. Signal and Train Control inspectors will implement and enforce the Rule as it applies to the work performed by signal and electrical maintenance personnel. They will follow the general guidelines in the Track Enforcement Manual and the Signal and Train Control Enforcement Manual, and the specific guidelines in this Railroad Workplace Safety Manual. Inspectors employed by states that participate in FRA railroad safety programs will follow the program policies and procedures contained in this manual.

Regarding Railroad Workplace Safety, inspectors:

- Implement the FRA Railroad Workplace Safety Program within their assigned territories by judicious application of the several features of the Program in such a way as to foster widespread willing compliance with the Rule and the provision of safe and healthful workplaces for railroad employees;
- Conduct themselves, while on a bridge or any other railroad property, in an exemplary manner that complies with all FRA safety standards, with the safety rules and instructions of the railroad, and with good common sense;
- Prepare technical correspondence concerning railroad workplace safety matters coming within the purview of the Office of Safety for the review of the Track Specialist and Regional Administrator;



- Conduct investigations of serious accidents and incidents involving railroad bridge and roadway workers, as directed or on own initiative.
- Make personal inspections to determine compliance with the Railroad Workplace Safety Program by railroads, railroad contractors, and railroad employees. These inspections will be either planned in advance, or made in conjunction with normal track, signal or bridge inspection activity;
- Assist, as assigned, in the investigative procedures performed by representatives of other disciplines;
- Investigate complaints of alleged noncompliance with laws and orders. Determine facts and submit reports to the Regional Specialist. Where no violation is found, inspectors should explain the circumstances clearly to the complainant so that the complainant will understand the Federal Railroad Administration's authority in the matter, and why no action was instituted. In many instances, this is done personally by the inspector in the field and in others a report is forwarded to the Washington headquarters, where the case is handled to completion with the complainant;
- Prepare reports covering the various phases of activities to the regional office and to Washington. The reports are analyzed by the Track Specialists and used as a guide to determine carrier compliance with the safety standards;
- Confer with division and general officers of the carriers, labor organization officials, State Public Service Commissions, and others so as to be intimately informed about conditions as they pertain to the above laws and orders and to further the intent of railroad safety; and
- Maintain awareness of current developments in railroad bridge, track and signal inspection, construction, and repair techniques; their relation to employee safety; and developments and innovations in railroad workplace safety procedures and devices.

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## CHAPTER 3

# Railroad Workplace Safety Compliance Program

### General

This chapter provides guidance for planning railroad workplace safety compliance inspections and other related activities.

### Inspection Priorities

The Regional Administrator, through the Track Specialist, shall establish priorities according to the urgency and seriousness of known or potential violations or other situations. Priority of follow-up inspections will be determined by the seriousness and imminence of the hazard or conditions involved, the duration of the work creating the potential hazard, and the demonstrated ability of the employer to eliminate hazards. As a general rule, all serious violations will require follow-up inspections within 60 days of the initial inspections.

Instructions for each category of inspection activity are contained in the following paragraphs. Priority of accomplishment and assignment of man-power resources shall be as follows:

<u>Priority</u>	<u>Category</u>
1	Accident investigation (Fatality/Injury/Malfunction).
2	Complaint investigation.
3	Railroad Workplace Safety Assessments when directed.
4	Railroad Workplace Safety Inspections conducted incidental to regular Track/S.& T.C. Inspections.

### Accident Investigation (Priority #1)

All on-duty fatalities of railroad employees will be investigated in accordance with standard procedures found in the General Manual. Any reportable injury to a railroad bridge or roadway worker that becomes known to an inspector or specialist, or any circumstance in which compliance with this rule might have prevented a casualty, should be investigated and a memo report made to the Associate Administrator for Safety. Any violations of the Railroad Workplace Safety Program disclosed during an employee fatality or injury investigation will be handled according to procedures in this manual.

### Complaint Investigation (Priority #2)

Complaints must be acted upon as soon as possible, in conformity with policies stated in the General Manual, and the respective Enforcement Manuals for Track and S.& T.C.

### **Assessments (Priority #3)**

Assessments fulfill the need to develop information on the overall safety of a railroad's operations.

Assessments involving Railroad Workplace Safety may be directed by either the Associate Administrator for Safety or the Regional Administrator. They may involve one or more safety concerns, railroads, or regions. Detailed instructions will be issued for each assessment.

### **Regular Inspection (Priority #4)**

Non-compliance with the Railroad Workplace Safety Program may be transitory or sporadic. Inspectors must therefore take every opportunity, consistent with efficiency, to conduct random inspections of Railroad Workplace Safety as opportunities arise. Many of these random opportunities will occur during regular Track or S.& T.C. inspections when employees are observed working on bridges and near the track.

It will be necessary that the inspector be able to recognize possible instances of non-compliance with the Rule while engaged primarily in other inspection activity. If obvious Railroad Workplace Safety problems are observed during regular Track or S.& T.C. inspections, the inspector should immediately conduct a Railroad Workplace Safety inspection at that location. The level of detail of the inspection should be that necessary to at least cause abatement of the immediate hazards.

Obviously, inspections for compliance with the Railroad Workplace Safety Program will normally take place where and when persons are working on bridges and near the track. Inspectors will use all means available to determine where such activity is occurring, including personal observation, information provided by railroad personnel, and referrals by FRA and state inspectors in other disciplines. Inspectors and Specialists will plan regular Railroad Workplace Safety Inspections using this information. Planned regular inspections may be announced or unannounced, depending upon the objective of the inspection, the previous compliance history of the parties involved, and the difficulty of gaining access to the work site.

The entire objective of the Railroad Workplace Safety Program is the prevention of injury to persons. Therefore, deficiencies should be referred to the responsible party as quickly as possible in order to correct the deficiency and protect affected persons from potential injury. If the deficiency is unintentional, non-serious, and corrected promptly, it should be recorded as a deficiency on the inspection report. If, however, the deficiency is intentional, serious, or indicative of a pattern of violation, it should be referred for prosecution as a violation of the Rule.

# CHAPTER 4

## Inspection Reporting Procedures

### General Requirements

Information developed during each inspection, whether or not deficiencies are found, must be recorded on the Inspection Report Form, FRA F 6180-96, and promptly submitted in accordance with instructions found in the General Manual.

This chapter includes specific instructions for reporting inspections of the Railroad Workplace Safety Regulation.

### Inspection Report Forms

This section describes the method to be used in reporting a Railroad Workplace Safety Inspection using the Inspection Report Form, FRA F 6180-96. Where track and S.& T.C. inspection practice calls for recording "defects," the term "deficiency" will be used with the Railroad Workplace Safety Rule to describe a condition, situation or practice that does not comply with the Rule. This usage corresponds with the terminology describing non-compliance in the Operating Practices Safety Program. It better describes events of non-compliance, as compared to the condition of objects.

Each inspection for compliance with the Railroad Workplace Safety Rule must be documented on an Inspection Report, F 6180-96. Inspection reports must be prepared at the time of the inspection, and must contain complete, legible information. Inspection reports should be hand printed with a ballpoint pen with sufficient pressure to insure legibility of all copies.

### Documentation of Railroad Workplace Safety Inspections:

Railroad workplace safety inspections will be reported on the standard Inspection Report Form FRA F 6180-96 in accordance with instructions found in the General Manual, and the following specific instructions:

**Report Number** - Inspectors must number their regular inspection reports consecutively beginning with number one on the first day of each calendar year. Care must be used so numbers are not duplicated or skipped. Numbers should consist of one to no more than three digits, with no leading zeroes. *Railroad Workplace Safety reports will be numbered within the same series as the inspector's regular inspection reports.*

- Violation reports are numbered (separate from regular reports) consecutively throughout the inspector's career. *Reports of violations of Railroad Workplace Safety Standards are numbered within the same series as the inspector's other violation reports.*

**Railroad/Company Name & Address** - For a regular inspection of activities or items on a railroad, enter the name of the railroad that employs the persons involved. If another employer, such as a contractor to a railroad, is responsible for deficiencies, enter the name and address of that employer. Two or more reports may be filed from the same inspection where two or more employers are involved.

**R/C** - Enter "R" when a report is filed on a railroad's bridge, track, or employees. Enter "C" when a report is filed on an employer other than a railroad, such as a contractor.

**RR/Co. Code** - Indicate the correct alphabetical code of the railroad on which the inspection was performed. This code must be shown just as it is published in Appendix A of the FRA guide for preparing Accident/Incident Reports without periods, hyphens, or other additions (maximum of four characters). Enter the assigned code for the railroad, regardless of whether the report covers employees of that railroad or a contractor. Contractors have no assigned codes. The purpose of this code is to define the location of the inspection, not to identify the party that is responsible for any deficiencies.

**Division** - Enter the proper division code for the railroad division on which the inspection was conducted.

**Subdivision** - Enter the name of the subdivision or line of the railroad upon which the inspection was conducted. This information is not coded or entered into the FRA inspection data file.

**Source** - Enter one of the available number or letter codes to identify the source of (or purpose for) the inspection. Only one number or one letter may appear on the inspection report. Special codes that identify inspections conducted on track segments of the Strategic Railway Network (Stracnet) do not apply to reports of Railroad Workplace Safety Rule inspections.

<u>Source Code</u>	<u>Activity</u>
1	Complaint investigation.
2	Regular inspection.
3	Waiver inspection.
5	Special investigations and assessments.
6	Accident investigation.
O	Other.

The source codes correspond to the applicable codes used on Track or Signal and Train Control Inspection Reports. No special source code will be used to identify reinspections, because of the transitory nature of deficiencies under the Railroad Workplace Safety Rule. Follow-up inspections to determine compliance trends will carry the source code that applies to the particular situation involved.

**Location** - Only one state may be entered on each report. A separate report must be prepared for each state in which an inspection is conducted. Railroad Workplace Safety Inspections are conducted at sites, rather than along a continuous line of track. It is therefore unnecessary to use the location code for a state line that describes continuity of track inspections crossing state lines.

**Inspection Summary** - *Enter in space K the number of units inspected. Each separate job site observed during a Railroad Workplace Safety Inspection is counted as one unit. The inspector should print "SITE" in K and enter the number of units inspected.*

**12. Units inspected** - Columns 12A through 12D will be used only when reporting deficiencies discovered during the inspection.

**a. Item.** Number each item consecutively, beginning with number one. If it is necessary, more than one line may be used for each item. No more than 999 deficiencies can be recorded on one track inspection report (maximum three digits).

**b. Milepost.** Indicate the location of the *deficiency* to the nearest one-tenth of a mile. The computer can accommodate a maximum of six characters but only one to the right of

the decimal point. For example, 1234.5, 12-15, YL23.6 and 12 are acceptable identifiers of milepost location (maximum six characters).

**c.Track Number.** *Deficiencies under the Railroad Workplace Safety Program are not normally associated with a particular track. Leave this entry blank.*

**d.Type Code.** *This entry is associated with a particular track. Leave it blank in Railroad Workplace Safety Program reports.*

**e.49 CFR Part.** This has reference to the CFR Part number pertaining to the *Railroad Workplace Safety Standards*. Enter 214.

**13. a. Rule. and b. Subrule.** These two columns refer to the deficiency codes listed in Chapter 7 of this manual. "Rule" refers specifically to the digits to the left of the decimal point and "Subrule" refers specifically to the digits to the right of the decimal point.

- Some deficiency codes have fewer than five digits, so zeros must be used as fillers. For example, deficiency code 7.1 would be recorded as "007-Rule," "01-Subrule". Each of the five spaces must be filled.

**c.Operating Speed.** *Leave blank in Railroad Workplace Safety Program reports.*

**d.Class Track.** *Leave blank in Railroad Workplace Safety Program reports.*

**e.Description.** Description of the *deficiency* must be provided in this space. It must include actual dimensions when applicable, and a description of physical conditions associated with *deficiencies* not involving numbers or dimensions. Any comments the inspector may wish to make concerning the *deficiency* must be confined to the description column.

More than one line may be used in this column when necessary to adequately describe the nature and location of *deficiencies*. While brevity is desired, it is essential that the railroad representative understand the exact nature of the *deficiency* so that corrective action can be taken.

**f.Railroad Follow-up.** Columns F and G are for the use of the railroad representative to record the action taken to correct the *deficiency* and the date the action was taken.

The carrier should provide in column F a brief description of what was done to correct or eliminate the *deficiency*. The description of the corrective action should be entered opposite the item number and should be confined to one line. Column G should contain the date the remedial action was taken. The carrier must correct the *deficiencies* immediately and should report the corrective action taken within 30 days following the inspection. A responsible carrier employee should sign and date the report in the space provided on the back before returning it to the inspector. Remember, the return of this form with notations of railroad corrective action is strictly voluntary and no violation of law or regulation is incurred for the railroad's refusal to submit forms. However, railroads should be encouraged to return the form as requested.

## Distribution of Copies of Report

- Reports not to be Processed as Violations

- **Copy #1** - White (Original). Mailed promptly to the contract organization assigned to process the reports for FRA.
- **Copy #2** - Pink. Forwarded promptly to the supervisor of the inspector who prepared and signed the report.
- **Copy #3** - Blue. Retained by the inspector who prepared and signed the report.
- **Copy #4** - Yellow "Buff" Copy. Issued to the track owner's representative at the end of the inspection covered by the report.

If an error is discovered requiring correction of the report, mail a corrected copy to the current contract agency. This report should be clearly marked at the top, "Corrected Copy".

When making an unaccompanied inspection, the inspector will deliver the last copy of the report to the railroad Division personnel having jurisdiction in the area covered by the report.

#### ■ **Reports to be Processed as Violations**

- When the inspector is reporting a condition(s) to be processed as a violation (recommending prosecution) the yellow copy is to be issued to the track owner's representative and the original is retained in the region to become part of the violation package.
- Deficiencies not to be processed as violations and those recommended for prosecution must not be recorded on the same report.
- The violation report must be completed as directed in Chapter 6 and submitted to Washington within 30 days after the date of the inspection report.

### **Supervisory Review**

Upon receipt of a Track Inspection Report, or any other report submitted by an inspector, the Track Specialist shall make a thorough review to determine:

- Completeness of the report.
- That it has been prepared in accordance with outstanding instructions.
- That the type and number of inspections are consistent with the program plan established using the guidelines outlined in Chapter 3.

Particular attention must be given to violation reports which the inspector has recommended for prosecution. The penalty schedule in the Railroad Workplace Safety Standards establishes a contemplated penalty amount for each standard violated. The inspector's recommendation for prosecution should leave no doubt as to the degree of seriousness of the violation so the appropriate penalty can be assessed. The Track Specialist, after considering the hazard of the specific track violation, the carrier's record of accidents and overall compliance attitude, should indicate concurrence or nonconcurrence with the inspector's estimate of the seriousness of the violation. If the Track Specialist does not concur with the inspector's estimate of the seriousness of the violation, the Specialist should prepare a memorandum so stating that fact and the reasons for nonconcurrence. The memorandum should be addressed to the Regional Administrator,



attached to the violation report and a copy furnished to the inspector. The report should then be discussed with the inspector.

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## **CHAPTER 5**

### **Railroad Workplace Safety Standards - General**

#### **Investigative Procedures**

This chapter outlines particular procedures for investigation and inspection of compliance with the Railroad Workplace Safety Program, 49 CFR 214. All such investigations will be conducted in accordance with provisions of the Track Enforcement Manual or the Signal and Train Control Manual, except as modified in this Chapter.

The principal objective of the FRA Railroad Workplace Safety Program is to reduce the risk of injury to persons who perform work on railroad bridges and near railroad tracks. The inspector should keep this objective in mind at all times while performing duties related to this program. The inspector's actions should be directed toward influencing both employers and employees to maintain and improve safety and health factors at the worksite.

The inspector must use a high level of judgement when planning an investigation. Crucial questions, such as whether or not to give advance notice of an inspection, or whether to recommend prosecution of violations, should be decided in the light of improved compliance and safety. The inspector should conduct investigation and enforcement work so as to avoid unnecessary interference with railroad personnel and operations. The minimum enforcement tools should be used, consistent with law, regulations and program objectives, to achieve the objective of a continually safe and healthful workplace.

While on railroad property, the inspectors first concern is for their own personal safety, and that of all other persons in the vicinity. The inspector should know and comply with the safety rules of the railroad at all times. When afoot on a railroad track, the inspector must always be alert, expect a train on any track at any time in either direction and be prepared to promptly clear the track. Extra personal care must be exercised under adverse weather conditions.

#### **Advance Notice of Investigation**

Instances of non-compliance with the Railroad Workplace Safety Program are often fleeting or transitory. They are subject more to human attitudes and training than to the condition of a facility or piece of equipment. Likewise, opportunities for FRA inspectors to observe bridge and roadway projects will often occur without advance information. Some investigations will therefore be conducted with little or no advance notice to the railroad, the contractor, the employees or even the inspector.

A typical instance of investigation without advance notice would occur when the inspector comes upon a bridge or roadway project during the course of a regular track inspection. The inspector must then quickly decide whether to inspect that project for compliance with the Rule.

If clear indications of non-compliance are seen, such as persons working at heights without fall protection, or a lack of personal protective equipment, then an investigation should be conducted on the spot. The inspector should document deficiencies, determine if they are serious or not, or inadvertent or willful, and proceed accordingly.

If a project involves only a small number of persons, and the timing of the track inspection will permit, the inspector should conduct an inspection in sufficient detail to determine that compliance

is being achieved, and that proper equipment has been provided to permit compliance as the project continues. Any doubts that arise at that time should be resolved by scheduling a follow-up inspection.

Another instance of inspection without advance notice will result from complaints. If a complaint alleges a situation that could be eliminated on short notice, most commonly a non-complying work practice, advance notice could prejudice the investigation.

If, however, a complaint alleges a situation or practice that would pose immediate danger to life and limb, and the inspector cannot travel immediately to the site, a railroad official who can effect correction should be notified of the allegation immediately. The notification should not mention the existence of a complaint, but the inspector should use discretion commensurate with circumstances to provide the railroad with as much information as necessary to bring about prompt elimination of the hazard. The inspector should make such notifications through the Regional Track Specialist or the Regional Administrator whenever time and circumstances permit.

In all cases, the immediate safety of the worker takes precedence over any enforcement protocol.

Investigations by S.& T.C. inspectors will consist primarily of observations, without advance notice, of railroad S.& T.C. personnel performing their duties on railroad bridges and near the track. These investigations will normally be incidental to a normal signal inspection. S.& T.C. inspectors will conduct planned investigations when directed by the Regional S.& T.C. Specialist, usually due to involvement of railroad signal personnel or equipment in a particular situation.

Railroads should be given advance notice of routine planned investigations of compliance with the Railroad Workplace Safety Program when:

1. Advance notice will facilitate the investigation, and
2. There is no indication that advance notice will prejudice the outcome of the investigation.

Such planned investigations can be utilized to determine methods used by various railroads to comply with the Rule, and to maintain an awareness by the affected employees and supervisors of the presence of the Rule and FRA.

## **Preparation**

The inspector must be prepared to conduct Railroad Workplace Safety investigations with little or no advance notice. Preparation by the inspector will consist primarily of familiarization with the Rule, and with the various types of equipment and methods available for compliance. In particular, the inspector should stay informed about the proper use of railroad workplace safety equipment commonly found on railroads to be inspected, and any possible indications of improper use or application that could create an unexpected hazard.

The inspector should maintain familiarity with the rules, procedures and training on railroad workplace safety issued by each inspected railroad. Review of general orders and bulletins before beginning a track inspection will sometimes indicate the location of a bridge or roadway project. This information should be considered when beginning a track inspection. The following preparations should be made for a Railroad Workplace Safety inspection when giving advance notice:

- Obtain the names and the headquarters of the railroad officials in charge of the functions and the territory to be inspected.

- Advise the division, district, or regional engineer of the location to be inspected and invite him to have a railroad representative accompany you.
- Set a date and location for the start of the inspection.
- If a change becomes necessary make every effort to contact and personally inform **the person** with whom these plans were made and/or the person(s) who will be affected by the change of plans.
- If long distances are involved and the railroad desires its representatives to accompany you, determine if transportation will be furnished.
- If time permits, secure the following information from the railroad in advance as it will be helpful during the investigation:
  - The Railroad's safety rules and policies for compliance with the Railroad Workplace Safety Rules.
  - Information on the bridges subject to the investigation, including type of structure, height above ground or water, characteristics of water courses under the structure, and span lengths.
  - Information on the nature of work to be performed on the structure, whether it will be performed by railroad or contractor forces or a combination, and how the railroad is specifically implementing railroad workplace safety procedures on that project.
  - The identity of the person in charge of the work at the job site, and of the person in charge of job site safety, if not the same person.

The inspector should possess a copy of the Railroad Workplace Safety Rule, the Track & Structures or S. & T.C. Enforcement Manual with this Railroad Workplace Safety Manual, appropriate report forms, a camera, and a 50 or 100 foot measuring tape.

### **Entry on the Property of Others**

The provisions of the Track Enforcement Manual and the Signal and Train Control Enforcement Manual on the following topics will govern the inspector while engaged in Railroad Workplace Safety investigations and inspections.

- Time of Investigation
- Refusal to Permit Investigation
- Forcible Interference with an Investigation or other Official Duties
- Release for Entry
- Strike or Labor Disputes

### **Opening Conference**

Before starting an investigation inspectors shall introduce themselves to all present. At a convenient time, they shall obtain a list of names, with titles and headquarters, of those accompanying them on the investigation.

The inspector should explain the reason for the investigation as being one or more of the following:

- **Routine** - to observe the level of compliance with the Railroad Workplace Safety Rule at one or more locations, to determine whether work is being conducted in conformity with the Rule, and generally to use the good office of the Federal Railroad Administration to reduce the potential of injury to personnel in the work place.
- **Complaint** - to investigate and resolve allegations of unsafe or non-complying circumstances involving personnel working on bridges or near tracks. The inspector must not reveal the identity of the complainant.
- **Determination** - of factors involved in an accident.

All parties should be informed that the inspector's job is to help the carrier to improve railroad safety. Inspectors should solicit their cooperation and welcome suggestions and advice. Inspectors should never give the impression that they are experts on the subject of railroad workplace safety, and should not make suggestions outside the content of the Rule.

The inspector should determine, either at the opening conference or upon arrival at the work site, the nature of the work being performed at that particular time, the overall nature of the project, the number of personnel working on the project at that time, and the manner in which employee safety is being provided. The inspector should review the safety rules and instructions issued by the railroad or contractor and determine their relationship to the work taking place.

## Conduct of the Investigation

The inspector should make certain that the person in charge at the worksite is aware of the inspector's presence. The inspector should determine, by observation and discussion, the nature of the work being performed, the locations of personnel performing the work, and any particularly hazardous locations or functions involved in the work. When at a bridge, the inspector should determine the proper methods of application and use of any fall protection equipment at the site, the manner in which the equipment is inspected prior to use, the disposition of unsuitable equipment, and the training of personnel in its use.

The inspector should enter upon a bridge being repaired only after having been advised by a responsible railroad or contractor employee that it is safe to do so, and determining any actions or restrictions necessary to ensure continued safety. Should a request to enter upon a bridge be denied without apparent justification, the inspector should continue the investigation as far as possible by remote observation and photography of the project and personnel. If the refusal seriously compromises the integrity or usefulness of the investigation, the inspector should immediately advise the Regional Administrator of that fact, and request resolution of the situation with railroad officials at the appropriate level.

The inspector will comply with all provisions of the Bridge Worker Safety Rule while on a bridge, and must not move to any location requiring fall protection until such protection has been provided.

The inspector must not use any element of a fall protection system, whether provided by the FRA or the railroad, until:

1. The inspector has had proper training in the use and application of that fall protection equipment.

2. The inspector has ascertained that the equipment to be used is compatible with the system to which it is to be attached.
3. The inspector has conferred with the railroad employee in charge of the work, and received authorization to connect into the fall protection system. Particular care must be taken to see that no more than the authorized number of persons are connected to a lifeline at one time.
4. The inspector has inspected the personal fall arrest equipment to be used, in accordance with the Rule, and has determined that it is free of deterioration or damage and proper for its intended use.

The inspector shall abide by all provisions of the operating and safety rules of the railroad relating to personal conduct, roadway worker protection, and personal protective equipment. Any questions regarding the content or application of those rules at any time before or during entry on railroad property should be directed to the railroad employee accompanying the inspector, or to any other railroad employee who is expected to be knowledgeable on the subject.

Any deficiencies found during the course of the inspection should be immediately indicated to a responsible employee of the railroad or the contractor, and then recorded for entry on the inspection report. Prompt notification by the inspector is essential in order to prevent undue risk to persons due to the continued existence of a deficiency. If the deficiency is seen promptly corrected, the corrective action should also be recorded by the inspector and entered on the inspection report alongside the deficiency.

The Rule reserves to the Occupational Safety and Health Administration of the Department of Labor the regulation of all occupational safety and health issues not specifically addressed by FRA. Therefore, many situations that represent a hazard to employees are not addressed in this Rule, and are not regulated by FRA.

If the inspector discovers a hazardous situation that is not addressed by this Rule or another FRA regulation, it should be immediately called to the attention of a responsible railroad or contractor representative. In the event such unsafe situation is addressed in an OSHA regulation, and is not suitably corrected during the inspection, FRA should notify OSHA of the situation.

FRA and OSHA generally maintain contact at the level their national headquarters. The inspector will notify the Regional Administrator of circumstances warranting OSHA's attention, and the Regional Administrator will advise the headquarters personnel of the Office of Safety. It must be kept in mind by all concerned, however, that considerations for human safety override enforcement protocol. In an emergency, the inspector is authorized to contact any appropriate agency or organization in an attempt to protect human life.

### **Closing Conference**

Upon completion of an inspection, the inspector shall confer with the owner, operator, contractor, or employer representative and advise him/her of all conditions and practices disclosed by the investigation which may constitute safety violations. The inspector should also indicate the applicable section or sections of the standards which may have been violated. Appropriate copies of the completed track or S. & T.C. inspection form will be left with the owner's representative at the conclusion of the conference.

### **Follow-Up Investigations**

#### **Policy**

The primary purpose of the follow-up investigation is to determine if hazardous conditions have been corrected or eliminated. Additional inspection activity, beyond the subject of the follow-up investigation, should be minimal. However, if in the judgment of the inspector there has been significant change in circumstances, further inspection action may be appropriate.

Strict adherence to the policy set forth in this section respecting follow-up investigations is essential in order to protect the safety of railroad employees and the public.

### **Scheduling**

- Follow-up investigations are mandatory in the following situations:
  - Where FRA has issued an emergency order in an imminent danger situation.
  - Where citations for serious violations have been issued.
- The Track Specialist has discretion as to the scheduling of a follow-up investigation.



# CHAPTER 6

## Handling Deficiencies

### Introduction

The Railroad Workplace Safety Rule found at Title 49 CFR Part 214 and further discussed in this manual is the minimal requirement for railroad workplace safety. Each subsection constitutes a separate standard which must be met by the railroad, contractor, or employee.

Because a multitude of factors are involved, no specific instructions can be provided as to when an inspector should initiate a specific enforcement action. An inspector must exercise independent professional judgement when recommending legal action for noncompliance with safety standards. However, the following information will assist the inspector by providing guidelines for assessing the seriousness of any deficiency and subsequent recommendation of whether or not further legal action should be implemented.

**This action can take the form of the following, listed in order of increasing in order of increasing severity:**

- Deficiency report.
- Violation.
- Compliance Order.
- Emergency Order.

These enforcement actions may be used individually and/or in combination.

The inspector should remember that the purpose of the FRA Railroad Workplace Safety Program is the reduction of casualties resulting from unsafe conditions or practices faced by persons working on railroad bridges and near tracks. While it is understood that adherence to the Railroad Workplace Safety Rules will lessen the risk of injury to persons working on bridges and near tracks, the inspector has a greater responsibility than simply recording deficiencies.

The inspector must be guided by the program objective when making decisions affecting railroad workplace safety. Every action, from planning investigation work to deciding whether or not to recommend prosecution of a violation, must be taken so as to further the goal of improved safety.

The inspector must also understand the common interests of employers, supervisors and employees toward injury prevention. No person of sound mind wishes to suffer injury; no person supervising or working with others desires to see another person suffer injury; and no employer, as an institution, wants the financial costs that are incurred as the result of an employee injury.

The values of self-preservation and common welfare become very prominent where group activities are subject to recognized hazards. These values prevail among persons who work on railroad bridges, tracks and facilities. The inspector should capitalize on these beneficial values, and take every opportunity to encourage the employer and employees to cooperate in improving the safety of the workplace.

The Rule serves as a catalyst to outline the mutual responsibilities between employer and employee regarding safe performance of railroad bridge and roadway work. It incorporates information provided by persons and groups with extensive experience in railroad workplace safety. It makes that information available in simple form to many affected persons who would not otherwise be able to profit from that experience.

Effective compliance with the Rule, and a safe and healthful workplace, is accomplished by persons who are motivated by positive influences. They understand how the Rule protects their own self-interest, and they understand how to apply the Rule to the work at hand. People are not motivated to comply solely by fear of prosecution by the Federal government, nor is there a strong motivation in most people to act in violation this Rule just because they probably will not be caught at it.

On the other hand, the beneficial values of self preservation and group welfare are sometimes lost behind short-term considerations of job expediency, lack of knowledge, old habits, and overconfidence. When this occurs, the inspector must use the best judgement when applying the various enforcement provisions of the Rule. The overriding objective is the encouragement of effective, willful, and continuing compliance with the Rule, and a safe and healthful workplace.

## **Deficiency Reports**

All enforcement activity begins with an inspection during which the inspector will record all deficiencies on an Inspection Report. Deficiency reporting constitutes the most frequently used enforcement action. It gives notice of deficiencies from the Rule and makes them a matter of record, to be seen by responsible railroad personnel as well as the FRA.

While deficiency reporting is usually sufficient to bring about compliance, the inspector must remember that every deficiency report may become part of a violation report, if deficiencies are not corrected immediately, or if persons are placed at risk as a result of uncorrected deficiencies. It is imperative that these reports be legible, accurate and complete. Any future legal action is substantially weakened by poor inspector performance in inspecting and reporting during this initial investigation.

## **Violation Reports**

Once the inspector has determined that a violation report is warranted, all facets of the conditions and circumstances must be carefully considered in order to make a calculated judgment as to the degree of violation. Any person who willfully violates or causes the violation of the Rule is subject to a civil penalty of at least \$250 up to \$10,000 per violation, with provisions for assessments of up to \$20,000 per violation against individuals in certain cases involving grossly negligent acts. Therefore, the inspector must present the facts of the situation in the narrative report. The recommendation for prosecution should leave no doubt as to the degree of seriousness of the violation.

The criteria by which to decide between recording deficiencies and writing violations are based upon the primary program objective, the assurance of a safe and healthful workplace for railroad bridge and roadway workers. If a deficiency is found during the course of an inspection, or valid evidence of a deficiency is documented, the following guidelines should be followed in making the determination regarding prosecution of a violation. A violation is warranted in any one of the following situations:

1. Failure to comply resulted in a fatality or reportable injury.

2. A deficiency reported by an inspector goes uncorrected, and employees are put at continued risk by the presence of the deficiency.
3. A deficiency or series of deficiencies indicates a systematic, repeated, or widespread failure of an employer to comply with a provision of the Rule.
4. A deficiency previously reported by one or more affected employees is found unabated by the inspector.
5. The person in charge of work claims lack of authority to bring the work into compliance, and continues the work in violation of the Rule.
6. A deficiency presents such obvious and severe hazard of fatality or serious injury that any person who has received the training required by the Rule, or is of normal intelligence, should be able to recognize the hazard.

Total ignorance of the Rule is not a defense. If railroad or contractor employees are found working on a bridge or near a track with none of the protection required by the Rule for their situation, and the person in charge denies any knowledge of the requirements of the Rule, that constitutes a systematic failure to comply with the provisions of the Rule. The Rule requires adequate training and competent persons. The Rule has been published according to law, and no employer of roadway workers has any reason to be ignorant of its existence.

It must be remembered that our primary purpose is to carry out the intent of Congress contained in the Safety Act of 1970, which is "to promote railroad safety". Improved safety performance, achieved by adherence to prescribed standards, certainly accomplishes this objective. Therefore, obtaining compliance with the Railroad Workplace Safety Rules satisfies the purpose of the act and should be a primary factor in determining whether or not legal action, including the imposition of civil penalties, should be recommended. The inspector should determine whether or not the employer has corrected or is in the process of correcting deficiencies, and use prudent judgment before submitting violation reports.

Technical deficiencies that do not present inherently unsafe conditions, and are corrected promptly, will warrant a deficiency report rather than a violation.

#### **Preparation of a violation report.**

Elements of a complete violation report are:

- A narrative section, indicating with as much detail as possible:
  - Full corporate name of the bridge or track owner.
  - Full corporate name of the railroad maintaining the track or the bridge, if not the owner.
  - Identity of other employers involved in a situation of non-compliance, including contractors to railroads, and a statement of the contractual relationships.
  - When necessary to support an alleged violation, list the name, title and address of railroad and contractor officials in charge of the work with which the violation is associated.

- The location of the bridge or track involved in the violation, including division, subdivision and line name, mileposts, bridge or signal numbers, etc.
- A description of any bridge involved, in sufficient detail to show that a violation has actually occurred. Essential elements of evidence include:
  - The fact the bridge carries a railroad track,
  - Whether or not the bridge crosses water,
  - The depth and velocity of water under the bridge, if a factor in the violation,
  - The length of the bridge between extreme backwalls,
- The height of persons above ground or water at the point at which the alleged violation occurred.
- A detailed description of what was found during the inspection. This should concern deficiencies being considered for violation as well as those simply being handled with the carrier for correction.
- Where a section of the Rule contains maximum or minimum dimensions expressed in feet and inches, express measurements taken in the field using the same units that are used in the regulation. (Example: "Top edge of top rails...shall be 42 inches plus or minus three inches." should be recorded just as it is written in 49 CFR 214.109(3). Convert and record dimensions accurately.
- The original of the Inspection Report must accompany the violation report narrative. This report should include only deficiencies recommended for violation.
- Copies of other inspection reports covering the same area should be included and properly identified in the narrative, including:
  - Copies of inspection reports made the same day as the violation report containing railroad workplace safety deficiencies not recommended for violation.
  - Copy of reports of previous inspections. Include in the narrative the dates of previous inspections, what was found, and the name of the accompanying carrier representative.
- List of specific rules and/or sections of the Railroad Workplace Safety Rules that are in violation. This should match each rule with a specific deficiency.
- Photographs should be included whenever possible. Photographs must clearly illustrate the deficiencies or the location at which deficiencies occurred.
- The narrative and the inspection report should not mention complaints and/or complainants name.

### **Distribution of Violation Reports**

A minimum of 4 full reports, complete with supporting evidence and documentation must be prepared by the inspector for any violation. These are to be distributed as follows:

- The original and one copy complete with supporting evidence will be forwarded, by the Regional Administrator to:

Federal Railroad Administration  
Office of Chief Counsel, Safety Division,  
400 7th Street, S.W.  
Washington, D. C. 20590

- One copy will be forwarded to:

Office of Safety, RRS-10,  
400 7th Street, S. W.  
Washington, D. C. 20590

- One copy will be retained at the regional office.

Reports of violation of the Railroad Workplace Safety Rules are numbered within the series of violation reports completed sequentially throughout the inspector's career without regard to the end of any calendar or fiscal year.

Compliance Orders and Emergency Orders under the Railroad Workplace Safety Rules should be handled under the general guidelines found in the Track Enforcement Manual and the Signal and Train Control Enforcement Manual, with guidance from the Office of Safety Assurance and Compliance.

### **Witness Statements**

A violation of Federal railroad safety laws or regulations can be established in any of three ways: direct observation by an FRA or state inspector, entries in carrier or shipper records, and direct observation by a witness who is not an inspector. Enforcement of the Railroad Workplace Safety Rules will often focus on events or actions that occurred before the arrival of an FRA or state inspector, and were not entered on any record. Signed statements of witnesses then form the basis for a violation report.

When a case is based on a witness statement, two important concerns arise. First, FRA's inspector must ensure that the witness understands that the statement will be supplied to the defendant (railroad, contractor, or individual) in support of FRA's claim for civil penalties, or any other legal action brought by the Government as a result of the violation. Second, FRA must ensure that each statement includes all of the information necessary for successful enforcement action. The use of the standard witness statement and accompanying instructions, included in this chapter, is mandatory.

In any discussion of witness statements, it is important to distinguish between complainants and witnesses. A complainant is a person who complains to or advises FRA about a potential safety violation or unsafe practice. The identity of a complainant must never be revealed outside FRA. If FRA's investigation of a complaint results in a violation report based on an inspector's direct observations or on records, the complainant's name must never be mentioned in the violation report or any documents submitted as evidence.

A witness is a person who has personal knowledge of a violation and has authorized FRA to use the witness' signed statement in the prosecution of a civil penalty claim. Even where a witness

statement is used, there should be no reference to any underlying complaint or complainant in the statement, the violation report, or other documents submitted as evidence.

If an FRA or state inspector has personal knowledge, through direct observation of an item or an occurrence, of all material details of a violation, or if all those details can be established by the use of documents, witness statements are not necessary to substantiate the violation. The only significant record-keeping requirement in the regulation is found at 214.105(c)(4), the certification of compliance for a safety net where a drop test is not feasible. It is not likely that many elements of evidence of violations would be established from records, except in the cases of safety net certification or accident records.

When all of the elements of the violation cannot be established by an inspector's personal knowledge or by documents, the missing elements can only be established by means of a signed statement by a witness with personal knowledge of the facts. That witness must be credible, willing to testify under oath in court if need be, and willing to have the statement used by FRA in the enforcement action. For example, if FRA receives information that a railroad intentionally ordered employees to work on a bridge without fall protection where such protection was necessary, and no FRA or state inspector observed persons working without the necessary protection, a case can be made only if a witness to the violation will sign a statement setting forth the details. FRA cannot demand a penalty on the basis of hearsay (statements made by one who is not a witness).

Information provided through signed witness statements will be deemed credible unless the inspector provides information to the contrary. If the inspector has reason to doubt that the statement given by the witness is fully accurate, has reason to know that the witness has a poor reputation for being truthful, or has reason to believe that the witness lacks the expertise or experience to make a good witness, such matters should be explained in a separate memorandum attached to the violation report and labeled "Not part of violation report." Absent such a memorandum, Chief Counsel will assume that the inspector believes the witness to be truthful and competent.

### **Instructions for Use of Statement of Witness to Safety Violation**

1. The standard FRA witness statement is designed for use by an FRA inspector. State inspectors should use a form that is identical, with the exception that they should identify themselves as state inspectors in the first paragraph and the signature line.
2. The first blank should contain the full name of the witness; the second blank is for the full name of the inspector.
3. The statement may consist of any number of pages, but the first page must always contain the standard paragraphs shown on the first attached page, and the last page must always contain the concluding sentence about having read the statement, as well as the signatures of the witness and inspector.
4. The recitation of the facts should begin immediately after the first two standard paragraphs. This portion should, if possible, be typed to ensure legibility. As a practical matter, the means for typing statements are not often found near railroad worksites; a majority of statements will be hand written. Care should be taken that the statements should be legible. Alterations made by the witness to improve legibility, such as interlined words, should be initialed by the witness at the time the statement is signed.
5. The factual portion should begin by identifying the witness, including home address, telephone number, occupation, employer, and years of experience in the relevant field of work.

6. The witness should be advised to speak in the first person throughout the statement ("I observed, saw, worked, inspected, wrote, etc.)
7. The factual portion should contain all relevant details about which the witness is willing to testify. The reader must be able to readily determine who did what, where it was done, when it happened, and how the witness knows the facts to be true.
8. When the statement is complete, the inspector should ask the witness to read it through, including the standard paragraphs. After the witness has read the entire statement, the inspector should have the witness sign in the inspector's presence, after which the inspector should sign. If two FRA or state inspectors are present, both should sign the statement following the signature of the witness.
9. The inspector should make it a point to offer to answer any questions the witness may have about any language in the statement or how it will be used.
10. The inspector should carefully avoid leading the witness, or influencing the witness to give any particular answers. The inspector may ask questions of the witness either prior to or during the preparation of the statement, but should give no indication that any particular answer is desired or expected. It is proper for the inspector to discuss with the witness the points to be covered in the statement, and for the witness to make notes during the discussion to serve as a framework for the statement.
11. Witnesses may have representatives of their choice, including labor organization officers or attorneys, present when making statements to FRA. FRA or state inspectors may not permit any persons other than themselves, the witness, or persons requested by the witness, to be present. As a practical matter, the number of persons present should be kept to a minimum simply to avoid distractions. It is good practice for two FRA or state inspectors to be present while taking a witness statement, but only one inspector should actively conduct the session while the other speaks only when necessary or when called upon.
12. The Federal Railroad Administrator is authorized to subpoena witnesses. If witnesses are unwilling to provide signed statements in a critical case that depends upon their statements, the Regional Administrator should be advised immediately in order that Chief Counsel of FRA may begin the process of subpoena.

#### **Standard Format for Statement of Witness to Safety Violation**

The standard format for a Statement of Witness to Safety Violation is included on the next two pages. It may be reproduced for use in actual documents.

FEDERAL RAILROAD ADMINISTRATION

STATEMENT OF WITNESS TO SAFETY VIOLATION

I, \_\_\_\_\_,  
make the following voluntary statement to

\_\_\_\_\_ ,  
who has identified him/herself to me as an inspector of the Federal Railroad Administration (FRA).

No threats or promises have been made to induce me to give this statement. I understand that a copy of this statement will be provided to counsel for the railroad, employer, individual or other party involved when and if a civil penalty is demanded for a violation of the railroad safety laws based in whole or in part on this statement. If it subsequently becomes necessary for FRA to initiate an administrative hearing or to bring suit to collect such a penalty, I will testify to the facts set forth below in that hearing or lawsuit.

I understand that section 212 of the Federal Railroad Safety Act makes it illegal for a common carrier by railroad to discharge or in any manner discriminate against any employee because that employee (1) filed any complaint or instituted or caused to be instituted any proceeding under or related to enforcement of the federal railroad safety laws, or (2) testified or is about to testify in any such proceeding. I also understand that any dispute, grievance, or claim that may arise under section 212 will be resolved under the procedures of the Railway Labor Act.



I have read the statement above, and it is all true and correct to the best of my knowledge and belief.

Date: \_\_\_\_\_  
Signed in the presence of \_\_\_\_\_

\_\_\_\_\_  
*Printed Name of FRA Inspector*  
Inspector, Federal Railroad Administration

\_\_\_\_\_  
*Signature of FRA Inspector*



# CHAPTER 7

## General Provisions of the Railroad Workplace Safety Rule

### Introduction:

This chapter provides the necessary information for FRA personnel to properly interpret and enforce the general provisions of the Railroad Workplace Safety Rule. It is not to be construed as a modification, alteration, or revision of the Standards as published. It includes all definitions used in the specific subparts of the rule.

Any legal proceeding instituted against a railroad must be based on the official regulations found in the Code of Federal Regulations, Title 49, Part 214, published annually by the Government Printing Office. However, the inspector should refer to this manual as often as necessary to understand the intent of any particular standard, thereby assuring to the extent practicable the nationally uniform application of these rules as intended by Congress in the Federal Railroad Safety Act of 1970.

### Summary:

The Railroad Workplace Safety Rule requires railroads and railroad contractors to provide, and employees to use, fall protection and personal protective equipment, including head, foot, eye, and face equipment when employees work on railroad bridges, and to protect employees from the hazards of moving trains and other railroad equipment. The purpose of this rule is to prevent accidents and casualties to employees involved in railroad construction and maintenance activities.

### Section Analysis of the General Provisions of the Rule

#### § 214.1 Purpose and scope

(a) The purpose of this part is to prevent accidents and casualties to employees involved in certain railroad inspection, maintenance and construction activities.

(b) This part prescribes minimum Federal safety standards for the railroad workplace safety subjects addressed herein. This part does not restrict a railroad or railroad contractor from adopting and enforcing additional or more stringent requirements not inconsistent with this part.

Section Analysis from original 49 CFR 214, the Bridge Worker Safety Rule:

This section limits application of the safety standards set forth in this part to those inspection, maintenance, and construction activities described in Subpart B, Bridge Worker Safety Standards, and any additional subparts that may follow. FRA does not in any way intend that Part 214, Railroad Workplace Safety, be read to establish standards for any occupational hazards beyond those addressed by this part.

Additional Discussion:

This section is unchanged in the Roadway Worker Safety Rule. The original section analysis left room for the additional subparts, of which Subpart C, Roadway Worker Protection, is the first.

#### § 214.3 Application

This part applies to railroads that operate rolling equipment on track that is part of the general railroad system of transportation.

Section Analysis from original 49 CFR 214, the Bridge Worker Safety Rule:

The Rule does not apply to urban rapid transit systems or other self-contained systems that are not part of the general railroad system of transportation, nor to railroad bridges that are part of industrial facilities, neither owned nor operated by a railroad.

Should FRA later determine that this rule should apply to certain self-contained railroads that are not part of the general system (E.g., certain tourist railroads), it will propose a new rule to accomplish that change. Such a proceeding could explore whatever unique factors apply in the context of such railroads.

Section Analysis from NPRM of March 14, 1996, the Roadway Worker Protection Rule:

FRA proposes that this subpart will apply to all railroads and contractors to railroads in the general system of railroad transportation, including commuter rail operations. Accordingly, existing section 214.3 will not change. This means that tourist and excursion railroads that are not part of the general system of railroad transportation will not be subject to these rules. The data illustrating the serious nature of the hazards addressed in this subpart did not include tourist and excursion railroads. FRA has not otherwise been notified that these hazards causing death and injury to roadway workers are a serious problem for tourist and excursion railroads or any other railroads not operating over the general system of railroad transportation. However, FRA reserves the right to include tourist and excursion railroads that do not operate on the general system of railroad transportation in the final rule, if the record reflects such a need.

Section Analysis from Final Rule of December 16, 1996, the Roadway Worker Protection Rule:

Two comments were submitted essentially requesting clarification regarding FRA jurisdiction. Specifically, clarification was sought regarding whether these rules apply on track that is not subject to FRA jurisdiction and not on the general system of railroad transportation. As noted in Sec. 214.3, Application, FRA is concerned with track that is part of the general system of railroad transportation. For further information regarding FRA's exercise of jurisdiction, one should consult 49 CFR Part 209, Appendix A. This Federal regulation, as all other rules issued under FRA authority will only apply in instances where FRA exercises jurisdiction, on track that is part of the general system.

Additional Discussion:

The application of this rule will generally follow the applicability of 49 CFR 213, the Federal Track Safety Standards. Contractors to railroads, and the employees of such contractors, would be covered where they are working on and near the track of the railroad to which they are contracted. A contractor to a railroad would be responsible for compliance with this rule at locations where it is performing work for a covered railroad. Employees of the same contractor who might be performing work for a non-railroad industry on a track owned by that industry would not be covered by this rule.

This regulation does not apply to a contractor or other party working on railroad property but not under contract to the railroad. An example would be a communications company installing or maintaining fiber optic lines buried alongside the track, or a highway agency inspecting agency-owned bridges over the track.

**§ 214.4 Preemptive effect**

Under 49 U.S.C. 20106 (formerly section 205 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 434)), issuance of these regulations preempts any State law, rule, regulation, order, or standard covering the same subject matter, except a provision directed at an essentially local safety hazard that is not incompatible with this part and that does not unreasonably burden on interstate commerce.

(This section was added with the Roadway Worker Protection Rule in December, 1996.)

Section Analysis from Final Rule Notice of December 16, 1996, Roadway Worker Protection:

*Preemption* Comments were submitted addressing the potential preemptive effect of this rule. One commenter wanted FRA to expressly state that the provision requiring an audible warning from trains preempts state and local whistle ban laws. FRA believes there is no need to include rule language indicating that state and local whistle bans are preempted. FRA could potentially include language in all provisions of this rule, and all others, stating that any state and local rules covering the same subject matter as the identified Federal regulatory provision are preempted. Instead, FRA has issued a general statement regarding the preemptive effect of all the provisions of the rule in §214.4. In addition, the section-by-section analysis corresponding to §214.339, *Audible Warning from trains*, expressly states FRA's intention to preempt state and local whistle ban ordinances. Although preemption decisions in any particular factual context are a matter for courts to resolve, courts generally afford great deference to the subject matter the appropriate regulatory agency intended to cover. In this instance, the rulemaking record establishes FRA's intent to cover the same subject matter as state and local whistle bans in the section-by-section analysis and the Federalism Assessment which acknowledges potential Federalism implications that was prepared for the docket at the NPRM stage of this rulemaking. (61 FR at 10542).

FRA notes that no comments were submitted to the docket substantively in opposition to this provision requiring audible warnings. States and local governments did not respond to the NPRM with concerns regarding this provision potentially in conflict with their whistle ban orders.

Additional comments regarding preemption focused on this regulation's impact on state clearance requirements. The NPRM uses the term *fouling a track* to essentially specify the proximity to railroad track at which an individual or equipment could be struck by a moving train or on-track equipment. Conversely, state clearance requirements establish specifications to govern the minimum distance between track and fixed structures. Although the two concepts, proximity of humans and equipment to track and proximity of fixed structures to track, are distinguishable, the potential for misinterpretation of the Advisory Committee's intent persuaded the agency to address this issue. To clarify the situation, FRA wants to explicitly state that FRA and the Advisory Committee did not intend to affect state clearance requirements.

#### **§ 214.5 Responsibility for compliance.**

Any person (including a railroad and any manager, supervisor, official, or other employee or agent of a railroad or railroad contractor) who violates any requirement of this part or causes the violation of any such requirement is subject to a civil penalty of at least \$250 and not more than \$10,000 per violation, except that penalties may be assessed against individuals only for willful violations, and where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury, or has caused death or injury, a penalty not to exceed \$20,000 per violation may be assessed. See Appendix A to this part for a statement of agency civil penalty policy.

Section Analysis from original 49 CFR 214, the Bridge Worker Safety Rule:

The RSIA established liability for individuals who willfully violate any of the railroad safety regulations. The authority to impose penalties against individual violators exists with respect to all of the safety standards enforced by FRA, but with the addition of § 214.5 in this final rule, FRA now expressly incorporates that authority in Part 214. In addition, as a logical concomitant of this provision, various provisions requiring that certain forms of protection be provided have been amended to require that, when provided, they be used.

## **§ 214.7 Definitions**

***Adjacent tracks*** mean two or more tracks with track centers spaced less than 25 feet apart.

The spacing of less than 25 feet between track centers, which defines adjacent tracks for this rule, represents a consensus decision of the Advisory Committee. Several railroads have recently extended their lateral track spacing to 25 feet. Tracks spaced at that distance may not cause a hazard to employees in one track from trains and equipment moving on the other track. FRA believes that no purpose would be served by requiring these tracks to be again spaced at a slightly greater distance. Therefore, tracks spaced at 25 feet are not defined as adjacent tracks, but tracks spaced at a lesser distance will be so defined. Tracks that converge or cross will be considered as adjacent tracks in the zone through which their centers are less than 25 feet apart.

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.

***Anchorage*** means a secure point of attachment for lifelines, lanyards or deceleration devices that is independent of the means of supporting or suspending the employee.

The common terminology now employed to mean a lanyard, lifeline, and safety belt system for fall protection is a "personal fall arrest system." Anchorage is an integral component of a personal fall arrest system, and therefore is defined. FRA chose the definition utilized by OSHA in its regulations concerning fall protection, which reflects common trade usage. A particular worksite will determine the type of anchorage available, and so the definition allows for flexibility by stating only that it be a secure point of attachment for the other personal fall arrest system components.

***Body belt*** means a strap that can be secured around the waist or body and attached to a lanyard, lifeline, or deceleration device.

The use of body harnesses, rather than body belts, is now preferred practice. The body belt does not absorb stress forces in a fall as well as a harness can, and therefore, may cause serious internal injury to the wearer. According to commenters, many companies no longer manufacture belts because of this risk, and the construction industry will phase out their use in the near future. However, there are limited situations, climbing poles for instance, in which belts can be utilized safely. FRA adopts the definition used by OSHA that reflects current trade language. Although the final rule permits the use of safety belts as part of a personal fall arrest system, use of harnesses is preferred.

**Body harness** means a device with straps that is secured about the employee in a manner so as to distribute the fall arrest forces over (at least) the thighs, shoulders, pelvis, waist, and chest and that can be attached to a lanyard, lifeline, or deceleration device.

The harness distributes the fall arrest forces over the thighs, shoulders, pelvis, waist, and chest, and therefore decreases the likelihood of serious injury to the wearer. The majority of industry participants in this proceeding stated that harnesses are most often used.

**Class I, Class II, and Class III** have the meaning assigned by, Title 49 CFR part 1201, General Instructions 1-1.

The rule distinguishes among railroads of various classes in the effective dates of this regulation, and in the applicability of § 214.329, Definite Train Location. The largest railroads are Class I. Class II railroads are generally termed "regional railroads" and Class III railroads are generally termed "short line railroads" although these terms are not definitive.

**Competent person** means one who is capable of identifying existing and predictable hazards in the workplace and who is authorized to take prompt corrective measures to eliminate them.

The rule requires oversight or supervision by a person with knowledge, training, and relevant experience to adequately assess safety hazards. The definition contains these factors, and a requirement that the individual also possess the authority to take prompt corrective measures, if necessary.

**Control operator** means the railroad employee in charge of a remotely controlled switch or derail, an interlocking, or a controlled point, or a segment of controlled track.

This term may encompass several types of employees. A control operator might relay instructions from a train dispatcher, or operate independently, depending upon the rules of the railroad. On some terminal railroads, a yardmaster might control a remotely controlled switch and thereby be considered a control operator. The term as used here has no connection with the hours of service law.

A yardmaster who gives permission to trains to use non-controlled track is not a control operator. The general distinction is that the actual authorization to use non-controlled track is found in the rules, and the granting or withholding of permission is not an assurance of protection. It is intended to facilitate operations, such as by advising a train not to use an occupied track to attempt to move through a yard.

**Controlled track** means track upon which the railroad's operating rules require that all movements of trains must be authorized by a train dispatcher or a control operator.

See the discussion under § 214.321 Exclusive track occupancy.

**Deceleration device** means any mechanism, including, but not limited to, rope grabs, ripstitch lanyards, specially woven lanyards, tearing or deforming lanyards, and automatic self-retracting lifelines/lanyards that serve to dissipate a substantial

**amount of energy during a fall arrest, or otherwise limit the energy on an employee during fall arrest.**

This is defined as a device that dissipates fall forces during a fall arrest. It is often a type of lanyard, an attachment to a lanyard or harness, or a self-retracting lifeline.

**Definite train location means a system for establishing on-track safety by providing roadway workers with information about the earliest possible time that approaching trains may pass specific locations as prescribed in section 214.331 of this part.**

See the discussion under § 214.331 Definite train location.

**Effective securing device when used in relation to a manually operated switch or derail means one which is:**

- (1) **Vandal resistant;**
- (2) **Tamper resistant; and**
- (3) **Designed to be applied, secured, uniquely tagged and removed only by the class, craft or group of employees for whom the protection is being provided.**

Effective securing device is defined in this part as one means of preventing a manually operated switch or derail from being operated so as to present a hazard to roadway workers present on certain non-controlled tracks. This definition is specifically intended to include the use of special locks on switch and derail stands that will accommodate them, and switch point clamps that are properly secured. It also includes the use of a spike driven into the switch tie against the switch point firmly enough that it cannot be removed without proper tools, provided that the rules of the railroad prohibit the removal of the spike by employees not authorized to do so. Every effective securing device must be tagged. FRA will examine each railroad's on-track safety program to determine that the rules governing the securing of switches will provide the necessary level of protection.

**Employee means an individual who is engaged or compensated by a railroad or by a contractor to a railroad to perform any of the duties defined in this part.**

**Employer means a railroad, or a contractor to a railroad, that directly engages or compensates individuals to perform any of the duties defined in this part.**

The responsibility for compliance with this rule follows the employer-employee relationship. Each employer subject to the rule, be it a railroad or a contractor, assumes the employer's responsibilities regarding its own employees.

**Equivalent means alternative designs, materials, or methods that the railroad or railroad contractor can demonstrate will provide equal or greater safety for employees than the means specified in this part.**

In order to give railroads and railroad contractors flexibility in choosing equipment not specified in the final rule, but perhaps more amenable to the railroad environment or more technically advanced, this term has been added to the rule at various locations.

The railroad or railroad contractor bears the burden of demonstrating that the alternative device does not in any way decrease employee safety.



***Exclusive track occupancy* means a method of establishing working limits on controlled track in which movement authority of trains and other equipment is withheld by the train dispatcher or control operator, or restricted by flagmen, as prescribed in section 214.321 of this part.**

See the discussion under § 214.321 Exclusive track occupancy.

***Flagman* when used in relation to roadway worker safety means an employee designated by the railroad to direct or restrict the movement of trains past a point on a track to provide on-track safety for roadway workers, while engaged solely in performing that function.**

Care should be taken not to confuse flagman with watchman/lookout. A flagman directs or controls the approach of trains on a track, while the watchman/lookout detects the approach of trains and warns roadway workers of the approaching train.

Some railroads have transportation employees, such as conductors, providing protection against trains to contractors and others who are working on railroad property. Other railroads have maintenance of way employees performing the same function, and some railroads use both classifications of employees.

Although the railroad might term these employees "flagmen," they are not considered as such in this rule unless they actually perform the function of directly stopping trains at their location. Communicating with the train dispatcher to establish working limits does not by itself classify these employees as flagmen under this rule.

The question of whether or not these employees are roadway workers and covered as such under this rule depends on their other functions at the site. Under the definition of *Roadway workers*, they are roadway workers if they are protecting a roadway work group. Generally, if they have any responsibility for inspection, adjustment or repair of roadway facilities they would be considered to be roadway workers. Finally, if the employer designates them as roadway workers, FRA would normally accept that designation.

***Foul time* is a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track, as prescribed in section 214.323 of this part.**

Foul time is an abbreviated method of establishing working limits on controlled track where permitted by the rules of the railroad. It is distinguished from exclusive track occupancy by the absence of a requirement for a written document in the possession of the roadway worker who has been granted the foul time, and the prohibition of any train movements in the working limits. Some railroads utilize this procedure to protect people or machines that are on or near the track where the condition of the track has not been affected.

***Fouling a track* means the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case is within four feet of the field side of the near running rail.**

An individual could be farther than four feet from the rail and still be fouling the track if the individual's position or actions could cause movement into the four-foot zone, or if there were any possibility of the individual being struck by a part of a moving train or on-track machine that might extend more than four feet outside the rail. An example would be an individual working on the slope of a cut above the track, where a slip could cause movement into the track area.

**Free fall** means the act of falling before the personal fall arrest system begins to apply force to arrest the fall.

This term is significant in determining the amount of force applied to one who wears a personal fall arrest system. It is defined as the act of falling until the arresting forces begin to take effect.

**Free fall distance** means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and the point at which the system begins to apply force to arrest the fall. This distance excludes deceleration distance and lifeline and lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

As stated above, this phrase is important in determining the amount of force applied to a body before the fall arrest system begins to take effect. As defined, the distance does not include deceleration distance, or lifeline and lanyard elongation.

**Inaccessible track** means a method of establishing working limits on non-controlled track by physically preventing entry and movement of trains and equipment.

See the discussion under § 214.327 Inaccessible track.

**Individual train detection** means a procedure by which a lone worker acquires on-track safety by seeing approaching trains and leaving the track before they arrive and which may be used only under circumstances strictly defined in this part.

See the discussion under § 214.337 On-track safety procedures for lone workers.

**Informational line-up of trains** means information provided in a prescribed format to a roadway worker by the train dispatcher regarding movements of trains authorized or expected on a specific segment of track during a specific period of time.

An informational line-up provides information as to the last known location, and expected movements, of trains in a specific segment of track. It does not necessarily show restrictions placed on trains as would be the case with definite train location, nor are trains necessarily restricted as to the time at which they may pass certain locations.

**Lanyard** means a flexible line of rope, wire rope, or strap that is used to secure a body belt or body harness to a deceleration device, lifeline, or anchorage.

FRA adopted the definition used by OSHA that reflects current trade language. The term is defined as a flexible line of rope, wire rope or strap that secures a body belt or harness to a deceleration device, lifeline or anchorage.

***Lifeline*** means a component of a fall arrest system consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline) or to an anchorage at both ends to stretch horizontally (horizontal lifeline), and that serves as a means for connecting other components of a personal fall arrest system to the anchorage.

The definition states that a lifeline is a flexible line connected to an anchorage from which other portions of a fall arrest system are attached. More than one person may be attached to a lifeline, as common practice indicates, so long as the line complies with required standards.

***Lone worker*** means an individual roadway worker who is not being afforded on-track safety by another roadway worker, who is not a member of a roadway work group, and who is not engaged in a common task with another roadway worker.

Lone workers are defined in this part as roadway workers who are not being afforded on-track safety by another roadway worker, are not members of a roadway work group, and are not engaged in a common task with another roadway worker. 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.

For instance, 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. FRA does not intend that a common task may be subdivided into individual tasks to avoid the use of on-track safety procedures required for roadway work groups.

***Non-controlled track*** means track upon which trains are permitted by railroad rule or special instruction to move without receiving authorization from a train dispatcher or control operator.

See the discussion under § 214.327 Inaccessible track.

***On-track safety*** means a state of freedom from the danger of being struck by a moving railroad train or other railroad equipment, provided by operating and safety rules that govern track occupancy by personnel, trains and on-track equipment.

The term *On-track safety* embodies the ultimate goal of this regulation, which is for workers to be safe from the hazards related to moving trains and equipment while working on or in close proximity to the track. The regulation requires railroads to adopt comprehensive programs and rules to accomplish this objective. This regulation, and the required programs, together are intended to produce a heightened awareness among railroad employees of these hazards and the methods necessary to reduce the related risks.

**Personal fall arrest system** means a system used to arrest the fall of an employee from a working level. It consists of an anchorage, connectors, body harness or body belt, lanyard, deceleration device, lifeline, or combination of these.

This terminology for the safety belt, lanyard, lifeline fall protection system reflects common trade language. The rule defines this term as a system used to stop a fall from a working level, consisting of an anchorage, connectors, body harness or belt, lanyard, deceleration device, lifeline, or suitable combination of these.

**Qualified** means a status attained by an employee who has successfully completed any required training for, has demonstrated proficiency in, and has been authorized by the employer to perform the duties of a particular position or function.

The term *Qualified* as used in the rule with regard to roadway workers implies no provision or requirement for Federal certification of persons who perform those functions.

**Railroad** means all forms of non-highway ground transportation that run on rails or electro-magnetic guideways, including (1) commuter or other short-haul rail passenger service in a metropolitan or suburban area, and (2) high speed ground transportation systems that connect metropolitan areas, without regard to whether they use new technologies not associated with traditional railroads. Such term does not include rapid transit operations within an urban area that are not connected to the general railroad system of transportation.

This definition is taken from section 202(e) of the Federal Railroad Safety Act of 1970, as amended by the RSIA, and includes all forms of non-highway transportation that run on rails or electro-magnetic guideways.

**Railroad bridge** means a structure supporting one or more railroad tracks above land or water with a span length of 12 feet or more measured along the track centerline. This term applies to the entire structure between the faces of the backwalls of abutments or equivalent components, regardless of the number of spans, and includes all such structures, whether of timber, stone, concrete, metal, or any combination thereof.

*Railroad bridge* is defined as a structure supporting one or more railroad tracks, above land or water, spanning at least 12 feet, and including the entire structure between the faces of the abutments. The term "span length" in this definition includes bridges that might have a total length with multiple spans of 12 feet or more between the extreme backwalls, even if no single span reaches 12 feet in length.

The definition does not apply to structures carrying highways or other structures over railroads, nor to signals or signal bridges that are not located on or part of railroad bridges as defined in this section. A railroad bridge remains a railroad bridge while the track has been temporarily removed for maintenance or repair. A bridge with the track permanently removed is no longer a railroad bridge. A bridge being built by a railroad, or a contractor to a railroad, intended to carry track, is a railroad bridge. A bridge being built to carry track, but not yet in possession of a railroad, will not be considered a railroad bridge until it is acquired by a railroad or placed in service to carry railroad traffic. For instance, a railroad bridge under construction by a highway agency, separate from an operating railroad, as part of a highway project, would come under the same OSHA jurisdiction as the rest of the highway

construction project until such time as ownership or control of the bridge passes to a railroad, or until railroad traffic begins operating over the bridge.

***Railroad bridge worker or bridge worker* means any employee of, or employee of a contractor of, a railroad owning or responsible for the construction, inspection, testing, or maintenance of a bridge whose assigned duties, if performed on the bridge, include inspection, testing, maintenance, repair, construction, or reconstruction of the track, bridge structural members, operating mechanisms and water traffic control systems, or signal, communication, or train control systems integral to that bridge.**

The term Railroad bridge worker or bridge worker replaces the term *railroad employee* or *employee* formerly used in the Bridge Worker Safety Rule, to recognize the broadened scope of this part after the inclusion of the Roadway Worker Protection Rule and to more precisely define those who are covered by rule as bridge workers.

***Restricted speed* means a speed that will permit a train or other equipment to stop within one-half the range of vision of the person operating the train or other equipment, but not exceeding 20 miles per hour, unless further restricted by the operating rules of the railroad.**

This definition varies slightly from the standard definition of *restricted speed* found in most books of operating rules. It is meant only to apply in the context of roadway worker protection. The primary difference is the inclusion of the term “.. of the person operating the train or other equipment.” In the context of an operating rule, the meaning is clear without this term. However, it was thought to be necessary to include the additional language in this regulation because most other references to range of vision apply to persons on the track seeing the train, rather than the range of vision of the operator of the train. This terminology is not meant to apply to any FRA regulations on other topics.

***Roadway maintenance machine* means a device powered by any means of energy other than hand power which is being used on or near railroad track for maintenance, repair, construction or inspection of track, bridges, roadway, signal, communications, or electric traction systems. Roadway maintenance machines may have road or rail wheels or may be stationary.**

***Roadway work group* means two or more roadway workers organized to work together on a common task.**

See the discussion under § 214.335 On-track safety for roadway work groups.

***Roadway worker* means any employee of a railroad, or of a contractor to a railroad, whose duties include inspection, construction, maintenance or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track, and flagmen and watchmen/lookouts as defined in this part.**

Some railroad employees whose primary function is transportation, that is, the movement and protection of trains, will be directly involved with on-track safety as well. These employees would not necessarily be considered roadway workers in

the rule. They must, of course, be capable of performing their functions correctly and safely.

The rule 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 be capable of applying the railroad's operating rules to the establishment of working limits for roadway workers. Likewise, a conductor who protects a roadway maintenance machine, or who protects a contractor working on railroad property, would not necessarily be considered a roadway worker unless he or she performs the strict function of a *flagman* as defined in this part (which definition see), but would receive training on functions related to on-track safety as part of the training and qualification of a conductor.

Employees of a contractor to a railroad are included in the definition when they perform duties under that contract on or near the track of a railroad. They should be protected as well as employees of the railroad. The responsibility for on-track safety of employees will follow the employment relationship. Contractors are responsible for the on-track safety of their employees and any required training for their employees. FRA expects that railroads will require their contractors to adopt the on-track safety rules of the railroad upon which the contractor is working. Where contractors require specialized on-track safety rules for particular types of work, those rules must, of course, be compatible with the rules of the railroad upon which the work is being performed.

The regulation 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.

***Self-retracting lifeline/lanyard* means a deceleration device that contains a drum-wound line that may be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.**

The definition adopts OSHA's language, which reflects common trade usage.

***Snap-hook* means a connector comprised of a hook-shaped member with a normally closed keeper, that may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.**

The final rule adopts OSHA's language, which reflects common trade usage. The keeper must close automatically, else it is not a snap hook.

***Train approach warning* means a method of establishing on-track safety by warning roadway workers of the approach of trains in ample time for them to move to or remain in a place of safety in accordance with the requirements of this part.**

See the discussion under § 214.329 Train approach warning provided by watchmen/lookouts.

***Train coordination*** means a method of establishing working limits on track upon which a train holds exclusive authority to move whereby the crew of that train yields that authority to a roadway worker.

See the discussion under § 214.325 Train coordination.

***Train dispatcher*** means the railroad employee assigned to control and issue orders governing the movement of trains on a specific segment of railroad track in accordance with the operating rules of the railroad that apply to that segment of track.

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

***Working limits*** means a segment of track with definite boundaries established in accordance with this rule upon which trains and engines may move only as authorized by the roadway worker having control over that defined segment of track. Working limits may be established through "exclusive track occupancy," "inaccessible track," "foul time" or "train coordination" as defined herein.

See the discussions under and following § 214.319 Working limits, generally.

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## CHAPTER 8

# Application of the Bridge Worker Safety Rule

### Introduction

This chapter provides the necessary information for FRA personnel to properly interpret and enforce the Bridge Worker Safety Rule, Subpart B of 49 CFR 214. It is not to be construed as a modification, alteration, or revision of the Standards as published.

Any legal proceeding instituted against a railroad must be based on the official regulations found in the Code of Federal Regulations, Title 49, Part 214, published annually by the Government Printing Office. However, the inspector should refer to this manual as often as necessary to understand the intent of any particular standard, thereby assuring to the extent practicable the nationally uniform application of these rules as intended by Congress in the Federal Railroad Safety Act of 1970.

### History of the Rule

On January 30, 1991, FRA published a Notice of Proposed Rulemaking on Bridge Worker Safety Standards (56 FR 3434) ("NPRM") that set forth proposals to address those hazards encountered by railroad bridge employees. The proposal included standards for fall protection, personal protective equipment, and contingencies for working over or adjacent to water. As noted in the preamble of the NPRM, pertinent, applicable regulations promulgated by the Occupational Safety and Health Administration ("OSHA") existed, but confusion concerning the authority and enforcement of those standards was prevalent. FRA determined that the safety interests of railroad employees would best be served through a regulatory program of its own.

The rule sets forth a comprehensive regulatory program to address and reduce the exposure to risk faced by those who work on railroad bridges, including personal fall arrest systems, safety nets, standards for scaffolding, contingencies for working over or adjacent to water, and head, eye, face, and foot protection.

### Relationship to OSHA

These regulations follow the guidelines set forth by OSHA's construction and general industry standards. There are several reasons for this. Because OSHA's existing regulations applied to railroad employees until the effective date of this rule, FRA necessarily made every attempt to ensure that the rule does not encompass safety rules that will in any way diminish the protection bridge workers were afforded under OSHA's authority. Also, OSHA's primary mission involves developing industry and construction work practices that will decrease or prevent occupational hazards. Many federal agencies and manufacturers rely on OSHA's research abilities and expertise in formulating procedural guidelines and performance criteria that reduce exposure to the risk of injury in the workplace. FRA is relying on OSHA's greater expertise in occupational health and safety as well as FRA's own expertise on railroad safety.

The Rule addresses a broad range of safety concerns that confront railroad bridge workers. However, where additional working conditions exist that are not addressed in

this rulemaking, such as exposure to lead, respiratory, hearing and welding protection, or hazard communication standards, the OSHA regulations that address these subject areas apply.

FRA's Policy Statement (43 FR 10583, March 14, 1978) set forth which Federal agency would maintain authority to regulate workplace safety hazards for railroad employees. OSHA, long recognized as the agency expert in occupational health issues, would cover those areas that required health-related expertise, and FRA would maintain primary authority to address safety issues intrinsic to the railroad environment. Welding protective equipment and lead exposure standards fall within those areas requiring extensive health-based expertise and are therefore, best regulated by OSHA. FRA therefore defers to OSHA's existing authority with respect to these issues, but with publication of this final rule asserts authority over the personal safety issues addressed by Part 214 that can be readily included in routine FRA inspections for fall protection.

## **Section Analysis of the Bridge Worker Safety Rule**

### **§ 214.101 Purpose and scope.**

- 214.101(a) The purpose of this subpart is to prevent accidents and casualties arising from the performance of work on railroad bridges.**
- 214.101(b) This subpart prescribes minimum railroad safety rules for railroad employees performing work on bridges. Each railroad and railroad contractor may prescribe additional or more stringent operating rules, safety rules, and other special instructions not inconsistent with this subpart.**
- 214.101(c) These provisions apply to all railroad employees, railroads, and railroad contractors performing work on railroad bridges.**
- 214.101(d) Any working conditions involving the protection of railroad employees working on railroad bridges not within the subject matter addressed by this Chapter, including respiratory protection, hazard communication, hearing protection, welding and lead exposure standards, shall be governed by the regulations of the U. S. Department of Labor, Occupational Safety and Health Administration.**

This section contains statements of general application. A separate section, § 214.103, is set aside for the height threshold and exceptions to fall protection requirements. Use of "minimum railroad safety rules" in paragraph (b) reflects traditional regulatory language. This terminology encourages railroads and their contractors to revise or improve these standards and employee safety as new technology and information become available, so long as this is done without contradicting the standards in this rule.

Paragraph (d) discusses the complementary jurisdiction of FRA and OSHA with respect to occupational hazards in the railroad workplace. Paragraph (d) states that any working conditions involving the protection of railroad employees working on railroad bridges not within the subject matter addressed by the regulations found in Chapter II of title 49 of the Code of Federal Regulations (i.e., all railroad safety regulations), including respiratory protection, hazard communications, hearing protection, welding and lead exposure standards, is governed by OSHA's regulations. This language reiterates the jurisdictional delineations that were set forth in FRA's

1978 Policy Statement (42 FR 22184), and provides additional clarity for employees and railroads who must comply with Federal regulations.

*Deficiency Code:* None.

### **§ 214.103 Fall protection, generally.**

**214.103(a) Except as provided in paragraphs (b) through (d) of this section, when employees work twelve feet or more above the ground or water surface, they shall be provided and shall use a personal fall arrest system or safety net system. All fall protection systems required by this section shall conform to the standards set forth in § 214.105 of this Subpart.**

Either a personal fall arrest system or safety nets, must be provided and used where employees are working twelve or more feet above the ground or water surface. Three exceptions to this requirement follow in paragraphs (b) - (d).

The twelve-foot standard best provides necessary fall protection for railroad bridge employees. Unlike traditional building construction sites where the point of attachment for a fall arrest system is overhead, the configuration of most railroad bridges will require that the point of attachment be at foot-level or will require installation of superstructure at considerable risk to those performing that work. Most railroad bridges do not have secure structures above the rails that will support such attachment. A standard six-foot lanyard attached at the rail on one end and to the body harness on the other will allow an employee who is standing and walking very little movement while working on the bridge. To the extent work is rendered impractical or significant discomfort or annoyance is caused to the wearer, compliance will likely suffer. Any habit of non-compliance may carry over to work at greater heights.

When a standard fall arrest system is engaged, the length of an extended lanyard and deceleration device totals approximately 9 ½ feet. If the surface below is not farther from the working surface than 9 ½ feet, and if the protective device is attached at the rail on the side of the bridge being worked on, an employee will hit the ground or water surface below before the system begins to arrest the fall. A possible alternative to this scenario is to attach the system to the opposite side of the bridge being worked on, which would take up approximately four feet of the lanyard length. However, this would greatly restrict the movement of the employee and would introduce tripping hazards that do not otherwise exist. Given the low likelihood of serious injury from short falls and the sharply increased risk of injury from tripping over lanyards strung along a bridge surface, FRA believes employees are safer on railroad bridges at low heights without personal fall arrest systems.

Given that the length of the fully engaged fall arrest system itself is close to ten feet, and that the length of the legs and torso that will hang below the body harness must also be considered, a twelve-foot standard provides the safest and most practical height threshold for fall protection devices.

Safety nets are an alternative to the body harness and lanyard system, but are nearly impossible to install effectively at a height of less than twelve feet, given the distance a body will deflect the net upon contact.

Paragraph (a) permits selection of the appropriate fall protection, either a fall arrest system or safety nets, by the railroad or railroad contractor. This approach is

particularly advantageous in the railroad environment. Where railroad bridge configurations make nets impossible, or where the exposure to risk is of minimal duration, the personal fall arrest system can be used. However, where a major renovation that may go on for months is undertaken, nets can be chosen. If chosen, nets must be installed at the same height threshold as personal fall arrest devices.

**214.103(b)(1) This section shall not apply if the installation of the fall arrest system poses a greater exposure to risk than the work to be performed. In any action brought by FRA to enforce the fall protection requirements, the railroad or railroad contractor shall have the burden of proving that the installation of such device poses greater exposure to risk than performance of the work itself.**

Paragraph (b)(1) of this section states that the fall protection requirements shall not apply if installation of the system poses greater risk than performing work without fall protection. The railroad or contractor has the burden of showing this in any action brought by FRA to enforce the fall protection requirements. In other words, once FRA had demonstrated the absence of fall protection, the burden would shift to the railroad to justify its absence by demonstrating that it properly determined that installation posed a greater risk.

The term "installation" applies to the process of setting up a fall arrest system, up to and including the act of the individual hooking the personal fall arrest lanyard to a lifeline or point of anchorage. This provision will often be applied by bridge inspectors who have training and experience in moving about on bridges to locations not usually occupied by maintenance employees.

The question of "greater risk" is relative, and should account for the risk inherent in the work being performed, the training and experience of the persons conducting the work, and the factors upon which that person's decision was based. For instance, if the decision was based upon a directive from a supervisor to work without protection in a place where the employee has properly determined that protection should be used, the railroad or contractor would carry a heavy burden to prove that this provision applied.

Likewise, the employee's decision should not be based upon a requirement to accomplish a mission for which the employer did not provide the proper equipment. An employee with equipment available for use who rationally decides that it would be safer to work without installing the equipment is much more justified in doing so than an employee who was not furnished with the proper fall protection equipment at all.

**214.103(b)(2) This section shall not apply to employees engaged in inspection of railroad bridges conducted in full compliance with the following conditions:**

**(i) the railroad or railroad contractor has a written program in place that requires training in, adherence to, and use of safe procedures associated with climbing techniques and procedures to be used;**

**(ii) the employee to whom this exception applies has been trained and qualified according to that program to perform bridge inspections, has been previously and voluntarily designated to perform inspections under the provisions of that program, and has accepted the designation;**

**(iii) the employee to whom this exception applies is familiar with the appropriate climbing techniques associated with all bridge structures the employee is responsible for inspecting;**

**(iv) the employee to whom this exception applies is engaged solely in moving on or about the bridge or observing, measuring, and recording the dimensions and condition of the bridge and its components; and**

**(v) the employee to whom this section applies is provided all equipment necessary to meet the needs of safety, including any specialized alternative systems required.**

Paragraph (b)(2) was added in the 1994 amendment to permit qualified, designated bridge inspectors to perform their work in the manner in which they have been trained without a regulatory requirement to use fall protection while inspecting. The rule requires a formal, written program for training and designation of bridge inspectors, and for safe procedures to be used by inspectors in accordance with their training and abilities.

Designation as a bridge inspector must be voluntary on the part of the employee. The employee must be free to use trained judgement as to procedures for inspecting a bridge. That judgement must be based upon the situation at hand, and not upon the failure of the employer or the employee to have safety equipment available for use should such be necessary for safety.

This paragraph applies only while the employee is moving on the bridge, observing, measuring and recording. In other words, the employee must be able to devote full attention to maintaining a safe position on the bridge while moving, or to take a position that will permit safe performance of inspection functions.

**214.103(c) This section shall not apply where employees are working on a railroad bridge equipped with walkways and railings of sufficient height, width, and strength to prevent a fall, so long as employees do not work beyond the railings, over the side of the bridge, on ladders or other elevation devices, or where gaps or holes exist through which a body could fall. Where used in place of fall protection as provided for in 214.105, this paragraph (c) is satisfied by:**

**(1) Walkways and railings meeting standards set forth in the American Railway Engineering Association's Manual For Railway Engineering; and**

**(2) Roadways attached to railroad bridges, provided that employees on the roadway deck work or move at a distance six feet or more from the edge of the roadway deck, or from an opening through which a person could fall.**

Paragraph (c)(1) concerning walkways and railings states that fall protection is not required where stable walkways and railings are present, so long as employees do not work beyond the railings, over the side of the bridge, on ladders or other elevation devices, or where large holes exist.

The rule states that the walkways must be of sufficient height, width, and strength to prevent an employee fall. This language provides pertinent guidance to railroads, contractors, and employees as to what constitutes "secure" walkways and railings. Walkways and railings that meet the standards set forth in the American Railway Engineering Association's (AREA) Manual For Railway Engineering will satisfy this subsection. This does not limit the design to those found in the manual, but permits the use of a design that meets the same functional requirements. If the handrail or

walkway is deteriorated to the point that it does not retain the capacity to resist loads or to maintain its proper position, it does not comply with this requirement.

Portable handrails that meet the AREA standards, and which are attached at or within the edge of the bridge surface so that the bridge surface forms the walkway, are acceptable for this purpose if the bridge surface itself meets the strength and dimension requirements of a walkway. The surface need not be specially designed as a walkway but it must safely perform the function.

Paragraph (c)(2) was added in the 1994 amendment to permit work to be performed where a roadway attached to a bridge would protect persons on the bridge from falling over the side. It is intended that persons should remain 6 feet from the side or edge of a roadway or the edge of any opening through which a person could fall. This is sufficient to permit one step backward and a fall to the surface without going over the side or through the opening.

**214.103(d) This section shall not apply where employees are performing repairs or inspections of a minor nature that are completed by working exclusively between the outside rails, including, but not limited to, routine welding, spiking, anchoring, spot surfacing, and joint bolt replacement.**

The paragraph permits an exception to fall protection when employees are performing minor repairs in any discipline, or are doing inspections, so long as those activities can be accomplished by working exclusively between the outside rails of the bridge. The outside rails are those which carry the wheels of railroad cars and locomotives, not the planks or straps located on the outer ends of bridge ties, sometimes called "outer guard rails."

An employee working between two tracks on a multiple-track bridge would come within this exception, so long as there are no gaps in the area between the rails through which a person could fall. The rails may be those of an abandoned track if they are in their original position.

The term "exclusively" further defines those activities that will be categorized as "minor," and therefore truly merit being accomplished without fall protection of any sort. Given the obvious risks inherent in working without fall protection, this exception will be enforced as literally and narrowly as possible. Therefore, if an activity involves movement requiring one to stand or travel with one or more weight-bearing portions of the body beyond the boundaries of the rails, no matter how slight the duration, fall protection must be provided.

Replacing ties on the bridge would not constitute repairs of a minor nature that can be completed exclusively between the rails. Walking between the rails on the bridge to visually inspect the ties would come within paragraph (d) of 214.103. Walking between the rails from one work location to another is generally permissible, as is standing between the rails while not actually engaged in the work.

This section has led to a considerable amount of discussion, because of its obvious convenient use under certain circumstances to permit work without use of fall protection equipment. The two paragraphs above are taken from the preamble of the original rule as published in the Federal Register. The statement that "Given the obvious risks inherent in working without fall protection, this exception will be enforced as literally and narrowly as possible" was published as a clear statement of FRA policy at that time, and that policy has not changed.

The term "weight-bearing portions of the body" can include hands and arms as well as feet and legs. For example, if a person were kneeling with both feet and knees between the rails, the weight-bearing portions of the body would be between the rails. From that position, one could safely insert a bolt through a joint from the gauge to the field side, and hand thread a nut onto the field end of the bolt. However, if the person were to stand, even with both feet between the rails, place a track wrench on the nut and tighten it, the hands and arms would become weight-bearing portions of the body by exerting forces on the wrench, and fall protection would be required.

While this example might sound legalistic, it is actually a practical example of limiting risk. A person kneeling between the rails is very unlikely to fall from the bridge from that position. However, if a track wrench were to slip while the person operating it was off balance, as in reaching across the rail, a fall would be much more likely.

**Deficiency Code: 103.01 Failure to provide fall protection.**

*Discussion:* This violation arises from an overall failure to provide a fall protection system when one is required. Fall protection is required anytime an employee of a railroad or railroad contractor is performing construction, inspection, testing or maintenance of a railroad bridge and the employee is working more than 12 feet above the ground or water surface, unless one of the exceptions in 214.103 (b), (c) or (d) applies.

Distance above the ground or water surface is considered to be the vertical distance from the lowest point on the person's body to the water surface, or the lowest point on the ground to which the person could fall from the work position. Changing water levels, as from tides, will be considered when determining if a point is more than 12 feet above water at the particular time work is being performed.

The duty to provide fall protection rests with the employer of the affected persons. An individual willful violation would result from an individual agent of the employer, such as a supervisor, requiring persons to work without fall protection, after clearly having knowledge that a fall protection system is required.

*Corresponding Penalty Schedule:*

214.103(i) Failure to provide fall protection.

Violation \$5,000; Willful Violation \$10,000.

**Deficiency Code: 103.03 Failure to use fall protection.**

*Discussion:* The failure to use a fall protection system implies that a fall arrest system has been properly provided, and an individual employee has failed to make use of the system while in a position in which it is required. This is an individual violation, and as such it must be shown to be willful. A penalty can be assessed against an individual only for a willful violation.

*Corresponding Penalty Schedule:*

214.103(ii) Failure to use fall protection.

Willful violation \$2,500.

## § 214.105 Fall protection systems standards and practices.

The standards in this section reflect OSHA's most current performance standards. The procedural requirements of this section should be incorporated in the required published procedures and training of each employer.

### 214.105(a) **General Requirements.** All fall protection systems required by this Subpart shall conform to the following:

#### 214.105(a)(1) **Fall protection systems shall be used only for employee fall protection.**

This prohibits the use of fall protection equipment to hoist tools or materials, or to secure items other than persons being protected. The use of fall protection equipment for other purposes renders the equipment susceptible to damage or overloading that would render it incapable of withstanding the loads that would be imposed by arresting the fall of a person.

*Deficiency Code:* **105.01**

**Fall protection equipment used for other purposes.**

*Discussion:* This violation is an act that must be witnessed either by the inspector or by a person who provides a proper statement to this effect. Fall protection equipment is designed with marked differences in appearance from materials handling equipment. An inspector finding distinctive fall protection equipment in use for other purposes should not depend upon a statement that the equipment is no longer being used for fall protection. The presence of fall protection equipment that is no longer suitable for use as such at a worksite is extremely hazardous.

*Corresponding Penalty Schedule:*

214.105(a)(1) Fall protection used for other purposes.

Violation \$2,500; Willful violation \$5,000.

#### 214.105(a)(2) **Any fall protection system subjected to impact loading shall be immediately and permanently removed from service unless fully inspected and determined by a competent person to be undamaged and suitable for reuse.**

An impact loading could result from a fall, or from the system or component being struck by a foreign object while in service. The competent person should be one qualified and designated as such by the employer. Most manufacturers specify that their equipment is no longer certified for service after having arrested a fall unless it is returned to the manufacturer for inspection. A manufacturer of equipment that complies with the standards of this rule may be considered a competent person for compliance with this section.

*Deficiency Code:* **105.03**

**Failure to remove fall protection equipment from service after impact loading, damage or deterioration.**

*Discussion:* Fall protection equipment that is unsuited for use must be removed from service in such a manner that it cannot be mistakenly or otherwise used again for fall protection. One effective means of doing so is to permanently mark it as defective and



remove it from the job site as soon as possible. A reasonable time frame would be at the conclusion of the work shift.

*Corresponding Penalty Schedule:*

214.105(a)(2) Failure to remove from service.

Violation \$2,500; Willful violation \$5,000.

**214.105(a)(3) All fall protection system components shall be protected from abrasions, corrosion, or any other form of deterioration.**

Equipment found in service, or available for service, with corrosion or abrasions, for instance, is evidence of failure to comply. Equipment placed where it is subject to abrasion, for instance a cable lifeline rubbing on the edge of a steel column, is evidence of failure to comply.

*Deficiency Code:* **105.05**

**Failure to protect fall protection equipment from deterioration.**

*Discussion:* The provider and the user of fall protection equipment are required to protect the equipment from deterioration. It is not necessary to show that actual deterioration has taken place, although that is good evidence of failure to protect. An example would be a lifeline that is being permitted to rub on the sharp edge of a girder. The deterioration might not be immediately visible, but the fact that the lifeline is placed in a position to abrade is failure to protect from deterioration.

*Corresponding Penalty Schedule:*

214.105(a)(3) Failure to protect from deterioration.

Violation \$2,500; Willful violation \$5,000.

**214.105(a)(4) All fall protection system components shall be inspected prior to each use for wear, damage, corrosion, mildew, and other deterioration. Defective components shall be permanently removed from service.**

The inspection may be performed by the user, provided that necessary training in use and maintenance of the equipment has been provided. Permanently removed from service means marked or placed so that it cannot mistakenly be used by any person for fall protection.

*Deficiency Code:* **105.07**

**Failure to inspect fall protection equipment prior to use.**

*Discussion:* It is not simple, without a record-keeping requirement, to prove that a required inspection did not actually take place. However, obvious evidence of deterioration that should not have escaped inspection is evidence of failure to inspect. Other evidence would be a statement from a person who was ordered to use equipment without being given sufficient time to inspect it, or witnessing equipment being removed from a box at the job site and being put into service without inspection.

*Corresponding Penalty Schedule:*

214.105(a)(4) Failure to inspect and remove.

Violation \$5,000; Willful violation \$10,000.

**214.105(a)(5) Prior to use and after any component or system is changed, employees shall be trained in the application limits of the equipment, proper hook-up, anchoring and tie-off techniques, methods of use, and proper methods of equipment inspection and storage.**

Proper techniques should correspond with manufacturer's instructions as well as employer policy. Nearly all manufacturers of safety equipment provide comprehensive information and instructions on its proper use. Those instructions are as much a part of the entire system as the equipment itself, and are very specifically directed to the particular manufacturer's devices. An employer program should specify how this training is to be conducted. A person who depends upon fall protection equipment that is improperly inspected, arranged or used is being placed in severe hazard.

*Deficiency Code:* **105.09**

**Failure to train personnel using fall protection equipment.**

*Discussion:* Statements from persons who are required to use fall protection equipment that they have not been trained in its use are evidence of a violation. The absence of any training program known to the supervisor at a job site is evidence. Particular care should be taken with employees who do not regularly use fall protection equipment, such as trackmen or electricians who only occasionally work on bridges. They are often not as familiar with the subject as bridge workers, it is easier for them to miss out on any training program, and they are often at higher risk simply due to unfamiliarity with working at heights.

*Corresponding penalty schedule:*

214.105(a)(5) Failure to train.

Violation 5,000; Willful violation \$10,000.

**214.105(a)(6) The railroad or railroad contractor shall provide for prompt rescue of employees in the event of a fall.**

The employer *shall provide*, so that means the provision must be in place whether or not a fall has occurred. The means of rescue should be appropriate to the work being performed, and to the fall protection systems in use.

If an individual is using a fall arrest system in circumstances in which a fall might occur, then the means must be available to rescue that individual in the event that the fall arrest system is deployed. In other words, if the individual goes over the side, the employer has to be able to get the individual promptly and safely back to the deck or down to the ground.

Self-rescue might be possible in some cases. For instance, an individual climbs a ladder using a vertical life line and a rope grab connected to a short lanyard. If the individual should slip and fall, the fall arrest system should bring the individual to the ladder and allow resumption of climbing, at least in the downward direction. In that

case, the hazard of not being rescued from a fall would be very slight. Except where a definite known procedure for self-rescue exists, it would be difficult for one individual to perform a self-rescue without another individual being present to assist.

The regulation has no particular provisions for restraining systems to be used in lieu of fall arrest systems. However, a properly arranged restraining system, such as handrails, or short lanyards that hold the worker away from the edge of a bridge deck, would minimize the potential for a fall. This should be considered in the evaluation of a rescue procedure. If the employee is working in a circumstance in which falls are prevented, rather than arrested, then the rescue procedure would not have to address recovery from arrested falls.

Care must be taken with fall restraint systems. Where harnesses, lanyards, and similar devices are used for fall restraint, only equipment suitable for fall arrest should be used. If non-standard equipment were used for fall restraint, the potential is great that it might be mixed with fall arrest equipment, with undesirable results.

It is good practice to have means of rapid communication from a worksite to local emergency and rescue services, but this is not to be considered as a sole means of rescue.

*Deficiency Code:* **105.11** **Failure to provide for prompt rescue after fall.**

*Discussion:* The responsible person at a job site should be able to explain how the rescue of a fallen person would be accomplished. If the means are not at hand for a prompt rescue, or the persons responsible for accomplishing the rescue not being properly aware of the procedure, is evidence of non-compliance. Of course, if a person were to actually fall and suffer from not having been promptly rescued, a violation would have occurred.

*Corresponding penalty schedule:*

214.105(a)(6) Failure to provide for prompt rescue.

Violation \$5,000; Willful violation \$10,000.

**214.105(a)(7) Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.**

Corrosion on a connector in service would be in contravention of this rule. Sharp edges can develop from wear as well as manufacturing flaws, and should be included in inspections. Corrosion weakens the connector. Sharp edges and surfaces can nick or tear other parts connected to them.

*Deficiency Code:* **105.13 Failure to prevent damage to fall protection equipment.**

*Discussion:* This deficiency would apply where connectors or other components of a fall arrest system were corroded, or had sharp edges, or were improperly applied or assembled, resulting in damage or potential damage to the system or its components.

*Corresponding penalty schedule:*

214.105(a)(7) Failure to prevent damage.

Violation \$2,500; Willful violation \$5,000.

**214.105(a)(8) Connectors shall be drop forged, pressed or formed steel, or made of equivalent-strength materials.**

Cast material is subject to hidden cracks and flaws, and is not suitable. Connectors will generally be certified by the manufacturer for compliance with corresponding OSHA standards. Connectors found in use that were not designed for fall arrest systems should be investigated further.

*Deficiency Code:* **105.15**

**Failure to use proper connectors with fall protection equipment.**

*Discussion:* This deficiency would apply where connectors used with fall protection equipment were made of non-conforming material and had either insufficient or unknown capacity.

*Corresponding Penalty Schedule:*

214.105(a)(8) Failure to use proper connectors.

Violation \$2,500; Willful violation \$5,000.

**214.105(a)(9) Anchorages, including single- and double-head anchors, shall be capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used under the supervision of a qualified person as part of a complete personal fall protection system that maintains a safety factor of at least two.**

The strength of life-lines and anchorages is the subject of detailed engineering analysis and design in many cases. The actual loads imposed on each component are highly dependent upon the geometry of the system and the tension applied during installation. In the case of anchorages and lifelines, "supervision of a qualified person" means either the direct supervision of a qualified engineer or in strict conformance with specifications prepared by a qualified engineer by a person who understands and can install the system according to those specifications.

*Deficiency Code:* **105.17**

**Failure to use proper anchorages in a fall protection system.**

*Discussion:* Some detailed investigation might be required to determine if anchorages in use are proper for the fall protection system in use. However, more obvious violations would involve, for instance, lifelines connected to handrails or other lightly constructed bridge members that could not possibly restrain 5,000 pounds per employee attached.

*Corresponding Penalty Schedule:*

214.105(a)(9) Failure to use proper anchorages.

Violation \$2,500; Willful violation \$5,000.

**214.105(b) *Personal fall arrest systems.* All components of a personal fall arrest system shall conform to the following standards:**

**214.105(b)(1) Lanyards and vertical lifelines that tie off one employee shall have a minimum breaking strength of 5,000 pounds.**

The breaking strength will be stated by the manufacturer of each component. This strength requirement is much greater than the weight of one person in order to accommodate impact loads caused by sudden deceleration at the limit of the fall protection device.

**214.105(b)(2) Self-retracting lifelines and lanyards that automatically limit free fall distance to two feet or less shall have components capable of sustaining a minimum static tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.**

The lower strength requirement accommodates the lesser loads imposed by a fall of two feet or less, compared with the maximum permitted by a free-fall system.

**214.105(b)(3) Self-retracting lifelines and lanyards that do not limit free fall distance to two feet or less, ripstitch, and tearing and deformed lanyards shall be capable of withstanding 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.**

These devices must retain the original specified strength when fully extended because of the higher impact of free falls between two and six feet.

**214.105(b)(4) Horizontal lifelines shall be designed, installed, and used under the supervision of a competent person, as part of a complete personal fall arrest system that maintains a safety factor of at least two.**

"Supervision of a qualified person" means either the direct supervision of a qualified engineer or in strict conformance with specifications prepared by a qualified engineer by a person who understands and can install the system according to those specifications.

**214.105(b)(5) Lifelines shall not be made of natural fiber rope.**

Natural fiber rope is subject to excessive stretch and hidden damage from abrasion or overstress, and the material is not of sufficient uniformity for use in fall arrest systems. Most lifelines will be found to be made of metal wire rope. This provision applies only to lifelines, not lanyards or other components, although natural fiber rope is not the best material for use in any fall protection system.

**214.105(b)(6) The personal fall arrest system shall limit the maximum arresting force on an employee to 900 pounds when used with a body belt.**

A body belt does not distribute loads evenly about the body but concentrates them at the bottom of the rib cage. A force greater than 900 pounds would be life-threatening to many people. Even without that impact force, a person hanging from a body belt for more than one minute is in serious jeopardy because of compression of internal organs within the rib cage.

**214.105(b)(7) The personal fall arrest system shall limit the maximum arresting force on an employee to 1,800 pounds when used with a body harness.**

The body harness, properly connected at the back, distributes loads more evenly to the body, and to points of the body more able to withstand the loads, than does a body belt. The allowable impact force can be greater without presenting risk of severe injury.

**214.105(b)(8) The personal fall arrest system shall bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet.**

This provision places a practical limit on deceleration devices. The maximum free fall distance of 6 feet plus the maximum deceleration distance of 3.5 feet limits travel to 9.5 feet. This includes all possible deflection of lifelines and lanyards from stretching.

**214.105(b)(9) The personal fall arrest system shall have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of six feet, or the free fall distance permitted by the system, whichever is less.**

This requirement extends the "factor of safety of two" principle to the fall arrest gear used by the individual.

**214.105(b)(10) The personal fall arrest system shall be arranged so that an employee cannot free fall more than six feet and cannot contact the ground or any lower horizontal surface of the bridge.**

This rule corresponds to the strength requirement of (9) above, and limits to forces in a fall to those that can be safely withstood by the personal equipment and the individual.

The six foot free fall begins when the individuals feet leave the surface upon which they were placed, and ends when the deceleration device begins to take effect.

**214.105(b)(11) Personal fall arrest systems shall be worn with the attachment point of the body belt located in the center of the wearer's back, and the attachment point of the body harness located in the center of the wearer's back near shoulder level, or above the wearer's head.**

Attachment points must be at the rear because front attachment will snap the vertebrae backward causing severe back injury. The attachment for a body harness must not be situated where it would strike a person in the neck or the back of the head when loaded in a fall.

**214.105(b)(12) When vertical lifelines are used, each employee shall be provided with a separate lifeline.**

Vertical lifelines are used to permit personnel to work up and down a ladder or vertical surface. They are typically used with devices such as rope grabs to permit vertical movement under control, but to prevent unrestricted fall. If two employees were attached to the same vertical lifeline, falling could well impact the one below, or pull the one above into a fall if the lifeline were to stretch slightly.

**214.105(b)(13) Devices used to connect to a horizontal lifeline that may become a vertical lifeline shall be capable of locking in either direction.**

**214.105(b)(14) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.**

This rule effectively sets a minimum strength limit for the elastic behavior or yield point of Dee-rings and snap-hooks.

**214.105(b)(15) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 5,000 pounds.**

This rule effectively sets an ultimate strength limit for Dee-rings and snap-hooks. Manufacturers will state the strength of these components, or will state compliance with OSHA or ANSI standards that incorporate these same requirements.

**214.105(b)(16) Snap-hooks shall not be connected to each other.**

**214.105(b)(17) Snap-hooks shall be dimensionally compatible with the member to which they are connected to prevent unintentional disengagement, or shall be a locking snap-hook designed to prevent unintentional disengagement.**

The snap-hook referred to in the regulation as a "locking snap-hook" is typically called a "double locking snap-hook" in the industry. Snap-hooks without the locking feature are subject to unintentional disengagement. A typical situation is termed "roll out" in which the rope to which a snap-hook is attached is doubled back around the snap and pulled into the hook through the snap opening. The rope then totally disengages from the snap-hook.

**214.105(b)(18) Unless of a locking type, snap-hooks shall not be engaged:**

- (i) Directly next to webbing, rope, or wire rope;**
- (ii) To each other;**
- (iii) To a dee-ring to which another snap-hook or other connector is attached;**
- (iv) To a horizontal lifeline; or**
- (v) To any object that is incompatibly shaped or dimensioned in relation to the snap-hook so that unintentional disengagement could occur.**

This rule effectively limits the use of non-locking snap-hooks to circumstances in which the snap-hook is connected to a device that is specifically designed to restrict its unintentional release. One such dimensionally compatible combination is one in which the diameter of the dee-ring to which a snap-hook is attached is greater than the inside length of the snap-hook measured from the bottom (hinged end) of the snap-hook keeper to the inside curve of the top of the snap-hook, so that no matter how the dee-ring is positioned or moves (rolls) with the snap-hook attached, the dee-ring cannot touch the outside of the keeper so as to depress it open. This rule effectively prohibits the use of non-locking snap-hooks to connect personal fall arrest systems to lifelines or common structural members.

*Deficiency Code:* **105.19**

**Failure to provide conforming equipment in a personal fall arrest system.**

*Discussion:* The high level of detail in this section makes it impractical to provide a separate deficiency code for the detail of every deficiency that might be found. The nature of each deficiency written should be indicated on the inspection report.

*Corresponding Penalty Schedule:*

214.105(b)(1) - (17) Failure to provide conforming equipment.

Violation \$2,500; Willful violation \$5,000.

**214.105(c) Safety net systems. Use of safety net systems shall conform to the following standards and practices:**

The installation and maintenance of safety nets is a highly specialized function. Typically, the work will be performed either by contractors or railroad personnel who specialize in this work. The qualified persons who install a net should either provide the continued inspection and maintenance services, or should provide detailed instructions on the use, inspection and maintenance of that particular net installation, available for reference at the job site.

A fall of more than 30 feet to a safety net can be hazardous. A net does not qualify as a fall protection system for personnel working more than 30 feet above it, or without a clear fall path from the worksite to the net. Those employees would require personal fall arrest systems. Others, working less than 30 feet above the net with an unobstructed fall path, could still be protected by the net.

**214.105(c)(1) Safety nets shall be installed as close as practicable under the walking/working surface on which employees are working, but shall not be installed more than 30 feet below such surface.**

*Deficiency Code:* **105.21**

**Excessive distance from working surface to safety net.**

*Discussion:* Safety nets are included as one acceptable means of fall protection, as long as the protected employees are within range of the protection of the net, and the net complies in all respects with the regulation. The proper deficiency codes to use in situations involving nets should be selected according to the hazard presented to the largest number of persons. For instance, if a group of ten persons were working twelve feet above a good net, and one person were climbing forty feet above the net, the circumstance would best be described by 105.23 (below) to describe the situation of the one person. However, if a group were working 37 feet over a net, and the person in charge stated that the net was providing fall protection, then 105.21 would be a proper deficiency code.

*Corresponding Penalty Schedule:*

214.105(c)(1) Failure to install close to workplace.

Violation \$2,500; Willful violation \$5,000.

**214.105(c)(2) If the distance from the working surface to the net exceeds 30 feet, employees shall be protected by personal fall arrest systems.**



*Deficiency Code:* **105.23**

**Failure to provide fall arrest system for person working more than 30 feet above safety net.**

*Discussion:* This deficiency code should be used where a person is working more than 30 feet above a net without any other fall protection being provided. It describes the situation in more detail than would 103.01 - Failure to provide fall protection. However, if the system were provided but not used, the proper code would be 103.03 - Failure to use fall protection.

*Corresponding Penalty Schedule:*

214.105(c)(2) Failure to provide fall arrest if over 30 feet.

Violation \$5,000; Willful violation \$10,000.

**214.105(c)(3) The safety net shall be installed such that any fall from the working surface to the net is unobstructed.**

*Deficiency Code:* **105.25**

**Failure to provide for unobstructed fall to net.**

*Discussion:* Obviously, a falling person who strikes a solid object before landing in a safety net is at risk of serious injury. If areas exist on a job site where the path of a fall to a net is obstructed, persons working in those areas must use some other means of fall protection that will keep them away from the obstruction in case of a fall.

*Corresponding Penalty Schedule:*

214.105(c)(3) Failure to provide for unobstructed fall.

Violation \$5,000; Willful violation \$10,000.

**214.105(c)(4) Except as provided in this subsection, safety nets and net installations shall be drop-tested at the jobsite after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at six-month intervals if left in one place. The drop-test shall consist of a 400-pound bag of sand 30 inches, plus or minus two inches, in diameter dropped into the net from the highest (but not less than 3 ½ feet) working surface on which employees are to be protected.**

**214.105(c)(4)(i) When the railroad or railroad contractor demonstrates that a drop-test is not feasible and, as a result, the test is not performed, the railroad or railroad contractor, or designated competent person, shall certify that the net and its installation are in compliance with the provisions of this section by preparing a certification record prior to use of the net.**

An example of circumstances in which a drop test is not feasible would be a net placed above a public thoroughfare where the test could endanger the public below.

**214.105(c)(4)(ii) The certification shall include an identification of the net, the date it was determined that the net was in compliance with this section, and the signature of the person making this determination. Such person's signature shall certify that**

**the net and its installation are in compliance with this section. The most recent certification for each net installation shall be available at the jobsite where the subject net is located.**

*Deficiency Code:* **105.27**                      **Failure to test safety net.**

*Discussion:* Absence of either a record of test, or certification of a net system without test, is evidence of noncompliance.

*Corresponding Penalty Schedule:*

214.105(b)(4) Failure to test.

Violation \$2,500; Willful violation \$5,000.

**214.105(c)(5) Safety nets and their installations shall be capable of absorbing an impact force equal to that produced by the drop test specified in this section.**

If the drop test fails, the net has failed this section. All of the equipment and components of the net installation must be individually capable of withstanding the loads produced by the specified drop test.

*Deficiency Code:* **105.29**                      **Failure to use proper equipment with safety net.**

*Discussion:* A net system is no stronger than its weakest component. If any components are incapable of withstanding the loads of the drop test, then that component constitutes improper equipment.

*Corresponding Penalty Schedule:*

214.105(c)(5) Failure to use proper equipment.

Violation \$2,500; Willful violation \$5,000.

**214.105(c)(6) The safety net shall be installed such that there is no contact with surfaces or structures below the net when subjected to an impact force equal to the drop test specified in this section.**

The net must not contact a surface or structure at any point after that point has been deflected the same amount as that demonstrated in the drop test. The drop test need not be made at the point of potential contact in order for this determination to be valid.

*Deficiency Code:* **105.31**                      **Failure to prevent contact of safety net with surface below.**

*Discussion:* The use of this deficiency code will require an approximation of the distance from the net to the surface below if the net is not actually in contact with the surface. If the distance from the surface is less than the deflection of the net the drop test, the net is not in compliance for use as a fall protection system.

*Corresponding Penalty Schedule:*

214.105(b)(6) Failure to prevent contact with surface below.

Violation \$5,000; Willful violation \$10,000.

**214.105(c)(7) Safety nets shall extend outward from the outermost projection of the work surface as follows:**

In order to allow for the fact that objects tend to drift horizontally while falling vertically, the net must extend outward from the edge of the work surface according to the distance of the vertical drop from the workplace to the net.

**214.105(c)(7)(i) When the vertical distance from the working level to the horizontal plane of the net is 5 feet or less, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 8 feet.**

The minimum permitted extension of the net is 8 feet beyond the edge of the working surface. This would catch all of an individual who fell in a horizontal attitude at a right angle to the edge.

**214.105(c)(7)(ii) When the vertical distance from the working level to the horizontal plane of the net is more than 5 feet, but less than 10 feet, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 10 feet.**

The required extension is increased to 10 feet beyond the edge where the fall is between 5 and 10 feet.

**214.105(c)(7)(iii) When the vertical distance from the working level to the horizontal plane of the net is more than 10 feet, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 13 feet.**

Where the fall is between 10 and 30 feet the required extension is 13 feet beyond the edge of the working surface.

*Deficiency Code:* **105.33** **Failure to properly install safety net system.**

*Discussion:* This deficiency code applies to nets being used for fall protection that have improper dimensions for persons at the working level.

*Corresponding Penalty Schedule:*

214.105(b)(7) Failure to properly install.

Violation \$5,000; Willful violation \$10,000.

**214.105(c)(8) Defective nets shall not be used. Safety nets shall be inspected at least once a week for mildew, wear, damage, and other deterioration. Defective components shall be removed permanently from service.**

In most cases, the inspection requires going into the net to look at it.

*Deficiency Code:* **105.35** **Failure to remove defective nets from service.**

*Discussion:* Defective nets must be removed or repaired promptly. Should a net become defective during a work period, suitable precautions could include informing all persons on the bridge, and providing alternate fall protection until the net is removed.

*Corresponding Penalty Schedule:*

214.105(b)(8) Failure to remove defective nets.

Violation \$5,000; Willful violation \$10,000.

**214.105(c)(9) Safety nets shall be inspected after any occurrence that could affect the integrity of the safety net system.**

Such occurrences could be impact loads from falling persons or material, contact with objects moving under a bridge, fires or contact with hot objects, high winds, etc.

*Deficiency Code:* **105.37**                      **Failure to inspect net system.**

*Discussion:* It is implied that the inspection must be of sufficient detail as to detect any damage to the net, or any changes that affect the suitability of the net for service.

*Corresponding Penalty Schedule:*

214.105(b)(9) Failure to inspect.

Violation \$5,000; Willful violation \$10,000.

**214.105(c)(10) Tools, scraps, or other materials that have fallen into the safety net shall be removed as soon as possible, and at least before the next work shift.**

The purpose of this rule is to prevent a person who falls into the net from striking a foreign object.

*Deficiency Code:* **105.39**                      **Failure to remove foreign objects from net system.**

*Discussion:* It is possible that so much foreign material could be in a net that it presents a clear danger to any person who might fall into it. Such a situation must be corrected immediately, even if before the next work shift. Photographs would be very useful to establish evidence of violation of this section.

*Corresponding Penalty Schedule:*

214.105(b)(10) Failure to remove objects.

Violation \$1,000; Willful violation \$2,500.

**214.105(c)(11) Each safety net shall have a border rope or webbing with a minimum breaking strength of 5,000 pounds.**

The border rope or webbing extends around the outside of the net, and provides the securement for the ends of the mesh. It must have adequate strength to support any expected impact load with a safety factor.

*Deficiency Code:*

**105.41 Failure to use conforming equipment in a net system.**

*Discussion:* Sections 214.105(b)(11) - (13) are grouped with one deficiency code for simplicity.

*Corresponding Penalty Schedule:*

214.105(b)(11) - (13) Failure to use conforming equipment.

Violation \$2,500; Willful violation \$10,000.

**214.105(c)(12) The maximum size of each safety net mesh opening shall not exceed 36 square inches and shall not be longer than 6 inches on any side measured center-to-center of mesh ropes or webbing. All mesh crossing shall be secured to prevent enlargement of the mesh opening.**

The 36 square inch requirement is met by a square of 6 inches by 6 inches. If the mesh is hexagonal or octagonal the maximum opening size would govern, because a hexagon of 6-inch sides would exceed 36 square inches of area. The mesh crossings must be secured to each other to prevent enlargement of the opening. If the opening should enlarge, a falling person could fall through the net.

*Deficiency Code:*

**105.41 Failure to use conforming equipment in a net system.**

*Discussion:* Sections 214.105(b)(11) - (13) are grouped with one deficiency code for simplicity.

*Corresponding Penalty Schedule:*

214.105(b)(11) - (13) Failure to use conforming equipment.

Violation \$2,500; Willful violation \$10,000.

**214.105(c)(13) Connections between safety net panels shall be as strong as integral net components and shall be spaced not more than 6 inches apart.**

Nets are frequently assembled from smaller panels. This requirement carries the integrity requirements to the panel connection to assure that the net will act as a cohesive unit in any fall.

*Deficiency Code:* **105.41**

**Failure to use conforming equipment in a net system.**

*Discussion:* Sections 214.105(b)(11) - (13) are grouped with one deficiency code for simplicity.

*Corresponding Penalty Schedule:*

214.105(b)(11) - (13) Failure to use conforming equipment.

Violation \$2,500; Willful violation \$10,000.

## § 214.107 Working over or adjacent to water.

**214.107(a) Employees working over or adjacent to water with a depth of four feet or more, or where the danger of drowning exists, shall be provided and shall use life vests or buoyant work vests in compliance with U.S. Coast Guard requirements in 46 CFR sections 160.047, 160.052, 160.053. Life preservers in compliance with U.S. Coast Guard requirements in 46 CFR section 160.055 shall also be within ready access. This section shall not apply to employees using personal fall arrest systems or safety nets that comply with this Subpart.**

Most bridge workers can stand in water four feet deep with no threat of drowning. If the particular body of water contains swift currents or dangerous rock formations, life vests are required under the 'danger of drowning' portion of paragraph (a). Therefore, the two clauses together would provide adequate protection.

The reason for requiring a personal floatation device (PFD) is to prevent a person who falls from a bridge into water from drowning. If a bridge worker is prevented from falling to the ground by a method that is valid at heights more than 12 feet above dry land, then it follows that the bridge worker also has adequate protection from falling into the water. The regulation specifically excepts employees using personal fall arrest systems or safety nets, because they are protected from falling in any circumstance.

Likewise, the exceptions from requirements for fall protection over dry land found in sub-paragraphs 214.103(b)(2), (c) and (d) are also deemed adequate to prevent a bridge worker from falling into the water. Sub-paragraph 214.103(b)(2) exempts qualified bridge inspectors from an absolute requirement to use fall protection, and they are also exempted by section 214.107(b) when they are working above or below a bridge deck. Sub-paragraph 214.103(c) exempts employees from the requirement to use fall protection when they are prevented from falling by walkways and handrails, or by remaining six feet or more away from an edge from which one could fall. Sub-paragraph 214.103(d) permits employees to perform work of a minor nature that is completed by working exclusively between the rails. Each of these exceptions is also deemed applicable to the requirement to wear a PFD.

The exception in 214.103(b)(1) does not apply to wearing PFD's, because that sub-paragraph deals with the relative risk of installing a personal fall arrest system versus working without one, and there is no risky installation involved with the use of a PFD.

The rule of 12 feet or greater height, which governs fall protection over land or water, does not apply to the requirement for floatation equipment. The determining factor is not the height above water, but the depth and hazard of the water. However, fall arrest systems or nets may be substituted for floatation gear at heights less than 12 feet provided that the system in use is suitable to prevent drowning.

Most manufacturers mark their flotation devices with the applicable section of 46 CFR to provide for proper usage and identification. The markings should be legible.

*Deficiency Code:* **107.01**

**Failure to provide life vest.**

*Discussion:* This deficiency is appropriate where the distance to the water is less than 12 feet and conforming life vests are not provided. Where the distance to the water is 12

feet or greater, fall arrest systems are required by § 103, and that section should be used to describe the defect.

*Corresponding Penalty Schedule:*

214.107(a)(i) Failure to provide life vest.

Violation \$5,000; Willful violation \$10,000.

*Deficiency Code:* **107.03**

**Failure to use life vest.**

*Discussion:* This is an individual violation, which must be shown to be willful. It would apply to a person working less than 12 feet above water with a life vest available but not used.

*Corresponding Penalty Schedule:*

214.107(a)(ii) Failure to use life vest.

Willful violation \$1,500.

**214.107(b) Life vests or buoyant work vests shall not be required when employees are conducting inspections that involve climbing structures above or below the bridge deck.**

This rule provides an exception to the life preserver requirement when an employee is conducting an inspection of the structures below or above the bridge deck. The bulk of a life preserver can inhibit movement and restrict visibility. Therefore, an employee will not be required to use and the railroad or contractor will not be required to provide life preservers when a worker is conducting inspections above or beneath the bridge deck, where use of the life preserver can actually decrease employee safety.

**214.107(c) Prior to each use, all flotation devices shall be inspected for defects that reduce their strength or buoyancy by designated individuals trained by the railroad or railroad contractor. Defective units shall not be used.**

There is no requirement for written designation of individuals, nor for records of designation. A verbal statement of designation and training by the individual to the FRA inspector will suffice so long as the individual's performance does not raise questions of competency.

*Deficiency Code:* **107.05**

**Failure to inspect flotation equipment.**

*Discussion:* The existence of defective units in use or available for use is evidence of noncompliance with this section. The rule states that defective units shall not be used, so the existence of defective units is evidence of failure to inspect.

*Corresponding Penalty Schedule:*

214.107(c) Failure to inspect.

Violation \$2,500; Willful violation \$5,000.

**214.107(d) Where life vests are required by paragraph (a) of this section, ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.**

In the application of this rule, it is not necessary for ring buoys to be distributed every 200 feet along a bridge if the employees to be protected are only occupying a small area. The intent of the 200 foot interval is to provide a ring buoy within 100 feet of any person working on the bridge.

*Deficiency Code:* **107.07**                      **Failure to provide ring buoys.**

*Discussion:* The absence of properly placed ring buoys while persons are in position to require life vests is evidence of noncompliance. The buoys need not be permanently installed; they employees may carry them along as work progresses.

*Corresponding Penalty Schedule:*

214.107(e)(i) Failure to provide ring buoys.

Violation \$5,000; Willful violation \$10,000.

*Deficiency Code:* **107.09**                      **Failure to use ring buoys.**

*Discussion:* A circumstance in which a person on a bridge fails to use a ring buoy to rescue one who has fallen into the water is practically inconceivable. This deficiency code might describe a circumstance in which persons required to have ring buoys at the job site were provided with them but had failed to carry them along as required.

*Corresponding Penalty Schedule:*

214.107(e)(ii) Failure to use ring buoys.

Willful violation \$1,500.

**214.107(e) Where life vests are required, at least one lifesaving skiff, inflatable boat, or equivalent device shall be immediately available. If it is determined by a competent person that environmental conditions, including weather, water speed, and terrain, merit additional protection, the skiff or boat shall be manned.**

This rule permits railroads or contractors to choose the type of boat, skiff or other such device to be utilized according to the terrain that must be traveled to reach the work site, as well as the type of water present. This discretion should be used to enhance safety. The rule requires that where environmental conditions, including water and air temperature, wind, precipitation, water speed, and stream bed terrain, merit additional protection, the life boat will be manned. This determination shall be made by a competent individual present at the work site. Inflatable boats need not necessarily be kept inflated, provided they are capable of immediate inflation and use when needed. Boats with built-in emergency inflation systems are available. Reliance upon a separate air compressor to inflate a boat would generally not meet the requirement for immediate availability.

A boat is not required simply because an employee on a bridge is wearing a life vest. The employee would have to be in a situation where this regulation requires the life vest before the boat is required.



*Deficiency Code:* **107.11**

**Failure to provide boat or skiff.**

*Discussion:* This deficiency code describes a circumstance in which a boat or skiff is required by conditions but none has been provided.

*Corresponding Penalty Schedule:*

214.107(f)(i) Failure to provide skiff.

Violation \$1,000; Willful violation \$2,500.

*Deficiency Code:*

**107.13 Boat or skiff not ready for immediate use.**

*Discussion:* This deficiency code describes a circumstance in which a boat or skiff is provided but not kept ready for immediate use, which is equivalent to not having one at all.

*Corresponding Penalty Schedule:*

214.107(f)(i) Failure to provide skiff.

Violation \$1,000; Willful violation \$2,500.

*Deficiency Code:* **107.15**

**Boat or skiff not manned where conditions require.**

*Discussion:* Where conditions require a boat or skiff to be manned, such as the distance to the water or the difficulty of entry to the water, this deficiency code describes a failure to provide a person to man the vessel.

*Corresponding Penalty Schedule:*

214.107(f)(i) Failure to provide skiff.

Violation \$1,000; Willful violation \$2,500.

*Deficiency Code:* **107.17**

**Failure to use skiff.**

*Discussion:* This deficiency code would describe a condition in which a boat or skiff were provided, but an individual charged with responsibility for providing or manning the vessel had individually failed to do so.

*Corresponding Penalty Schedule:*

214.107(f)(ii) Failure to use skiff.

Willful violation \$1,500.

## **§ 214.109 Scaffolding.**

This rule is based upon the most recent proposals from OSHA with suggested weight thresholds, which serve as an accurate measure of scaffold and scaffold-component strength. Scaffold design, construction, and repair should only be undertaken by individuals with experience, knowledge, and appropriate training in order to prevent safety hazards.

**214.109(a) Scaffolding used in connection with railroad bridge maintenance, inspection, testing, and construction shall be constructed and maintained in a safe condition and meet the following minimum requirements:**

**214.109(a)(1) Each scaffold and scaffold component, except suspension ropes and guardrail systems, but including footings and anchorage, shall be capable of supporting, without failure, its own weight and at least four times the maximum intended load applied or transmitted to that scaffold or scaffold component.**

This rule provides a minimum factor of safety for scaffolds of four.

**214.109(a)(2) Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within two inches of the top edge, in any outward or downward direction, at any point along the top edge.**

The guardrail system extends around the work surface of the scaffold. Design of a guardrail system to these criteria requires engineering expertise or certification.

**214.109(a)(3) Top edge height of top rails, or equivalent guardrail system member, shall be 42 inches, plus or minus three inches. Supports shall be at intervals not to exceed eight feet. Toeboards shall be a minimum of four inches in height.**

Supports for guardrails are vertical posts or stanchions. Guardrails may span a maximum length of eight feet.

Although the requirement for toeboards has been removed from bridge walkways, it remains effective with scaffolds in order to protect persons below from tools and material slipping over the edge of the work surface.

**214.109(a)(4) Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.**

**214.109(a)(5) Midrails shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.**

The midrail is parallel to the guardrail, halfway between it and the work surface. Its purpose, or that of an equivalent structural member, is to prevent persons and material from falling over the edge of the scaffold below the guard rail.

**214.109(b) Scaffolds shall not be altered or moved while they are occupied. This paragraph does not apply to vertical movements of mobile scaffolds that are designed to move vertically while occupied.**

**214.109(c) An access ladder or equivalent safe access shall be provided.**

Employees must be provided safe access to the scaffold.

**214.109(d) All exposed surfaces shall be prepared and cleared to prevent injury due to laceration, puncture, tripping, or falling hazards.**

Sharp points, slippery spots or projections on a scaffold surface or rail are hazardous.

**214.109(e) All scaffold design, construction, and repair shall be completed by competent individuals trained and knowledgeable about design criteria, intended use, structural limitations, and procedures for proper repair.**

The results indicate the competency of the individual responsible for a scaffold.

**214.109(f) Manually propelled mobile ladder stands and scaffolds shall conform to the following:**

**214.109(f)(1) All manually propelled mobile ladder stands and scaffolds shall be capable of carrying the design load.**

**214.109(f)(2) All ladder stands, scaffolds, and scaffold components shall be capable of supporting, without failure, displacement, or settlement, its own weight and at least four times the maximum intended load applied or transmitted to that ladder stand, scaffold, or scaffold component.**

**214.109(f)(3) All exposed surfaces shall be free from sharp edges or burrs.**

**214.109(f)(4) The maximum work level height shall not exceed four times the minimum or least base dimensions of any mobile ladder stand or scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames shall be employed to achieve this least base dimension, or equivalent provisions shall be made to guy or brace the unit against tipping.**

A mobile ladder stand or scaffold 20 feet high, for instance, must be at least 5 feet wide and deep, or be guyed or braced against tipping.

**214.109(f)(5) The minimum platform width for any work level shall not be less than 20 inches for mobile scaffolds (towers). Ladder stands shall have a minimum step width of 16 inches. The steps of ladder stands shall be fabricated from slip resistant treads.**

**214.109(f)(6) Guardrails and midrails shall conform to the requirements listed in paragraph (a) of this section.**

**214.109(f)(7) A climbing ladder or stairway shall be provided for proper access and egress, and shall be affixed or built into the scaffold and so located that in its use it will not have a tendency to tip the scaffold.**

**214.109(f)(8) Wheels or casters shall be capable of supporting, without failure, at least four times the maximum intended load applied or transmitted to that component. All scaffold casters shall be provided with a positive wheel and/or swivel lock to prevent movement. Ladder stands shall have at least two of the four casters and shall be of the swivel type.**

Deficiency Code: **109.01**

**Use of nonconforming equipment for scaffolding.**

*Discussion:* It would be impractical to provide a deficiency code for every possible situation under this rule. A full description of the circumstances surrounding each deficiency shall be provided by the inspector.

*Corresponding Penalty Schedule:*

214.109(a) - (f) Failure to provide conforming equipment.

Violation \$2,500; Willful violation \$5,000.

**§ 214.111 Personal protective equipment, generally.**

**214.111 With the exception of foot protection, the railroad or railroad contractor shall provide and the employee shall use appropriate personal protective equipment described in this Subpart in all operations where there is exposure to hazardous conditions, or where this Subpart indicates the need for using such equipment to reduce the hazards to railroad employees. The railroad or railroad contractor shall require the use of foot protection when the potential for foot injury exists.**

Requiring personal protective equipment is critical to the success of any safety program for railroad bridge workers. Injury data compiled by FRA from January, 1980, through March, 1991 for bridge and building gang foremen, carpenters, ironworkers, and painters indicates that the following casualties have occurred: 9 fatalities, 20 concussions, 205 fractures to the legs or feet, 639 sprains to the legs or feet, 424 lacerations to the head or face, 259 lacerations to the legs or feet, 102 puncture wounds to the legs or feet, 14 puncture wounds to the head or face, 71 burns to the head or face, 601 instances of foreign objects in the eye, 114 contusions to the head or face, and 498 contusions to the legs or feet. While these figures include building workers as well as bridge employees, they nonetheless demonstrate a need for personal protective equipment for railroad bridge workers.

Use of the personal protective equipment addressed in this final rule is a reasonably straightforward safety issue that can be addressed during normal FRA safety inspections. FRA has tracked OSHA language in this rule. OSHA rules on subject matters related to the safety of railroad bridge workers but not addressed in this rule remain in effect.

National consensus standards (ANSI Standards) are shown in the rule with the effective date of the ANSI standard that was effective when the rule was amended in 1994. Equipment that conforms to a corresponding ANSI standard with a later effective date should be considered as being in compliance unless specific information to the contrary is received from FRA Washington Headquarters.

ANSI standards applicable to individual items of equipment are plainly marked on each item, including protective helmets, safety goggles, and safety shoes. An item that does not display a required ANSI standard reference can be deemed not in compliance with this rule, except that safety shoes might have the ANSI reference on the inside worn off by foot contact. Steel toe shoes can be detected with a magnet. However, some winter boots and non-conducting safety shoes have non-metallic safety toes that can not be so detected, so the magnet test is not fully conclusive.

## § 214.113 Head Protection.

### 214.113(a) Railroad employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be provided and shall wear protective helmets.

Helmets are required where there is danger of head injury. This rule does not actually require protective helmets at all times while on a bridge. However, if construction or repair work is being conducted on the bridge, it is difficult to imagine a circumstance in which persons at or near the work site would not be in danger of head injury from either impact or from falling or flying objects.

*Deficiency Code:* **113.01**                      **Failure to provide head protection.**

*Discussion:* The employer of a person who is on a bridge and in danger of head injury would be in violation if the employee were not provided with a safety helmet, or if the employee were permitted to work without a helmet where one is required.

*Corresponding Penalty Schedule:*

214.113(a)(i) Failure to provide.

Violation \$2,500; Willful violation \$5,000

*Deficiency Code:* **113.03**                      **Failure to use head protection.**

*Discussion:* This is an individual violation that would apply if an employee had been provided a helmet, required by the employer to wear it properly, and had failed to do so. The failure to comply must be willful. The ANSI standard does not encompass helmets worn backward, with the long brim over the neck, that were not tested for effectiveness in that orientation. A helmet worn incorrectly such that it does not conform to the ANSI standard for that helmet does not comply with this rule.

*Corresponding Penalty Schedule:*

214.113(a)(ii) Failure to use.

Willful violation \$1,500.

### 214.113(b) Helmets for the protection of railroad employees against impact and penetration of falling and flying objects, or from high voltage electrical shock and burns shall conform to the national consensus standards for industrial head protection (American National Standards Institute, Z89.1-1986, Protective Headwear for Industrial Workers). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. Copies may be inspected at the Federal Railroad Administration, Docket Clerk, 400 7th Street, SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

*Deficiency Code:* **113.05**                      **Failure to provide conforming equipment for head protection.**

*Discussion:* Light-weight headgear commonly referred to as "bump caps" sometimes found in car and locomotive shops or meat packing plants do not comply with this rule. Headgear that complies with the ANSI standard is plainly marked as such inside the helmet.

*Corresponding Penalty Schedule:*

214.113(b) or (c) Failure to provide conforming equipment.

Violation \$2,500; Willful violation \$5,000.

## **§ 214.115 Foot Protection.**

**214.115(a) The railroad or railroad contractor shall require railroad employees to wear foot protection equipment when potential foot injury may result from impact, falling or flying objects, electrical shock or burns, or other hazardous condition.**

Not every railroad employee on a bridge is subject to potential foot injury, but any person at or near a site at which bridge-size material or tools are being handled is at risk. Bridge inspectors who find it necessary to wear other specialized footwear for safe climbing would not be in violation if there is no other source of foot injury present at their worksites.

The Rule does not require the employer to furnish safety footwear. The employer is obligated to required its use where foot injury hazards exist.

**214.115(b) Safety-toe footwear for railroad employees shall conform to the national consensus standards for safety-toe footwear (American National Standards Institute, American National Standard Z41-1991, Standard for Personal Protection-Protective Footwear). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. Copies may be inspected at the Federal Railroad Administration, Docket Clerk, 400 7th Street, SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.**

*Deficiency Code:* **115.01**                      **Failure to require use of foot protection.**

*Discussion:* The absence of a rule or standard applicable to all employees subject to this rule is evidence of failure to require foot protection, if any employees should be found working without proper foot gear.

*Corresponding Penalty Schedule:*

214.115(a)(i) Failure to require use of.

Violation \$2,500; Willful violation \$5,000.

*Deficiency Code:* **115.03**                      **Failure to use foot protection.**

*Discussion:* An employee working in a position in which the feet are subject to injury, where the employer has a rule or standard requiring its use, would be in noncompliance with this section. This is an individual violation, and must be willful.

*Corresponding Penalty Schedule:*

214.115(a)(ii) Failure to use.

Willful violation \$1,500.

## **§ 214.117 Eye and Face Protection.**

**214.117(a) Railroad employees shall be provided and shall wear eye and face protection equipment when potential eye or face injury may result from physical, chemical, or radiant agents.**

*Deficiency Code:* **117.01**

**Failure to provide eye and face protection.**

*Discussion:* This deficiency code describes a situation in which the employer has failed to provide complying eye and face protection for employees working where potential eye or face injury might result. The type of protection must be determined by the hazards present. Welders and associated workers require protection from welding splatter and arc flashes. Painters require protection from chemical sprays and sandblasting agents. In any case, eye injury hazards exist at almost any point on a bridge if only from dirt blowing in the wind.

*Corresponding Penalty Schedule:*

214.117(a)(i) Failure to provide.

Violation \$2,500; Willful violation \$5,000.

*Deficiency Code:* **117.03**

**Failure to use eye and face protection.**

*Discussion:* This is an individual violation that would apply if an employee had been provided with eye and face protection, had been required by the employer to wear it properly, and had failed to do so. The failure to comply must be willful.

*Corresponding Penalty Schedule:*

214.117(a)(ii) Failure to use.

Willful violation \$1,500.

**214.117(b) Eye and face protection equipment required by this section shall conform to the national consensus standards for occupational and educational eye and face protection (American National Standards Institute, Z87.1-1989, Practice for Occupational and Educational Eye and Face Protection). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. Copies**

may be inspected at the Federal Railroad Administration, Docket Clerk, 400 7th Street, SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

*Deficiency Code:* 117.05

**Use of non-conforming equipment for eye protection.**

*Discussion:* All complying eye and face protection will have the appropriate ANSI standard marked upon it. As a matter of policy, an ANSI standard governing the same equipment as Z87.1-1968 will also be considered to be in compliance.

*Corresponding Penalty Schedule:*

214.117(b) Failure to use conforming equipment.

Violation \$2,500; Willful violation \$5,000.

**214.117(c) Face and eye protection equipment required by this section shall be kept clean and in good repair. Use of equipment with structural or optical defects is prohibited.**

*Deficiency Code:* 117.07

**Use of defective equipment for eye protection.**

*Discussion:* The same requirement that the employer provide eye and face protection required that defective or damaged equipment be replaced. The employee is equally bound to report, and discontinue use of, defective equipment. A minute scratch on the surface of the glass lens of safety glasses will weaken the lens to the extent that protection is no longer provided. Working with obstructed or obscured vision, or corrective lenses with improper optical properties, is obviously unsafe.

*Corresponding Penalty Schedule:*

214.117(c) Use of defective equipment .

Violation \$2,500; Willful violation \$5,000.

**214.117(d) Railroad employees whose vision requires the use of corrective lenses, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types:**

**214.117(d)(i) Spectacles whose protective lenses provide optical correction the frame of which includes shielding against objects reaching the wearer's eyes around the lenses;**

**214.117(d)(ii) Goggles that can be worn over corrective lenses without disturbing the adjustment of the lenses; or**

**214.117(d)(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.**

*Deficiency Code:* 117.09

**Failure to provide for corrective lenses in eye protection equipment.**



*Discussion:* Working on a bridge with impaired vision is obviously unsafe. This rule requires either corrective lenses in safety glasses with side shields, or "coverall"-type goggles that either surround the corrective lenses or incorporate them. The employer is responsible for providing or accommodating corrective lenses in any eye and face protection.

*Corresponding Penalty Schedule:*

214.117(d) Failure to provide for corrective lenses.

Violation \$2,500; Willful violation \$5,000.

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## CHAPTER 9

### Application of the Roadway Worker Protection Rule

#### Introduction:

This chapter is based upon the Final Rule on Railroad Roadway Worker Protection issued by FRA on December 16, 1996.

The Roadway Worker Protection Rule is issued by FRA as Subpart C to 49 CFR 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 those parts of Subpart A that are affected or changed by this rulemaking.

FRA will have a major role in reviewing the on-track safety programs of all railroads, and it will be necessary for inspectors and specialists to understand the rule and its application. This preliminary document is therefore intended to fill this need.

#### Summary:

The Roadway Worker Protection Rule requires railroads and contractors to railroads to prevent their roadway worker employees 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. That program is subject to critical review by FRA.

#### 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 knows either that:
  - a. No train will arrive, or
  - b. The person on the track will be able to move to a place of safety before a train arrives.
4. Each roadway worker bears the ultimate responsibility for his 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 program that will afford on-track safety to all roadway workers performing duties on that railroad. FRA will review each railroad's on-track safety plan. FRA review and approval is not necessary before the

program is implemented, 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 calls for each of these provisions. Each railroad has considerable latitude in the implementation of the provisions, 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 agreed on one 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 reference to 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 begin a reference to 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 program manual should have clear references to those documents wherever they have a bearing on on-track safety procedures. The manner in which they affect on-track safety procedures should also be clearly stated.

The program documents must include the written 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 check list follows:

- § 214.309 - On-track safety program documents - 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.
- § 214.335(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.
- § 214.351 - Recorded examination of training and qualification of roadway workers who provide on-track safety for members of roadway work groups.

**Program Review by FRA:**

Section 214.307 requires that employers notify FRA when their on-track safety programs are ready for review by FRA. The review will normally occur at the railroad's headquarters, or at another location on the railroad's property. The discussion under § 214.307 explains the intent of this section.

When FRA is notified that an on-track safety program is effective, the Office of Safety Assurance and Compliance will direct the appropriate FRA Regional Administrator (RA) to conduct the program review for that railroad. The RA will designate the regional staff personnel who will perform or assist in the review, and will arrange with the person designated by the railroad for a suitable time and place to begin.

Every encouragement should be given to railroads to provide the opportunity for roadway workers or their designated representatives to participate in the program review. The section analysis of § 214.307 notes as strongly as possible that willing cooperation is essential to the success of any on-track safety program. Early involvement of employees and their representatives in the design and review of an on-track safety program will contribute to its success. In any event, employee representatives have the right to express any differences with a program to FRA. If those expressions are made during the review process it is

more likely that they can be addressed before the railroad has fully committed to its on-track safety program. If the differences arise from a misunderstanding, that issue can also be addressed before the misunderstanding becomes widespread.

The review process should be informal and open. The designated railroad personnel, the employee representatives if invited by the railroad, and the FRA representatives should read and discuss the program manual. They should give particular attention to connections made between the procedures called for in the manual, and the particular operating rules that are involved in those procedures. It is not necessary that the railroad submit any documentation to FRA before or during the review process, but it might be convenient for all concerned if the manuals can be reviewed before the review session.

Any concerns or questions held by FRA reviewers should be presented as soon as they arise to the railroad representatives. The concerns and questions, and the response or explanation provided by the railroad, should be noted in the report of the review. Within two weeks of the conclusion of the review, the RA should submit a memo of the results of the review to the Director, Office of Safety Analysis and Compliance, Office of Safety. The memo should include a recommendation for approval or disapproval, any reasons behind a recommendation for disapproval, and a fair characterization of the railroad's on-track safety program. Approval or disapproval will be determined by the Associate Administrator for Safety.

It is anticipated that many smaller railroads will adopt the appropriate features of a common program that is being devised by the American Short Line Railroad Association. That program will be reviewed in general by FRA headquarters, and further information will be provided after that general review. When such a program is adopted by a railroad, the issues to be determined will be whether the program provisions are appropriate to the individual railroad, the manner in which they are issued, and the degree with which personnel are familiar with their implementation.

## **Section Analysis of 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. 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.

**Discussion:**

Section 214.301 states the purpose for the minimum standards required under this subpart 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 each other by the operating rules of a railroad.

**§ 214.302 Information Collection Requirements.**

(a) The information collection requirements of this part were reviewed by the Office of Management and Budget pursuant to the Paperwork Reduction Act of 1995, Public Law 104-13, § 2, 109 Stat.163 (1995) (codified as revised at 44 U.S.C. §§ 3501-3520), and are assigned OMB control number 2130-0539. FRA may not conduct or sponsor and a respondent is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

(b) The information collection requirements are found in the following sections: §§ 214.303, 214.307, 214.309, 214.311, 214.313, 214.315, 214.319, 214.321, 214.323, 214.325, 214.327, 214.329, 214.331, 214.335, 214.341.

**Discussion:**

This section is required by the Paperwork Reduction Act of 1995, cited in the section. It was mislabeled as *Information and Collection Requirements* in the final rule, and will be corrected to *Information Collection Requirements* in a subsequent amendment.

**§ 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.

Discussion:

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

Penalty Schedule:

214.303 Railroad on-track safety programs, generally.	
(a) Failure of a railroad to implement an On-track Safety Program. ....	\$10,000 \$20,000
(b) On-track Safety Program of a railroad includes no internal monitoring procedure. ....	\$5,000 \$10,000

Deficiency Codes:

- 303.01 Failure of a railroad to implement an On-track Safety Program.
- 303.03 On-track Safety Program of a railroad includes no internal monitoring procedure

**§ 214.305 Compliance Dates**

Each program adopted by a railroad shall comply not later than the date specified in the following schedule:

- (a) For each Class I railroad (including National Railroad Passenger Corporation) and each railroad providing commuter service in a metropolitan or suburban area, March 15, 1997.
- (b) For each Class II railroad, April 15, 1997.
- (c) For each Class III railroad, switching and terminal railroad, and any railroad not otherwise classified, May 15, 1997.
- (d) For each railroad commencing operations after the pertinent date specified in this section, the date on which operations commence.

Discussion:

Section 214.305 establishes the dates upon which the different classes of railroads must comply with the rule. FRA believes that staggering effective dates allows the largest number of workers who are exposed to the highest



level of risk to benefit from the On-Track Safety Program first. FRA hopes to be able to expedite the review process, as the smallest number of individual programs will be put in place by the major carriers. After this initial phase of reviews for Class I railroads, FRA will have established review policies and resolved many recurrent issues, making the larger number of reviews for smaller railroads more efficient. The experience gained through the initial phase of the review process will contribute to the next and larger phase of reviews. Although the rule formally establishes a later required effective date on smaller railroads, this would not prevent smaller railroads from implementing their programs sooner.

The Preamble of the Final Rule of December 16, 1996, also states:

**Dates:** Effective Dates: This rule is effective January 15, 1997. Each railroad must notify the FRA not less than 30 days before their respective date for compliance. Each railroad must be in compliance with this rule no later than the date specified in the following schedule: For each Class I railroad (including National Railroad Passenger Corporation) and each railroad providing commuter service in a metropolitan or suburban area, March 15, 1997; For each Class II railroad, April 15, 1997; For each Class III railroad, switching and terminal railroad, and any railroad not otherwise classified, May 15, 1997; For each railroad commencing operations after the pertinent date specified in this paragraph, the date on which operations commence.

Penalty Schedule:

214.305 Compliance Dates.

Failure of a railroad to comply by the specified dates.....	\$5,000.....\$10,000
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Deficiency Codes:

305.01 Failure of a railroad to comply by the specified dates

**§ 214.307 Review and approval of individual on-track safety programs by FRA.**

(a) Each railroad shall notify, in writing, the Associate Administrator for Safety, Federal Railroad Administration, RRS-15, 400 Seventh Street SW, 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, the address of the office at which the program documents are available for review and photocopying by representatives of the Federal Railroad Administrator, 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.

(b) After receipt of the notification from the railroad, the Federal Railroad Administration will conduct a formal review of the on-track safety program. The Federal Railroad Administration will notify the primary railroad contact person of the results of the review, in writing, whether the on-track safety program or changes to the program have been approved by the Administrator, and if not approved, the specific points in which the program or changes are deficient.

(c) A railroad's on-track safety program will take effect by the established compliance dates in § 214.305, without regard to the date of review or approval by the Federal Railroad Administration. Changes to a railroad's program will take effect on dates established by each railroad without regard to the date of review and approval by the Federal Railroad Administration.

#### Discussion:

Section 214.307 specifies the process for review and approval of each railroad's on-track safety program by FRA. The intent of the review and approval is to be constructive, rather than restrictive. FRA prefers that a review of each program take place at the railroad because an open discussion of the program would be beneficial to all concerned. The effective date of a railroad's program will not be delayed by FRA's scheduling of a review, or granting approval. The railroad will be responsible for compliance with this rule regardless of FRA review or approval of its program.

Likewise, a railroad may amend its program following FRA approval without prior approval of the amendment from FRA. Of course, should FRA later disapprove the amendment, the program would have to be changed to secure FRA's approval. The railroad will still be responsible for compliance with this rule, and subject to compliance monitoring and enforcement by FRA.

FRA will make every effort, when requested, to provide a timely review of a program or amendment before its effective date, and to assist in any manner possible to enhance the on-track safety afforded to roadway workers.

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 on-track safety program to FRA for review and approval.

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.

The rule does not specifically call for the involvement of employees or their representatives in the program design or review process, because the responsibility for the program's compliance with this rule lies with the

employer. However, it should be noted that this rule itself is the product of a successful proceeding in which management, employee representatives and the Federal government were fully involved from the beginning. That fact should be an encouragement to all concerned to realize that the success of an on-track safety program will require the willing cooperation of all persons whose duties or personal safety are affected by the program.

Penalty Schedule:

214.307	Review and approval of individual on-track safety programs by FRA		
(a) (i)	Failure to notify FRA of adoption of On-track Safety Program .....	\$1,000	\$5,000
(ii)	Failure to designate primary person to contact for program review .....	\$1,000	\$2,000

Deficiency Codes:

- 307.01 Failure to notify FRA of adoption of On-track Safety Program
- 307.03 Failure to designate primary person to contact for program review

**§ 214.309 On-track safety program documents.**

Rules and operating procedures governing track occupancy and protection shall be maintained together in one manual and be readily available to all roadway workers. Each roadway worker responsible for the on-track safety of others, and each lone worker, shall be provided with and shall maintain a copy of the program document.

Discussion:

Section 214.309 specifies the type of on-track safety manual each railroad must have. Essentially, 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.

All on-track safety rules could be placed together as an on-track safety section of an already existent manual. FRA is aware that many railroads use a binder system for railroad manuals. Adding a section to such a binder might be less burdensome than creating a separate manual, and would clearly comply with this provision.

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.

This section also sets forth the responsibility of the employer to provide this 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. Workers who are responsible for the protection of others must have the manual at the work site for easy reference. Lone workers must also have this manual easily available to them. FRA does not intend that the individual must necessarily have this manual on his or her person while performing work, but to have it available and readily accessible at the work site.

FRA also does not intend that all related operating rules, timetables or special instructions must be reproduced in this manual. Any related publications or documents should be cross-referenced in the On-Track Safety Manual and provided to employees whose duties require them.

Lastly, 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.

Penalty Schedule:

214.309	On-track safety program documents.		
(1)	On-track Safety Manual not provided to prescribed employees.....	\$2,000.....	\$5,000
(2)	On-track Safety Program documents issued in fragments.....	\$2,000.....	\$5,000

Deficiency Codes:

- 309.01 On-track Safety Manual not provided to prescribed employees
- 309.03 On-track Safety Program documents issued in fragments

**§ 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).

Discussion:

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 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 be 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 will be reviewed and approved in accordance with § 214.307(b). FRA will consider this written process during its review and approval of the overall on-track safety submission. FRA will consider whether 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.

Penalty Schedule:

214.311 Responsibility of employers.	
(b) Roadway worker required by employer to foul a track during an unresolved challenge.....	\$5,000....\$10,000
(c) Roadway workers not provided with written procedure to resolve challenges of on-track safety procedures .....	\$5,000....\$10,000

Deficiency Codes:

- 311.01 Roadway worker required by employer to foul a track during an unresolved challenge
- 311.03 Roadway workers not provided with written procedure to resolve challenges of on-track safety procedures

**§ 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.

Discussion:

Section 214.313 addresses the individual responsibility of each roadway worker. 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.

Penalty Schedule:

214.313 Responsibility of individual roadway workers.	
(b) Roadway worker fouling a track when not necessary in the performance of duty .....	\$1,000
(c) Roadway worker fouling a track without ascertaining that provision is made for on-track safety .....	\$1,500
(d) Roadway worker failing to notify employer of determination of improper on-track safety provisions .....	\$3,000

Deficiency Codes:

- 313.01 Roadway worker fouling a track when not necessary in the performance of duty
- 313.03 Roadway worker fouling a track without ascertaining that provision is made for on-track safety
- 313.05 Roadway worker failing to notify employer of determination of improper on-track safety provisions

**§ 214.315 Supervision and communication.**

(a) When an employer assigns duties to a roadway worker that call for that employee to foul a track, the employer shall provide the employee with a job briefing that includes information on the means by which on-track safety is to be provided, and instruction on the on-track safety procedures to be followed.

(b) A job briefing for on-track safety shall be deemed complete only after the roadway worker 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 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 designated person providing on-track safety for the group 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 a 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.

Discussion:

Section 214.315 details supervision and communication of on-track safety methods prior to working. 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.

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.

Paragraph (d) explains the duties of the roadway worker designated to provide on-track safety for the work group. Before roadway workers foul a track, the designated person must inform each roadway worker in the group of the on-track safety methods to be used at that time and location. Essentially, the designated person 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.

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 when 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.

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 means by which he plans 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.

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.

Penalty Schedule:

214.315	Supervision and communication		
(a)	Failure of employer to provide job briefing .....	\$2,000	.....\$10,000
(b)	Incomplete job briefing .....	\$2,000	.....\$5,000
(c) (i)	Failure to designate roadway worker in charge of roadway work group.....	\$2,000	.....\$5,000
(c) (ii)	Designation of more than one roadway worker in charge of one roadway work group. ....	\$1,000	.....\$2,000
(c) (iii)	Designation of non-qualified roadway worker in charge of roadway work group.....	\$3,000	.....\$6,000
(d) (i)	Failure to notify roadway workers of on-track safety procedures in effect.....	\$3,000	.....\$6,000
(d) (ii)	Incorrect information provided to roadway workers regarding on-track safety procedures in effect. ....	\$3,000	.....\$6,000
(d) (iii)	Failure to notify roadway workers of change in on-track safety procedures.....	\$3,000	.....\$6,000
(e) (i)	Failure of lone worker to communicate with designated employee for daily job briefing.....		.....\$1,500
(e) (ii)	Failure of employer to provide means for lone worker to receive daily job briefing.....	\$3,000	
		\$6,000	

Deficiency Codes:

- 315.01 Failure of employer to provide job briefing
- 315.03 Incomplete job briefing
- 315.05 Failure to designate roadway worker in charge of roadway work group
- 315.07 Designation of more than one roadway worker in charge of one roadway work group.
- 315.09 Designation of non-qualified roadway worker in charge of roadway work group
- 315.11 Failure to notify roadway workers of on-track safety procedures in effect.
- 315.13 Incorrect information provided to roadway workers regarding on-track safety procedures in effect.
- 315.15 Failure to notify roadway workers of change in on-track safety procedures.
- 315.17 Failure of lone worker to communicate with designated employee for daily job briefing.
- 315.19 Failure of employer to provide means for lone worker to receive daily job briefing

**§ 214.317 On-track safety procedures, generally.**

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 of this part.

Discussion:

Section 214.317 refers to the following 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 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 nominal width of the rail, the rail spacing can be taken as 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 paragraph § 214.339(c) (Roadway maintenance machines) and is discussed in the analysis of that section.

The report of the Advisory Committee includes the statement that "The provisions of restricted speed do not solely provide protection for track equipment, or roadway workers, performing maintenance." The rule does not recognize restricted speed as a sole means of providing on-track safety.

The Advisory Committee also found, and FRA agrees, that although the definitions of "restricted speed" found in this rule and in use throughout the railroad industry provide adequate separation between trains and on-track machines in a traveling mode, a blanket provision that would rely upon restricted speed to protect persons working while fouling the track would not be effective. Individual locations at which unusual circumstances could result in sufficient protection for roadway workers from trains moving at restricted speed would be addressed by FRA through the waiver process.

Penalty Schedule:

214.317 On-track safety procedures, generally	
On-track safety rules conflict with this part .....	\$5,000.....\$10,000

Deficiency Codes:

317.01 On-track safety rules conflict with this part

**§ 214.319 Working limits, generally.**

Working limits established on controlled track shall conform to the provisions of § 214.321 Exclusive track occupancy, or § 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. Working limits established under any procedure shall, in addition, conform to the following provisions:

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

(b) Only one roadway worker shall have control over working limits on any one segment of track.

(c) 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 of this subpart.

**Discussion:**

*Working limits* is an on-track safety measure which when established 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.

Paragraphs (a) and (b) 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.

Paragraph (c) 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.

Paragraph (d) addresses the procedure when working limits are released. It requires that all affected roadway workers 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.

Penalty Schedule:

214.319 Working limits, generally	
(a) Non-qualified roadway worker in charge of working limits .....	\$5,000....\$10,000
(b) More than one roadway worker in charge of working limits on the same track segment .....	\$2,000.....\$5,000
(c) (1) Working limits released without notifying all affected roadway workers.....	\$5,000....\$10,000
(c) (2) Working limits released before all affected roadway workers are otherwise protected .....	\$5,000....\$10,000

Deficiency Codes:

- 319.01 Non-qualified roadway worker in charge of working limits
- 319.03 More than one roadway worker in charge of working limits on the same track segment
- 319.05 Working limits released without notifying all affected roadway workers
- 319.07 Working limits released before all affected roadway workers are otherwise protected

**§ 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 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 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.

(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.

(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 having control over the working limits. Such movements shall be restricted speed unless a higher speed has been specifically authorized by the roadway worker in charge of the working limits.

#### Discussion:

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.



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.

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. 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.

Paragraph (d) allows a railroad to permit the movement of trains and equipment in working limits under the control of the roadway worker in charge. 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 will be under the direct authority of the roadway worker in charge, who must take the necessary steps to properly direct the train movement as well as protecting the roadway workers and machines at the worksite.

Paragraph (d) also requires that trains and other equipment moving through working limits under the authority of the roadway worker in charge move at restricted speed unless higher speed is specifically authorized by the roadway worker in charge. 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 roadway worker in charge to specify the speed of trains and equipment through the working limits.

Many different situations will arise in the application of this section. For instance, a roadway worker in charge 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.

Penalty Schedule:

214.321 Exclusive track occupancy		
(b) Improper transmission of authority for exclusive track occupancy .....	\$.2,000..	\$5,000
(b) (1) Failure to repeat authority for exclusive track occupancy to issuing employee .....		\$1,500
(b) (2) Failure to retain possession of written authority for exclusive track occupancy .....		\$1,000
(b) (3) Failure to record authority for exclusive track occupancy when issued.....		\$2,000
(c) Limits of exclusive track occupancy not identified by proper physical features.....	\$2,000	
\$4,000 .....	(d)	
	\$.5,000	\$10,000
(d) (2) Movement authorized within limits of exclusive track occupancy without authority of roadway worker in charge.....	\$.5,000	\$10,000
(d) (3) Movement within limits of exclusive track occupancy exceeding restricted speed without authority of roadway worker in charge	\$.5,000	\$10,000

Deficiency Codes:

- 321.01 Improper transmission of authority for exclusive track occupancy.
- 321.03 Failure to repeat authority for exclusive track occupancy to issuing employee.
- 321.05 Failure to retain possession of written authority for exclusive track occupancy.
- 321.07 Failure to record authority for exclusive track occupancy when issued.
- 321.09 Limits of exclusive track occupancy not identified by proper physical features.
- 321.11 Movement authorized into limits of exclusive track occupancy without authority of roadway worker in charge
- 321.13 Movement authorized within limits of exclusive track occupancy without authority of roadway worker in charge
- 321.15 Movement within limits of exclusive track occupancy exceeding restricted speed without authority of roadway worker in charge

**§ 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 to move into or within the working limits during the foul time period.

(b) Each roadway worker to whom foul time is transmitted orally shall repeat the track number, 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 onto the working limits protected by foul time until the roadway worker who obtained the foul time has reported clear of the track.

**Discussion:**

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.

**Penalty Schedule:**

214.323 Foul time	
(a) Foul time authority overlapping movement authority of train or equipment .....	\$5,000 .....\$10,000
(b) Failure to repeat foul time authority to issuing employee .....	.....\$1,500

**Deficiency Codes:**

- 323.01 Foul time authority overlapping movement authority of train or equipment
- 323.03 Failure to repeat foul time authority to issuing employee

**§ 214.325 Train coordination**

Working limits established by a roadway worker 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.

Discussion from Final Rule of December 16, 1996:

#### *Emergency Procedures/Train Coordination*

Commenters suggested that a provision be added to the rule permitting 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. Under the proposed rule, the roadway workers would be unable to establish working limits because of the presence of the train and the inability to immediately communicate with the dispatcher. The Advisory Committee discussed this question at the July 12 meeting. Various members clearly stated their need for such a provision, as well as their concerns regarding potential problems associated with it. The Advisory Committee did not reach consensus on the question.

However, FRA has considered the concerns expressed by the Advisory Committee. FRA believes that a form of on-track safety can be arranged whereby a roadway worker or a roadway work group would be protected by the movement authority of a train. The method prescribed by FRA, termed *Train Coordination*, incorporates all the safeguards necessary to protect the roadway workers from train movements, and addresses the concerns of the commenters as well. FRA independently expanded the concept discussed in the comments and by the Advisory Committee. FRA believes that, rather than restricting this provision to emergency situations, it should be crafted for

use 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.

Penalty Schedule:

214.325 Train coordination

(a) Train coordination limits established where more than one train is authorized to operate.....	\$1,500.....	\$4,000
(b) (1) Train coordination established with train not visible to roadway worker at the time.....	\$1,500.....	(b).....\$1,500
(b) (3) Coordinated train moving without authority of roadway worker in charge.....	\$2,000.....	\$5,000
(b) (4) Coordinated train releasing movement authority while working limits are in effect .....	\$3,000.....	\$6,000

Deficiency Codes:

- 325.01 Train coordination limits established where more than one train is authorized to operate
- 325.03 Train coordination established with train not visible to roadway worker at the time
- 325.05 Train coordination established with moving train
- 325.07 Coordinated train moving without authority of roadway worker in charge
- 325.09 Coordinated train releasing movement authority while working limits are in effect

**§ 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.

(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.

#### Discussion:

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 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)(5) detail the physical features that may be used to block access to non-controlled track within working limits.

The term *discontinuity in the rail* in subparagraph (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. Of course, the rules of the railroad would specify the manner in which trains would be protected from derailing on a discontinuous rail.

Subparagraph (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.

Subparagraph (a)(4) might also be used by a railroad to establish working limits within a remotely 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.

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.

Penalty Schedule:

214.327	Inaccessible track		
	(a) Improper control of entry to inaccessible track .....	\$3,000	.....\$6,000
	(a) (5) Remotely controlled switch not properly secured		
	by control operator .....	\$3,000	.....\$6,000
	(b) Train or equipment moving within inaccessible		
	track limits without permission of roadway worker in .....	\$3,000	.....\$6,000
	charge .....		
	(c) Unauthorized train or equipment located within		
	inaccessible track limits .....	\$2,000	.....\$5,000

Deficiency Codes:

327.01 Improper control of entry to inaccessible track

- 327.03 Remotely controlled switch not properly secured by control operator
- 327.05 Train or equipment moving within inaccessible track limits without permission of roadway worker in charge
- 327.07 Unauthorized train or equipment located within inaccessible track limits

**§ 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 speed authorized on that track can pass the location of the roadway worker.

(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.

**Discussion:**

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 would be useful to the understanding of this section. Section 214.329 specifies the circumstances and the 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.

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. The *warned employee* is not necessarily another 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 may also be used as a supplement, but extreme care must be taken to guard against non-communication in the event of a radio failure. In particular, the portable radios commonly used for such purposes might suffer battery failure with no warning, thus breaking a vital communication link.

This section further imposes a duty upon the employer to provide the watchman/lookout employee with the requisite equipment necessary to carry out his on-track safety duties. It is intended that a railroad's on-track safety program would specify the means to be used by watchmen/lookouts to communicate a warning, and that they be equipped according to that provision.

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.

#### Penalty Schedule:

214.329 Train approach warning provided by watchmen/lookouts

(a) Failure to give timely warning of approaching train .....	\$5,000	
(b) (1) Failure of watchman/lookout to give full attention to detecting approach of train .....	\$3,000	
(b) (2) Assignment of other duties to watchman/lookout .....	\$3,000	\$5,000
(c) Failure to provide proper warning signal devices .....	\$2,000	\$5,000
(d) Failure to maintain position to receive train approach warning signal .....	\$2,000	
(e) Failure to communicate proper warning signal.....	\$1,500	\$3,000
(f) (1) Assignment of non-qualified person as watchman/lookout.....	\$3,000	\$5,000
(f) (2) Non-qualified person accepting assignment as watchman/lookout .....	\$1,500	
(g) Failure to properly equip a watchman/lookout.....	\$2,000	\$4,000

Deficiency Codes:

- 329.01 Failure to give timely warning of approaching train
- 329.03 Failure of watchman/lookout to give full attention to detecting approach of train
- 329.05 Assignment of other duties to watchman/lookout
- 329.07 Failure to provide proper warning signal devices
- 329.09 Failure to maintain position to receive train approach warning signal
- 329.11 Failure to communicate proper warning signal
- 329.13 Assignment of non-qualified person as watchman/lookout
- 329.15 Non-qualified person accepting assignment as watchman/lookout
- 329.17 Failure to properly equip a watchman/lookout

**§ 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.

#### Discussion:

Section 214.331 describes a system of on-track safety which provides roadway workers with information as to the earliest times at which trains may leave certain stations, having been restricted at those stations by the train dispatcher or control operator. This form of on-track safety is called Definite Train Location. A reference to its definition is helpful to distinguish it from an informational lineup of trains, which is addressed in § 214.333.

Paragraph (a) limits the use of definite train location for on-track safety by Class I railroads to track where such a system was already in use on the effective date of this rule.

Paragraph (b) requires that a Class I railroad using a definite train location system must phase it out according to a schedule submitted to FRA with that railroad's on-track safety program.

Paragraph (c) establishes that definite train location can be used on certain subdivisions owned by railroads other than Class I railroads under certain specified conditions. These conditions include whether the system was in use before the effective date of this rule, or whether the subdivision has railroad traffic density below certain levels specified in that section during periods when roadway workers are normally on and about the track. Advisory Committee members felt that the amount and frequency of the traffic on a particular track dictated whether this form of on-track safety was feasible. FRA therefore proposes to incorporate this factor into the rule to allow some short lines and regional railroads to utilize this system.

Paragraph (d) and corresponding subparagraphs (1) through (6) set forth the requirements for a definite train location system and the qualifications that a roadway worker must have before using this system as a form of on-track safety.

Penalty Schedule:

214.331 Definite train location		
(a) Definite train location established where prohibited . . . . .	\$3,000	\$5,000
(b) Failure to phase out definite train location by required date . . . . .	\$3,000	\$5,000
(d) (1) Train location information issued by unauthorized person . . . . .	\$2,000	\$5,000
(d) (2) Failure to include all trains operated on train location list . . . . .	\$3,000	\$5,000
(d) (5) Failure to clear a by ten minutes at the last station at which time is shown . . . . .		\$2,000
(d) (6) Train passing station before time shown in train location list . . . . .	\$3,000	\$5,000
(d) (7) Non-qualified person using definite train location to establish on-track safety . . . . .	\$2,000	\$3,000

Deficiency Codes:

- 331.01 Definite train location established where prohibited
- 331.03 Failure to phase out definite train location by required date
- 331.05 Train location information issued by unauthorized person
- 331.07 Failure to include all trains operated on train location list
- 331.09 Failure to clear a by ten minutes at the last station at which time is shown
- 331.11 Train passing station before time shown in train location list

331.13 Non-qualified person using definite train location to establish on-track safety

**§ 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 include a schedule for discontinuance of the procedure by a definite date.

**Discussion:**

Section 214.333 specifies conditions for the use of informational line-ups of trains. Some railroads have used a form of informational line-ups to provide on-track safety for roadway workers for many years. Such a procedure requires the roadway worker to have a full understanding of the particular procedure in use, and the physical characteristics of the territory in which they are working. The Advisory Committee addressed this issue with the following specific recommendation:

*The Committee realizes that line-ups are being used less as a form of protection in the industry and recommends that line-up use be further reduced, eventually discontinued and replaced with Positive Protection as quickly as feasible, grand fathering line-up systems presently in use.*

Line-ups as used in this section differ from lists of trains in § 214.329 in that line-ups need not include definite restriction as to the earliest times at which trains may depart stations. FRA therefore follows the Advisory Committee recommendation by allowing railroads presently using line-ups to continue doing so under conditions presently in effect, provided that their on-track safety programs that are reviewed and approved by FRA contain adequate provisions for safety, and a definite date for completion of phase-out.

This will be an item of particular concern when FRA reviews the roadway worker protection program of any railroad that includes a provision for informational line-ups. The program must include adequate provisions to ensure that roadway workers will not be surprised by trains while working. It must also include a realistic date for phase-out.

**Penalty Schedule:**

214.333	Informational line-ups of trains		
(a)	Informational line-ups of trains used for on-track safety where prohibited .....	\$3,000.....	\$5,000
(b)	Informational line-up procedures inadequate to protect roadway workers .....	\$5,000....	\$10,000
(c)	Failure to discontinue informational line-ups by required date .....	\$5,000....	\$10,000

Deficiency Codes:

- 333.01 Informational line-ups of trains used for on-track safety where prohibited
- 333.03 Informational line-up procedures inadequate to protect roadway workers
- 333.05 Failure to discontinue informational line-ups by required date

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

(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 and 214.331 of this part.

(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 responsible for the on-track safety of the roadway work group that on-track safety is provided.

(c) Roadway work groups engaged in large-scale maintenance or construction shall be provided with train approach warning in accordance with § 214.329 (*§ 214.327 in original, to be corrected*) for movements on adjacent tracks that are not included within working limits.

Discussion:

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. The definition of roadway work group enables the distinction between general methods of providing on-track safety for groups and for individuals working alone. Examples of roadway work groups are 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.

The reciprocal responsibility for the roadway worker is expressed in Paragraph (b). He should not foul a track without having been informed by the roadway worker in charge that on-track safety is being provided.

The concept of protecting roadway workers from the hazards of trains and other on-track equipment on adjacent tracks is also important in this rule. A reference to the definition of adjacent tracks will clarify the meaning of paragraph (c) which details the conditions under which train approach warning must be used on adjacent tracks that are not within working limits. These are conditions in which the risk of distraction is significant, and which require measures to provide on-track safety on adjacent tracks.

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. This issue was addressed in the report of the Advisory Committee with the recommendation:

*Before performing any work that requires Fouling the track or Adjacent Track(s) Positive Protection must be obtained and verified to be in effect by the roadway worker assigned responsibility for the work. Large scale track maintenance and/or renovations, such as but not limited to, rail and tie gangs, production in-track welding, ballast distribution, and undercutting, must have Positive Protection on Adjacent Tracks as well.*

FRA will consider the provisions made for this situation when reviewing each railroad's on-track safety program.

The spacing of less than 25 feet between track centers, which defines adjacent tracks for the purpose of this rule, represents a consensus decision of the Advisory Committee. Several railroads have recently extended their lateral track spacing to 25 feet. Tracks spaced at that distance may not cause a hazard to employees in one track from trains and equipment moving on the other track. FRA believes that no purpose would be served by requiring these tracks to be again spaced at a slightly greater distance. Therefore, tracks spaced at 25 feet are not defined as adjacent tracks, but tracks spaced at a lesser distance will be so defined. Tracks that converge or cross will be considered as adjacent tracks in the zone through which their centers are less than 25 feet apart.

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.

Penalty Schedule:

214.335	On-track safety procedures for roadway work groups		
(a)	Failure to provide on-track safety for a member of a roadway work group .....	\$3,000.....	\$5,000
(b)	Member of roadway work group fouling a track without authority of employee in charge.....		\$2,000
(c)	Failure to provide train approach warning or working limits on adjacent track where required .....	\$3,000.....	\$5,000

Deficiency Codes:

- 335.01 Failure to provide on-track safety for a member of a roadway work group
- 335.03 Member of roadway work group fouling a track without authority of employee in charge
- 335.05 Failure to provide train approach warning or working limits on adjacent track where required

**§ 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, 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.

#### Discussion:

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.

Paragraph (b) represents the clear consensus of the Advisory Committee 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 prohibit it would be subject to review. This provision was stated by the Advisory Committee as part of its Specific Recommendation 3, which part reads, "All roadway workers have the absolute right to obtain positive protection at any time and under any circumstances if they deem it necessary, or to be clear of the track if adequate protection is not provided."

Paragraph (c) 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.

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.

It is important to note that the Advisory Committee decided that the use of individual train detection is appropriate only in limited circumstances. FRA has therefore drafted this section to prescribe strictly limited circumstances in which an individual may foul a track outside of working limits while definitely able to detect the approach of a train or other on-track equipment in ample time to move to a place of safety. 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.

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.

Penalty Schedule:

214.337 On-track safety procedures for lone workers .....		
(b) Failure by employer to permit individual discretion in use of individual train detection .....	\$5,000.....	\$10,000
(c) (1) Individual train detection used by non-qualified employee .....	\$2,000.....	\$4,000
(c) (2) Use of individual train detection while engaged in heavy or distracting work .....		\$2,000
(c) (3) Use of individual train detection in controlled point or manual interlocking.....		\$2,000
(c) (4) Use of individual train detection with insufficient visibility .....		\$2,000
(c) (5) Use of individual train detection with interfering noise .....		\$2,000
(c) (6) Use of individual train detection while a train is passing .....		\$3,000
(d) Failure to maintain access to place of safety clear of live tracks .....		\$2,000
(e) Lone worker unable to maintain vigilant lookout .....		\$2,000
(f) (1) Failure to prepare written statement of on-track safety .....		\$1,500
(f) (2) Incomplete written statement of on-track safety .....		\$1,000
(f) (3) Failure to produce written statement of on-track safety to FRA.....		\$1,500

Deficiency Codes:

- 337.01 Failure by employer to permit individual discretion in use of individual train detection
- 337.03 Individual train detection used by non-qualified employee
- 337.05 Use of individual train detection while engaged in heavy or distracting work
- 337.07 Use of individual train detection in controlled point or manual interlocking
- 337.09 Use of individual train detection with insufficient visibility
- 337.11 Use of individual train detection with interfering noise
- 337.13 Use of individual train detection while a train is passing
- 337.15 Failure to maintain access to place of safety clear of live tracks
- 337.17 Lone worker unable to maintain vigilant lookout
- 337.19 Failure to prepare written statement of on-track safety
- 337.21 Incomplete written statement of on-track safety
- 337.23 Failure to produce written statement of on-track safety to FRA

**§ 214.339 Audible warning from trains.**

Each railroad shall require that the locomotive whistle be sounded, and the locomotive bell be rung, by trains approaching roadway workers on or about the track. Such audible warning shall not substitute for on-track safety procedures prescribed in this part.

Discussion:

Section 214.337 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 not optional with a railroad, and FRA intends that it will preempt any local restrictions on the sounding of locomotive whistles.

The only mention of highly visible clothing in the regulation is found in the section analysis related to this provision. The type of clothing or other visible indication of the presence of roadway workers is left to the option of the railroad. The method to be used by the railroad should be practical and effective, considering the varying situations on different railroads. It should be an item of particular interest in the FRA review of a railroad's program.

Penalty Schedule:

214.339 Audible warning from trains		
(a) Failure to require audible warning from trains .....	\$2,000 .....	\$4,000
(b) Failure of train to give audible warning where required .....	\$1,000 .....	\$3,000

Deficiency Codes:

- 339.01 Failure to require audible warning from trains
- 339.03 Failure of train to give audible warning where required

**§ 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 complete knowledge of the safety instructions applicable to that machine.

(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.

Discussion:

Section 214.341 addresses specific issues concerning roadway maintenance machines that need to be included in individual railroad program submissions. 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.

FRA believes that it is most effective to promulgate a general requirement for on-track safety around roadway maintenance machines, and require that the details be provided by railroad management, conferring with their employees, and industry suppliers. Several railroads have adopted comprehensive rules that accommodate present and future machine types, as well as their own operating requirements. FRA has seen the text of such rules, as well as witnessed their application and believes that they can set examples for other railroads. 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.

#### Penalty Schedule:

214.341 Roadway maintenance machines

(a) Failure of on-track safety program to include provisions for safety near roadway maintenance machines .....	\$3,000	
\$5,000 .....	(b) \$2,000	\$4,000
(b) (1) Assignment of non-qualified employee to operate machine .....	\$2,000	\$5,000
(b) (2) Operator unfamiliar with safety instructions for machine	\$2,000	\$5,000
(b) (3) Roadway worker working with unfamiliar machine .....	\$2,000	\$5,000
(c) Roadway maintenance machine not clear of passing trains	\$3,000	\$6,000

Deficiency Codes:

- 341.01 Failure of on-track safety program to include provisions for safety near roadway maintenance machines
- 341.03 Failure to provide operating instructions
- 341.05 Assignment of non-qualified employee to operate machine
- 341.07 Operator unfamiliar with safety instructions for machine
- 341.09 Roadway worker working with unfamiliar machine
- 341.11 Roadway maintenance machine not clear of passing trains

**§ 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) 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.

Discussion:

Section 214.343 requires that each roadway worker be given on-track safety training once every calendar year. Adequate training is integral to any safety program. Hazards exist along a railroad, not all of which 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. Written or electronic records must be kept of these qualifications, available for inspection and copying by the Administrator.

The term "demonstrated proficiency" is used in this and other sections relative to employee qualification in a broad sense to mean that the employee being qualified would 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 in accordance with the requirements of this subpart.

Enforcement of training provisions of this regulation will use the provisions of § 214.343. The following sections related to training, §§ 214.345 through 214.355, provide specific training requirements for various classes of roadway worker employees, but the enforceable provisions are found in § 214.343.

Penalty Schedule:

214.343 Training and qualification, general	
(a) (1) Failure of railroad program to include training provisions .....	\$5,000.....\$10,000
(a) (2) Failure to provide initial training .....	\$3,000.....\$6,000
(b) Failure to provide annual training .....	\$2,500.....\$5,000
(c) Assignment of non-qualified railroad employees to provide on-track safety .....	\$4,000.....\$8,000
(d) (1) Failure to maintain records of qualifications.....	\$2,000.....\$4,000
(d) (2) Incomplete records of qualifications.....	\$1,000.....\$3,000
(d) (3) Failure to provide records of qualifications to FRA.....	\$2,000.....\$4,000

Deficiency Codes:

- 343.01 Failure of railroad program to include training provisions
- 343.03 Failure to provide initial training
- 343.05 Failure to provide annual training
- 343.07 Assignment of non-qualified railroad employees to provide on-track safety
- 343.09 Failure to maintain records of qualifications
- 343.11 Incomplete records of qualifications
- 343.13 Failure to provide records of qualifications to FRA

**§ 214.345 Training for all roadway workers.**

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.

Discussion:

Section 214.345 represents the basic level of training required of all roadway workers who work around moving railroad trains and on-track equipment. 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 qualification need not be written, because the requirements can be fulfilled by a practical demonstration of ability and understanding.

Penalty Schedule:

None

Deficiency Codes:

None



### **§ 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.

(b) Initial and periodic qualification of a lone worker shall be evidenced by demonstrated proficiency.

#### **Discussion:**

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 influenced to use individual train detection by a lack of qualification to establish a more positive form of on-track safety. The lone worker should be qualified to use all available options for on-track safety.

#### **Penalty Schedule:**

None

#### **Deficiency Codes:**

None

### **§ 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 qualification of a watchman/lookout shall be evidenced by demonstrated proficiency.

Discussion:

Section 214.349 details the standards for qualification of a lookout, who by definition is responsible for the protection of others. 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.

Penalty Schedule:

None

Deficiency Codes:

None

**§ 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 qualification of a flagman shall be evidenced by demonstrated proficiency.

Discussion:

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 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.

Penalty Schedule:

None

Deficiency Codes:

None

**§ 214.353 Training and qualification of roadway workers who provide on-track safety for roadway work groups.**

(a) The training and qualification of roadway workers who provide for the on-track safety of groups of roadway workers through establishment of

working limits or the assignment and supervision of watchmen/lookouts or flagmen shall include, as a minimum:

(1) All the on-track safety training and qualification required of the roadway workers to be supervised and protected.

(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.

(b) Initial and periodic qualification of a roadway worker to provide on track safety for groups shall be evidenced by a recorded examination.

**Discussion:**

Section 214.353 details training standards applicable to the roadway worker who is qualified to provide 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.

This section is unique in this subpart in requiring a recorded examination as part of the qualification process. This requirement reflects the additional responsibility of this position. The recorded examination might be written, or it might be, for example, a computer file with the results of an interactive training course.

**Penalty Schedule:**

None

**Deficiency Codes:**

None

**§ 214.355 Training and qualification 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 qualification of a roadway worker to operate roadway maintenance machines shall be evidenced by demonstrated proficiency.

Discussion:

Section 214.355 requires training for those roadway workers operating roadway maintenance machines. 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.

Penalty Schedule:

None

Deficiency Codes: No

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**Code of Federal Regulations**

**Title 49, Transportation**

**Part 214**

**Railroad Workplace Safety**

Including:

- Subpart A - General**
- Subpart B - Bridge Worker Safety Standards**
- Subpart C - Roadway Worker Protection**
- Penalty Schedule**
- Deficiency Codes**

This document is a combination of Part 214, the Bridge Worker Safety Standards, as it existed on December 15, 1996, and the Roadway Worker Safety Protection Standards that were added by the Final Rule published in the Federal Register on December 16, 1996. It was compiled by the Office of Safety Assurance and Compliance of the Federal Railroad Administration for the convenience of FRA safety personnel, and others who may have occasion to refer to the regulation.

The official text of the entire regulation is found in the Federal Register, and the compilation published every year by the Superintendent of Documents, U.S. Government Printing Office. In any discrepancies, the official text governs.

Several anomalies in the rule text have been noted, and will be corrected by FRA. They are shown herein as such, with both the published and intended language.

**U. S. Department of Transportation  
Federal Railroad Administration  
Office of Safety Assurance and Compliance**

**December 16, 1996**

**TITLE 49 CODE OF FEDERAL REGULATIONS  
PART 214—RAILROAD WORKPLACE SAFETY**

**Subpart A - General**

Sec.

- 214.1 Purpose and scope.
- 214.3 Application.
- 214.4 Preemptive effect.
- 214.5 Responsibility for compliance.
- 214.7 Definitions.

**Subpart B - Bridge Worker Safety Standards**

- 214.101 Purpose and scope.
- 214.103 Fall protection, generally.
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- 214.107 Working over or adjacent to water.
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**Subpart C - Roadway Worker Protection**

- 214.301 Purpose and scope.
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- 214.303 Railroad on-track safety programs, generally.
- 214.305 Compliance dates
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- 214.311 Responsibility of employers.
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- 214.317 On-track safety procedures, generally.
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- 214.321 Exclusive track occupancy.
- 214.323 Foul time.
- 214.325 Train Coordination.
- 214.327 Inaccessible track.
- 214.329 Train approach warning provided by watchmen/lookouts.
- 214.331 Definite train location.
- 214.333 Information line-ups of trains.
- 214.335 On-track safety procedures for roadway work groups.
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- 214.339 Audible warning from trains.
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- 214.343 Training and qualification, general.
- 214.345 Training for all roadway workers.
- 214.347 Training and qualification for lone workers.

- 214.349 Training and qualification of watchmen/lookouts.
- 214.351 Training and qualification of flagmen.
- 214.353 Training and qualification of roadway workers who provide on-track safety for roadway work groups.
- 214.355 Training and qualification in on-track safety for operators of roadway maintenance machines.

APPENDIX A TO PART 214—SCHEDULE OF CIVIL PENALTIES.

AUTHORITY: 49 U.S.C. Chs. 210-213; 49 CFR 1.49.

**Subpart A - General**

**§ 214.1 - Purpose and Scope.**

(a) The purpose of this part is to prevent accidents and casualties to employees involved in certain railroad inspection, maintenance and construction activities.

(b) This part prescribes minimum Federal safety standards for the railroad workplace safety subjects addressed herein. This part does not restrict a railroad or railroad contractor from adopting and enforcing additional or more stringent requirements not inconsistent with this part.

**§ 214.3 - Application.**

This part applies to railroads that operate rolling equipment on track that is part of the general railroad system of transportation.

**§ 214.4 - Preemptive effect.**

Under 49 U.S.C. 20106 (formerly section 205 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 434)), issuance of the regulations in this part preempts any State law, rule, regulation, order, or standard covering the same subject matter, except a provision directed at an essentially local safety hazard that is not incompatible with this part and that does not unreasonably burden on interstate commerce.

**§ 214.5 - Responsibility for compliance.**

Any person (including a railroad and any manager, supervisor, official, or other employee or agent of a railroad or railroad contractor) who violates any requirement of this part or causes the violation of any such requirement is subject to a civil penalty of at least \$250 and not more than \$10,000 per violation, except that penalties may be assessed against individuals only for willful violations, and where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury, or has caused death or injury, a penalty not to exceed \$20,000 per violation may be assessed. See Appendix A to this part for a statement of agency civil penalty policy.

**§ 214.7 - Definitions.**

*Adjacent tracks* mean two or more tracks with track centers spaced less than 25 feet apart.

*Anchorage* means a secure point of attachment for lifelines, lanyards or deceleration devices that is independent of the means of supporting or suspending the employee.

*Body belt* means a strap that can be secured around the waist or body and attached to a lanyard, lifeline, or deceleration device.

*Body harness* means a device with straps that is secured about the employee (bridge worker) in a manner so as to distribute the fall arrest forces over (at least) the thighs, shoulders, pelvis, waist, and chest and that can be attached to a lanyard, lifeline, or deceleration device.

*Class I, Class II, and Class III* have the meaning assigned by, Title 49 Code of Federal Regulations part 1201, General Instructions 1-1.

*Competent person* means one who is capable of identifying existing and predictable hazards in the workplace and who is authorized to take prompt corrective measures to eliminate them.

*Control operator* means the railroad employee in charge of a remotely controlled switch or derail, an interlocking, or a controlled point, or a segment of controlled track.

*Controlled track* means track upon which the railroad's operating rules require that all movements of trains must be authorized by a train dispatcher or a control operator.

*Deceleration device* means any mechanism, including, but not limited to, rope grabs, ripstitch lanyards, specially woven lanyards, tearing or deforming lanyards, and automatic self-retracting lifelines/lanyards that serve to dissipate a substantial amount of energy during a fall

arrest, or otherwise limit the energy on an employee (bridge worker) during fall arrest.

*Definite train location* means a system for establishing on-track safety by providing

(b) Tamper resistant; and

(c) Designed to be applied, secured, uniquely tagged and removed only by the class, craft or group of employees for whom the protection is being provided.

*Employee* means an individual who is engaged or compensated by a railroad or by a contractor to a railroad to perform any of the duties defined in this part.

*Employer* means a railroad, or a contractor to a railroad, that directly engages or compensates individuals to perform any of the duties defined in this part.

*Equivalent* means alternative designs, materials, or methods that the railroad or railroad contractor can demonstrate will provide equal or greater safety for employees than the means specified in this part.

*Exclusive track occupancy* means a method of establishing working limits on controlled track in which movement authority of trains and other equipment is withheld by the train dispatcher or control operator, or restricted by flagmen, as prescribed in § 214.321 of this part.

*Flagman* when used in relation to roadway worker safety means an employee designated by the railroad to direct or restrict the movement of trains past a point on a track to provide on-track safety for roadway workers, while engaged solely in performing that function.

*Foul time* is a method of establishing working limits on controlled track in which a roadway worker is notified by the train dispatcher or control operator that no trains will operate within a specific segment of controlled track until the roadway worker reports clear of the track, as prescribed in § 214.323 of this part.

*Fouling a track* means the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment, or in any case is within four feet of the field side of the near running rail.

*Free fall* means the act of falling before the personal fall arrest system begins to apply force to arrest the fall.

*Free fall distance* means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and the point at which the system begins to apply force to arrest the fall. This distance excludes deceleration distance and lifeline and lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

roadway workers with information about the earliest possible time that approaching trains may pass specific locations as prescribed in § 214.331 of this part.

*Inaccessible track* means a method of establishing working limits on non-controlled track by physically preventing entry and movement of trains and equipment.

*Individual train detection* means a procedure by which a lone worker acquires on-track safety by seeing approaching trains and leaving the track before they arrive and which may be used only under circumstances strictly defined in this part.

*Informational line-up of trains* means information provided in a prescribed format to a roadway worker by the train dispatcher regarding movements of trains authorized or expected on a specific segment of track during a specific period of time.

*Lanyard* means a flexible line of rope, wire rope, or strap that is used to secure a body belt or body harness to a deceleration device, lifeline, or anchorage.

*Lifeline* means a component of a fall arrest system consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline) or to an anchorage at both ends to stretch horizontally (horizontal lifeline), and that serves as a means for connecting other components of a personal fall arrest system to the anchorage.

*Lone worker* means an individual roadway worker who is not being afforded on-track safety by another roadway worker, who is not a member of a roadway work group, and who is not engaged in a common task with another roadway worker.

*Non-controlled track* means track upon which trains are permitted by railroad rule or special instruction to move without receiving authorization from a train dispatcher or control operator.

*On-track safety* means a state of freedom from the danger of being struck by a moving railroad train or other railroad equipment, provided by operating and safety rules that govern track occupancy by personnel, trains and on-track equipment.

*Personal fall arrest system* means a system used to arrest the fall of an employee (bridge worker) from a working level. It consists of an anchorage, connectors, body harness or body belt, lanyard, deceleration device, lifeline, or combination of these.

*Qualified* means a status attained by an employee who has successfully completed any required training for, has demonstrated proficiency in, and has been authorized by the employer to perform the duties of a particular position or function.

*Railroad bridge* means a structure supporting one or more railroad tracks above land or water with a span length of 12 feet or more measured along the track centerline. This term applies to the entire structure

*Effective securing device* when used in relation to a manually operated switch or derail means one which is:

(a) Vandal resistant;

between the faces of the backwalls of abutments or equivalent components, regardless of the number of spans, and includes all such structures, whether of timber, stone, concrete, metal, or any combination thereof.

*Railroad bridge worker* or *bridge worker* means any employee of, or employee of a contractor of, a railroad owning or responsible for the construction, inspection, testing, or maintenance of a bridge whose assigned duties, if performed on the bridge, include inspection, testing, maintenance, repair, construction, or reconstruction of the track, bridge structural members, operating mechanisms and water traffic control systems, or signal, communication, or train control systems integral to that bridge.

*Restricted speed* means a speed that will permit a train or other equipment to stop within one-half the range of vision of the person operating the train or other equipment, but not exceeding 20 miles per hour, unless further restricted by the operating rules of the railroad.

*Roadway maintenance machine* means a device powered by any means of energy other than hand power which is being used on or near railroad track for maintenance, repair, construction or inspection of track, bridges, roadway, signal, communications, or electric traction systems. Roadway maintenance machines may have road or rail wheels or may be stationary.

*Roadway work group* means two or more roadway workers organized to work together on a common task.

*Roadway worker* means any employee of a railroad, or of a contractor to a railroad, whose duties include inspection, construction, maintenance or repair of railroad track, bridges, roadway, signal and communication systems, electric traction systems, roadway facilities or roadway maintenance machinery on or near track or with the potential of fouling a track, and flagmen and watchmen/lookouts as defined in this section.

*Self-retracting lifeline/lanyard* means a deceleration device that contains a drum-wound line that may be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

*Snap-hook* means a connector comprised of a hook-shaped member with a normally closed keeper, that may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.



*Train approach warning* means a method of establishing on-track safety by warning roadway workers of the approach of trains in ample time for them to move to or remain in a place of safety in accordance with the requirements of this part.

*Train coordination* means a method of establishing working limits on track upon which a train holds exclusive authority to move whereby the crew of that train yields that authority to a roadway worker.

*Train dispatcher* means the railroad employee assigned to control and issue orders governing the movement of trains on a specific segment of railroad track in accordance with the operating rules of the railroad that apply to that segment of track.

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

*Working limits* means a segment of track with definite boundaries established in accordance with this part upon which trains and engines may move only as authorized by the roadway worker having control over that defined segment of track. Working limits may be established through "exclusive track occupancy," "inaccessible track," "foul time" or "train coordination" as defined herein.

*Note: The term "employee" found in the original Subpart B is intended to mean "bridge worker." The terminology will be corrected by editorial revision to the Rule to correspond with the new definition of "employee." It is here shown as "employee (bridge worker)" to distinguish the usage from the more general term "employee" as now used in the whole regulation.*

## **Subpart B - Bridge Worker Safety Standards**

### **§ 214.101 - Purpose and scope.**

(a) The purpose of this subpart is to prevent accidents and casualties arising from the performance of work on railroad bridges.

(b) This subpart prescribes minimum railroad safety rules for railroad employees performing work on bridges. Each railroad and railroad contractor may prescribe additional or more stringent operating rules, safety rules, and other special instructions not inconsistent with this subpart.

(5) Prior to use and after any component or system is changed, employees

(c) These provisions apply to all railroad employees, railroads, and railroad contractors performing work on railroad bridges.

(d) Any working conditions involving the protection of railroad employees working on railroad bridges not within the subject matter addressed by this Chapter, including respiratory protection, hazard communication, hearing protection, welding and lead exposure standards, shall be governed by the regulations of the U. S. Department of Labor, Occupational Safety and Health Administration.

### **§ 214.103 - Fall protection, generally.**

(a) Except as provided in paragraphs (b) through (d) of this section, when employees (bridge workers) work twelve feet or more above the ground or water surface, they shall be provided and shall use a personal fall arrest system or safety net system. All fall protection systems required by this section shall conform to the standards set forth in § 214.105 of this Subpart.

(b)(1) This section shall not apply if the installation of the fall arrest system poses a greater exposure to risk than the work to be performed. In any action brought by FRA to enforce the fall protection requirements, the railroad or railroad contractor shall have the burden of proving that the installation of such device poses greater exposure to risk than performance of the work itself.

(2) This section shall not apply to employees (bridge workers) engaged in inspection of railroad bridges conducted in full compliance with the following conditions:

(i) the railroad or railroad contractor has a written program in place that requires training in, adherence to, and use of safe procedures associated with climbing techniques and procedures to be used;

(ii) the employee (bridge worker) to whom this exception applies has been trained and qualified according to that program to perform bridge inspections, has been previously and voluntarily designated to perform inspections under the provisions of that program, and has accepted the designation;

(iii) the employee (bridge worker) to whom this exception applies is familiar with the appropriate climbing techniques associated with all bridge structures the employee (bridge worker) is responsible for inspecting;

(iv) the employee (bridge worker) to whom this exception applies is engaged solely in moving on or about the bridge or observing, measuring, and recording the dimensions and condition of the bridge and its components; and

(bridge workers) shall be trained in the application limits of the equipment, proper

(v) the employee (bridge worker) to whom this section applies is provided all equipment necessary to meet the needs of safety, including any specialized alternative systems required.

(c) This section shall not apply where employees (bridge workers) are working on a railroad bridge equipped with walkways and railings of sufficient height, width, and strength to prevent a fall, so long as employees (bridge workers) do not work beyond the railings, over the side of the bridge, on ladders or other elevation devices, or where gaps or holes exist through which a body could fall. Where used in place of fall protection as provided for in 214.105, this paragraph (c) is satisfied by:

(1) Walkways and railings meeting standards set forth in the American Railway Engineering Association's Manual For Railway Engineering; and

(2) Roadways attached to railroad bridges, provided that employees (bridge workers) on the roadway deck work or move at a distance six feet or more from the edge of the roadway deck, or from an opening through which a person could fall.

(d) This section shall not apply where employees (bridge workers) are performing repairs or inspections of a minor nature that are completed by working exclusively between the outside rails, including, but not limited to, routine welding, spiking, anchoring, spot surfacing, and joint bolt replacement.

### **§ 214.105 - Fall protection systems standards and practices.**

(a) *General Requirements.* All fall protection systems required by this Subpart shall conform to the following:

(1) Fall protection systems shall be used only for employee (bridge worker) fall protection.

(2) Any fall protection system subjected to impact loading shall be immediately and permanently removed from service unless fully inspected and determined by a competent person to be undamaged and suitable for reuse.

(3) All fall protection system components shall be protected from abrasions, corrosion, or any other form of deterioration.

(4) All fall protection system components shall be inspected prior to each use for wear, damage, corrosion, mildew, and other deterioration. Defective components shall be permanently removed from service.

hook-up, anchoring and tie-off techniques, methods of use, and proper methods of equipment inspection and storage.

(6) The railroad or railroad contractor shall provide for prompt rescue of employees (bridge workers) in the event of a fall.

(7) Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.

(8) Connectors shall be drop forged, pressed or formed steel, or made of equivalent-strength materials.

(9) Anchorages, including single- and double-head anchors, shall be capable of supporting at least 5,000 pounds per employee (bridge worker) attached, or shall be designed, installed, and used under the supervision of a qualified person as part of a complete personal fall protection system that maintains a safety factor of at least two.

(b) *Personal fall arrest systems.* All components of a personal fall arrest system shall conform to the following standards:

(1) Lanyards and vertical lifelines that tie off one employee (bridge worker) shall have a minimum breaking strength of 5,000 pounds.

(2) Self-retracting lifelines and lanyards that automatically limit free fall distance to two feet or less shall have components capable of sustaining a minimum static tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

(3) Self-retracting lifelines and lanyards that do not limit free fall distance to two feet or less, ripstitch, and tearing and deformed lanyards shall be capable of withstanding 5,000 pounds applied to the device with the lifeline or lanyard in the fully extended position.

(4) Horizontal lifelines shall be designed, installed, and used under the supervision of a competent person, as part of a complete personal fall arrest system that maintains a safety factor of at least two.

(5) Lifelines shall not be made of natural fiber rope.

(6) The personal fall arrest system shall limit the maximum arresting force on an employee (bridge worker) to 900 pounds when used with a body belt.

(7) The personal fall arrest system shall limit the maximum arresting force on an employee (bridge worker) to 1,800 pounds when used with a body harness.

(8) The personal fall arrest system shall bring an employee (bridge worker) to a complete stop and limit maximum deceleration distance an employee (bridge worker) travels to 3.5 feet.

(9) The personal fall arrest system shall have sufficient strength to withstand

(8) Defective nets shall not be used. Safety nets shall be inspected at least once a

twice the potential impact energy of an employee (bridge worker) free falling a distance of six feet, or the free fall distance permitted by the system, whichever is less.

(10) The personal fall arrest system shall be arranged so that an employee (bridge worker) cannot free fall more than six feet and cannot contact the ground or any lower horizontal surface of the bridge.

(11) Personal fall arrest systems shall be worn with the attachment point of the body belt located in the center of the wearer's back, and the attachment point of the body harness located in the center of the wearer's back near shoulder level, or above the wearer's head.

(12) When vertical lifelines are used, each employee (bridge worker) shall be provided with a separate lifeline.

(13) Devices used to connect to a horizontal lifeline that may become a vertical lifeline shall be capable of locking in either direction.

(14) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 3,600 pounds without cracking, breaking, or taking permanent deformation.

(15) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 5,000 pounds.

(16) Snap-hooks shall not be connected to each other.

(17) Snap-hooks shall be dimensionally compatible with the member to which they are connected to prevent unintentional disengagement, or shall be a locking snap-hook designed to prevent unintentional disengagement.

(18) Unless of a locking type, snap-hooks shall not be engaged:

(i) Directly next to webbing, rope, or wire rope;

(ii) To each other;

(iii) To a dee-ring to which another snap-hook or other connector is attached;

(iv) To a horizontal lifeline; or

(v) To any object that is incompatibly shaped or dimensioned in relation to the snap-hook so that unintentional disengagement could occur.

(c) *Safety net systems.* Use of safety net systems shall conform to the following standards and practices:

(1) Safety nets shall be installed as close as practicable under the walking/working surface on which employees (bridge workers) are working, but shall not be installed more than 30 feet below such surface.

(2) If the distance from the working surface to the net exceeds 30 feet, employees (bridge workers) shall be protected by personal fall arrest systems.

(3) The safety net shall be installed such that any fall from the working surface to the net is unobstructed.

(4) Except as provided in this subsection, safety nets and net installations shall be drop-tested at the jobsite after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at six-month intervals if left in one place. The drop-test shall consist of a 400-pound bag of sand 30 inches, plus or minus two inches, in diameter dropped into the net from the highest (but not less than 3 ½ feet) working surface on which employees (bridge workers) are to be protected.

(i) When the railroad or railroad contractor demonstrates that a drop-test is not feasible and, as a result, the test is not performed, the railroad or railroad contractor, or designated competent person, shall certify that the net and its installation are in compliance with the provisions of this section by preparing a certification record prior to use of the net.

(ii) The certification shall include an identification of the net, the date it was determined that the net was in compliance with this section, and the signature of the person making this determination. Such person's signature shall certify that the net and its installation are in compliance with this section. The most recent certification for each net installation shall be available at the jobsite where the subject net is located.

(5) Safety nets and their installations shall be capable of absorbing an impact force equal to that produced by the drop test specified in this section.

(6) The safety net shall be installed such that there is no contact with surfaces or structures below the net when subjected to an impact force equal to the drop test specified in this section.

(7) Safety nets shall extend outward from the outermost projection of the work surface as follows:

(i) When the vertical distance from the working level to the horizontal plane of the net is 5 feet or less, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 8 feet.

(ii) When the vertical distance from the working level to the horizontal plane of the net is more than 5 feet, but less than 10 feet, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 10 feet.

(iii) When the vertical distance from the working level to the horizontal plane of the net is more than 10 feet, the minimum required horizontal distance of the outer edge of the net beyond the edge of the working surface is 13 feet.

week for mildew, wear, damage, and other deterioration. Defective components shall be removed permanently from service.

(9) Safety nets shall be inspected after any occurrence that could affect the integrity of the safety net system.

(10) Tools, scraps, or other materials that have fallen into the safety net shall be removed as soon as possible, and at least before the next work shift.

(11) Each safety net shall have a border rope with webbing with a minimum breaking strength of 5,000 pounds.

(12) The maximum size of each safety net mesh opening shall not exceed 36 square inches and shall not be longer than 6 inches on any side measured center-to-center of mesh ropes or webbing. All mesh crossing shall be secured to prevent enlargement of the mesh opening.

(13) Connections between safety net panels shall be as strong as integral net components and shall be spaced not more than 6 inches apart.

#### **§ 214.107 - Working over or adjacent to water.**

(a) Employees (bridge workers) working over or adjacent to water with a depth of four feet or more, or where the danger of drowning exists, shall be provided and shall use life vests or buoyant work vests in compliance with U.S. Coast Guard requirements in 46 CFR sections 160.047, 160.052, 160.053. Life preservers in compliance with U.S. Coast Guard requirements in 46 CFR §160.055 shall also be within ready access. This section shall not apply to employees (bridge workers) using personal fall arrest systems or safety nets that comply with this Subpart.

(b) Life vests or buoyant work vests shall not be required when employees (bridge workers) are conducting inspections that involve climbing structures above or below the bridge deck.

(c) Prior to each use, all flotation devices shall be inspected for defects that reduce their strength or buoyancy by designated individuals trained by the railroad or railroad contractor. Defective units shall not be used.

(d) Where life vests are required by paragraph (a) of this section, ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

(e) Where life vests are required, at least one lifesaving skiff, inflatable boat, or equivalent device shall be immediately

available. If it is determined by a competent person that environmental conditions, including weather, water speed, and terrain, merit additional protection, the skiff or boat shall be manned.

#### **§ 214.109 - Scaffolding.**

(a) Scaffolding used in connection with railroad bridge maintenance, inspection, testing, and construction shall be constructed and maintained in a safe condition and meet the following minimum requirements:

(1) Each scaffold and scaffold component, except suspension ropes and guardrail systems, but including footings and anchorage, shall be capable of supporting, without failure, its own weight and at least four times the maximum intended load applied or transmitted to that scaffold or scaffold component.

(2) Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within two inches of the top edge, in any outward or downward direction, at any point along the top edge.

(3) Top edge height of top rails, or equivalent guardrail system member, shall be 42 inches, plus or minus three inches. Supports shall be at intervals not to exceed eight feet. Toeboards shall be a minimum of four inches in height.

(4) Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.

(5) Midrails shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.

(b) Scaffolds shall not be altered or moved while they are occupied. This paragraph does not apply to vertical movements of mobile scaffolds that are designed to move vertically while occupied.

(c) An access ladder or equivalent safe access shall be provided.

(d) All exposed surfaces shall be prepared and cleared to prevent injury due to laceration, puncture, tripping, or falling hazards.

(e) All scaffold design, construction, and repair shall be completed by competent individuals trained and knowledgeable about design criteria, intended use, structural limitations, and procedures for proper repair.

(f) Manually propelled mobile ladder stands and scaffolds shall conform to the following:

(1) All manually propelled mobile ladder stands and scaffolds shall be capable of carrying the design load.

(2) All ladder stands, scaffolds, and scaffold components shall be capable of supporting, without failure, displacement, or settlement, its own weight and at least four times the maximum intended load applied or transmitted to that ladder stand, scaffold, or scaffold component.

(3) All exposed surfaces shall be free from sharp edges or burrs.

(4) The maximum work level height shall not exceed four times the minimum or least base dimensions of any mobile ladder stand or scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames shall be employed to achieve this least base dimension, or equivalent provisions shall be made to guy or brace the unit against tipping.

(5) The minimum platform width for any work level shall not be less than 20 inches for mobile scaffolds (towers). Ladder stands shall have a minimum step width of 16 inches. The steps of ladder stands shall be fabricated from slip resistant treads.

(6) Guardrails and midrails shall conform to the requirements listed in paragraph (a) of this section.

(7) A climbing ladder or stairway shall be provided for proper access and egress, and shall be affixed or built into the scaffold and so located that in its use it will not have a tendency to tip the scaffold.

(8) Wheels or casters shall be capable of supporting, without failure, at least four times the maximum intended load applied or transmitted to that component. All scaffold casters shall be provided with a positive wheel and/or swivel lock to prevent movement. Ladder stands shall have at least two of the four casters and shall be of the swivel type.

#### **§ 214.111 - Personal protective equipment, generally.**

With the exception of foot protection, the railroad or railroad contractor shall provide and the employee (bridge worker) shall use appropriate personal protective equipment described in this Subpart in all operations where there is exposure to hazardous conditions, or where this Subpart indicates the need for using such equipment to reduce the hazards to railroad employees (bridge workers). The railroad or railroad contractor shall require the use of foot protection when the potential for foot injury exists.

**§ 214.113 - Head protection.**

(a) Railroad employees (bridge workers) working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be provided and shall wear protective helmets.

(b) Helmets for the protection of railroad employees (bridge workers) against impact and penetration of falling and flying objects, or from high voltage electrical shock and burns shall conform to the national consensus standards for industrial head protection (American National Standards Institute, Z89.1-1986, Protective Headwear for Industrial Workers). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. Copies may be inspected at the Federal Railroad Administration, Docket Clerk, 400 7th Street, SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

**§ 214.115 - Foot protection.**

(a) The railroad or railroad contractor shall require railroad employees (bridge workers) to wear foot protection equipment when potential foot injury may result from impact, falling or flying objects, electrical shock or burns, or other hazardous condition.

(b) Safety-toe footwear for railroad employees (bridge workers) shall conform to the national consensus standards for safety-toe footwear (American National Standards Institute, American National Standard Z41-1991, Standard for Personal Protection-Protective Footwear). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. Copies may be inspected at the Federal Railroad Administration, Docket Clerk, 400 7th Street, SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

**§ 214.117 - Eye and face protection.**

(a) Railroad employees (bridge workers) shall be provided and shall wear eye and face protection equipment when potential eye or face injury may result from physical, chemical, or radiant agents.

(b) Eye and face protection equipment required by this section shall conform to the national consensus standards for occupational and educational eye and face protection (American National Standards Institute, Z87.1-1989, Practice for Occupational and Educational Eye and Face Protection). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036. Copies may be inspected at the Federal Railroad Administration, Docket Clerk, 400 7th Street, SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(c) Face and eye protection equipment required by this section shall be kept clean and in good repair. Use of equipment with structural or optical defects is prohibited.

(d) Railroad employees (bridge workers) whose vision requires the use of corrective lenses, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction the frame of which includes shielding against objects reaching the wearer's eyes around the lenses;

(ii) Goggles that can be worn over corrective lenses without disturbing the adjustment of the lenses; or

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

**Subpart C—Roadway Worker Protection**

**§ 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. This subpart does not otherwise affect movements of roadway maintenance machines that are conducted under the authority of a train dispatcher, a control operator, or the operating rules of the railroad.

**§ 214.302 - Information (and) collection requirements.** *(So in original - should be Information collection requirements.)*

(a) The information collection requirements of this part were reviewed by the Office of Management and Budget pursuant to the Paperwork Reduction Act of 1995, Public Law 104-13, § 2, 109 Stat.163 (1995) (codified as revised at 44 U.S.C. §§ 3501-3520), and are assigned OMB control number 2130-0539. FRA may not conduct or sponsor and a respondent is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

(b) The information collection requirements are found in the following sections: §§ 214.303, 214.307, 214.309, 214.311, 214.313, 214.315, 214.319, 214.321, 214.323, 214.325, 214.327, 214.329, 214.331, 214.335, 214.341.

**§ 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.

**§ 214.305 - Compliance dates.**

Each program adopted by a railroad shall comply not later than the date specified in the following schedule:

(a) For each Class I railroad (including National Railroad Passenger Corporation) and each railroad providing commuter service in a metropolitan or suburban area, March 15, 1997.

(b) For each Class II railroad, April 15, 1997.

(c) For each Class III railroad, switching and terminal railroad, and any railroad not otherwise classified, May 15, 1997.

(d) For each railroad commencing operations after the pertinent date specified in this section, the date on which operations commence.

**§ 214.307 - Review and approval of individual on-track safety programs by FRA.**

(a) Each railroad shall notify, in writing, the Associate Administrator for Safety, Federal Railroad Administration, RRS-15, 400 Seventh Street SW, 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, the address of the office at which the program documents are available for review and photocopying by representatives of the Federal Railroad Administrator, 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.

(b) After receipt of the notification from the railroad, the Federal Railroad Administration will conduct a formal review of the on-track safety program. The Federal Railroad Administration will notify the primary railroad contact person of the results of the review, in writing, whether the on-track safety program or changes to the program have been approved by the Administrator, and if not approved, the specific points in which the program or changes are deficient.

(c) A railroad's on-track safety program will take effect by the established compliance dates in § 214.305, without regard to the date of review or approval by the Federal Railroad Administration. Changes to a railroad's program will take effect on dates established by each railroad without regard to the date of review and approval by the Federal Railroad Administration.

**§ 214.309 - On-track safety program documents.**

Rules and operating procedures governing track occupancy and protection shall be maintained together in one manual and be readily available to all roadway workers. Each roadway worker responsible for the on-track safety of others, and each lone worker, shall be provided with and shall maintain a copy of the program document.

**§ 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).

**§ 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.

**§ 214.315 - Supervision and communication.**

(a) When an employer assigns duties to a roadway worker that call for that employee to foul a track, the employer shall provide the employee with a job briefing that includes information on the means by which on-track safety is to be provided, and instruction on the on-track safety procedures to be followed.

(b) A job briefing for on-track safety shall be deemed complete only after the roadway worker 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 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 designated person providing on-track safety for the group 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 a 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.

**§ 214.317 - On-track safety procedures, generally.**

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 of this part.

**§ 214.319 - Working limits, generally.**

Working limits established on controlled track shall conform to the provisions of § 214.321 Exclusive track occupancy, or § 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. Working limits established under any procedure shall, in addition, conform to the following provisions:

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

(b) Only one roadway worker shall have control over working limits on any one segment of track.

(c) 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 of this subpart.

**§ 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 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 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.

(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.

(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 having control over the working limits. Such movements shall be restricted speed unless a higher speed has been specifically authorized by the roadway worker in charge of the working limits.

**§ 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 to move into or within the working limits during the foul time period.

(b) Each roadway worker to whom foul time is transmitted orally shall repeat the track number, 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 onto the working limits protected by foul time until the roadway worker who obtained the foul time has reported clear of the track.

**§ 214.325 - Train coordination.**

Working limits established by a roadway worker 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.

**§ 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.

(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.

**§ 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 speed authorized on that track can pass the location of the roadway worker.

(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.

**§ 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

(2) While performing routine inspection and minor correction work;

§ 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.

**§ 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 include a schedule for discontinuance of the procedure by a definite date.

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

(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 and 214.331 of this part.

(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 responsible for the on-track safety of the roadway work group that on-track safety is provided.

(c) Roadway work groups engaged in large-scale maintenance or construction shall be provided with train approach warning in accordance with § 214.329 (*§ 214.327 in original, to be corrected*) for movements on adjacent tracks that are not included within working limits.

**§ 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;

(3) On track outside the limits of a manual interlocking, a controlled point, 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.

#### **§ 214.339 - Audible warning from trains.**

Each railroad shall require that the locomotive whistle be sounded, and the locomotive bell be rung, by trains approaching roadway workers on or about the track. Such audible warning shall not substitute for on-track safety procedures prescribed in this part.

#### **§ 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 complete knowledge of the safety instructions applicable to that machine.

(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.

#### **§ 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) 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.

#### **§ 214.345 - Training for all roadway workers.**

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.



**§ 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.

(b) Initial and periodic qualification of a lone worker shall be evidenced by demonstrated proficiency.

**§ 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 qualification of a watchman/lookout shall be evidenced by 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 qualification of a flagman shall be evidenced by demonstrated proficiency.

**§ 214.353 - Training and qualification of roadway workers who provide on-track safety for roadway work groups.**

(a) The training and qualification of roadway workers who provide for the on-track safety of groups of roadway workers through establishment of working limits or the assignment and supervision of watchmen/lookouts or flagmen shall include, as a minimum:

(1) All the on-track safety training and qualification required of the roadway workers to be supervised and protected.

(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.

(b) Initial and periodic qualification of a roadway worker to provide on track safety for groups shall be evidenced by a recorded examination.

**§ 214.355 - Training and qualification 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 qualification of a roadway worker to operate roadway maintenance machines shall be evidenced by demonstrated proficiency.

<u>Section</u>	<u>Violation</u>	<u>Willful Violation</u>
<b>Subpart B - Bridge Worker Safety Standards:</b>		
214.103 Fall Protection:		
(I) Failure to provide fall protection.....	\$5,000	\$10,000
(ii) Failure to use fall protection.....		\$2,500
214.105 Standards and Practices:		
(a) General:		
(1) Fall protection used for other purposes .....	\$2,500	\$5,000
(2) Failure to remove from service.....	\$2,500	\$5,000
(3) Failure to protect from deterioration .....	\$2,500	\$5,000
(4) Failure to inspect and remove .....	\$5,000	\$10,000
(5) Failure to train.....	\$5,000	\$10,000
(6) Failure to provide for prompt rescue .....	\$5,000	\$10,000
(7) Failure to prevent damage .....	\$2,500	\$5,000
(8) Failure to use proper connectors .....	\$2,500	\$5,000
(9) Failure to use proper anchorages.....	\$2,500	\$5,000
(b) Fall arrest systems:		
(1) - (17) Failure to provide conforming equipment .....	\$2,500	\$5,000
(c) Safety net systems:		
(1) Failure to install close to workplace.....	\$2,500	\$5,000
(2) Failure to provide fall arrest if over 30 feet.....	\$5,000	\$10,000
(3) Failure to provide for unobstructed fall.....	\$5,000	\$10,000
(4) Failure to test.....	\$2,500	\$5,000
(5) Failure to use proper equipment.....	\$2,500	\$5,000
(6) Failure to prevent contact with surface below .....	\$5,000	\$10,000
(7) Failure to properly install .....	\$5,000	\$10,000
(8) Failure to remove defective nets.....	\$5,000	\$10,000
(9) Failure to inspect .....	\$5,000	\$10,000
(10) Failure to remove objects .....	\$1,000	\$2,500
(11) - (13) Failure to use conforming equipment .....	\$2,500	\$10,000
214.107 Working over water:		
(a) (I) Failure to provide life vest .....	\$5,000	\$10,000
(ii) Failure to use life vest .....		\$1,500

(c) Failure to inspect:.....	\$2,500	
\$5,000.....	(e).....	\$5,000..... \$10,000
(ii) Failure to use ring buoys.....		\$1,500
(f) (I) Failure to provide skiff.....	\$1,000	\$2,500
(ii) Failure to use skiff.....		\$1,500
214.109 Scaffolding:		
(a) - (f) Failure to provide conforming equipment.....	\$2,500	\$5,000
214.113 Head protection:		
(a) (I) Failure to provide.....	\$2,500	\$5,000
(ii) Failure to use.....		\$1,500
(b) or (c) Failure to provide conforming equipment.....	\$2,500	\$5,000
214.115 Foot protection:		
(a) (I) Failure to require use of.....	\$2,500	\$5,000
(ii) Failure to use.....		\$1,500
214.117 Eye and face protection:		
(a) (I) Failure to provide.....	\$2,500	\$5,000
(ii) Failure to use.....		\$1,500
(b) Failure to use conforming equipment.....	\$2,500	\$5,000
(c) Use of defective equipment.....	\$2,500	\$5,000
(d) Failure to provide for corrective lenses.....	\$2,500	\$5,000

**Subpart C - Roadway Worker Protection Rule**

214.303 Railroad on-track safety programs, generally.		
(a) Failure of a railroad to implement an On-track Safety Program.....	\$10,000	\$20,000
(b) On-track Safety Program of a railroad includes no internal monitoring procedure.....	\$5,000	\$10,000
214.305 Compliance Dates.		
Failure of a railroad to comply by the specified dates.....	\$5,000	\$10,000
214.307 Review and approval of individual on-track safety programs by FRA		
(a) (I) Failure to notify FRA of adoption of On-track Safety Program.....	\$1,000	\$5,000
(ii) Failure to designate primary person to contact for program review.....	\$1,000	\$2,000
214.309 On-track safety program documents.		
(1) On-track Safety Manual not provided to prescribed employees.....	\$2,000	\$5,000

(2) On-track Safety Program documents issued in fragments .....	\$2,000	
\$5,000214.311 ..... Responsibility of employers.		
(b) Roadway worker required by employer to foul a track during an unresolved challenge .....	\$5,000	\$10,000
(c) Roadway workers not provided with written procedure to resolve challenges of on-track safety procedures .....	\$5,000	\$10,000
214.313 Responsibility of individual roadway workers.		
(b) Roadway worker fouling a track when not necessary in the performance of duty .....		\$1,000
(c) Roadway worker fouling a track without ascertaining that provision is made for on-track safety .....		\$1,500
(d) Roadway worker failing to notify employer of determination of improper on-track safety provisions .....		\$3,000
214.315 Supervision and communication		
(a) Failure of employer to provide job briefing .....	\$2,000	\$10,000
(b) Incomplete job briefing .....	\$2,000	\$5,000
(c) (I) Failure to designate roadway worker in charge of roadway work group .....	\$2,000	\$5,000
(c) (ii) Designation of more than one roadway worker in charge of one roadway work group .....	\$1,000	\$2,000
(c) (iii) Designation of non-qualified roadway worker in charge of roadway work group .....	\$3,000	\$6,000
(d) (I) Failure to notify roadway workers of on-track safety procedures in effect. ....	\$3,000	\$6,000
(d) (ii) Incorrect information provided to roadway workers regarding on-track safety procedures in effect. ....	\$3,000	\$6,000
(d) (iii) Failure to notify roadway workers of change in on-track safety procedures .....	\$3,000	\$6,000
(e) (I) Failure of lone worker to communicate with designated employee for daily job briefing .....		\$1,500
(e) (ii) Failure of employer to provide means for lone worker to receive daily job briefing .....	\$3,000	\$6,000
214.317 On-track safety procedures, generally		
On-track safety rules conflict with this part .....	\$5,000	\$10,000
214.319 Working limits, generally		
(a) Non-qualified roadway worker in charge of working limits .....	\$5,000	\$10,000
(b) More than one roadway worker in charge of working limits on the same track segment .....	\$2,000	\$5,000
(c) (1) Working limits released without notifying all affected roadway workers .....	\$5,000	\$10,000

(c) (2) Working limits released before all affected roadway workers are otherwise protected.....	\$5,000	
214.321 Exclusive track occupancy		\$10,000
(b) Improper transmission of authority for exclusive track occupancy.....	\$2,000	\$5,000
(b) (1) Failure to repeat authority for exclusive track occupancy to issuing employee.....		\$1,500
(b) (2) Failure to retain possession of written authority for exclusive track occupancy.....		\$1,000
(b) (3) Failure to record authority for exclusive track occupancy when issued.....		\$2,000
(c) Limits of exclusive track occupancy not identified by proper physical features.....	\$2,000	\$4,000
(d) (1) Movement authorized into limits of exclusive track occupancy without authority of roadway worker in charge.....	\$5,000	\$10,000
(d) (2) Movement authorized within limits of exclusive track occupancy without authority of roadway worker in charge.....	\$5,000	\$10,000
(d) (3) Movement within limits of exclusive track occupancy exceeding restricted speed without authority of roadway worker in charge.....	\$5,000	\$10,000
214.323 Foul time		
(a) Foul time authority overlapping movement authority of train or equipment....	\$5,000	\$10,000
(b) Failure to repeat foul time authority to issuing employee.....		\$1,500
214.325 Train coordination		
(a) Train coordination limits established where more than one train is authorized to operate.....	\$1,500	\$4,000
(b) (1) Train coordination established with train not visible to roadway worker at the time.....		\$1,500
(b) (2) Train coordination established with moving train.....		\$1,500
(b) (3) Coordinated train moving without authority of roadway worker in charge.....	\$2,000	\$5,000
(b) (4) Coordinated train releasing movement authority while working limits are in effect.....	\$3,000	\$6,000
214.327 Inaccessible track		
(a) Improper control of entry to inaccessible track.....	\$3,000	\$6,000
(a) (5) Remotely controlled switch not properly secured by control operator.....	\$3,000	\$6,000
(b) Train or equipment moving within inaccessible track limits without permission of roadway worker in charge.....	\$3,000	\$6,000
(c) Unauthorized train or equipment located within inaccessible track limits.....	\$2,000	\$5,000
214.329 Train approach warning provided by watchmen/lookouts		
(a) Failure to give timely warning of approaching train.....		\$5,000
(b) (1) Failure of watchman/lookout to give full attention to detecting approach of train.....		\$3,000

(b) (2) Assignment of other duties to watchman/lookout .....	\$3,000	
\$5,000 .....	(c) .....	\$2,000 .....
(d) Failure to maintain position to receive train approach warning signal .....		\$2,000
(e) Failure to communicate proper warning signal .....	\$1,500	\$3,000
(f) (1) Assignment of non-qualified person as watchman/lookout.....	\$3,000	\$5,000
(f) (2) Non-qualified person accepting assignment as watchman/lookout .....		\$1,500
(g) Failure to properly equip a watchman/lookout.....	\$2,000	\$4,000
214.331	Definite train location	
(a) Definite train location established where prohibited .....	\$3,000	\$5,000
(b) Failure to phase out definite train location by required date .....	\$3,000	\$5,000
(d) (1) Train location information issued by unauthorized person .....	\$2,000	\$5,000
(d) (2) Failure to include all trains operated on train location list .....	\$3,000	\$5,000
(d) (5) Failure to clear a by ten minutes at the last station at which time is shown.....		\$2,000
(d) (6) Train passing station before time shown in train location list .....	\$3,000	\$5,000
(d) (7) Non-qualified person using definite train location to establish on-track safety.....	\$2,000	\$3,000
214.333	Informational line-ups of trains	
(a) Informational line-ups of trains used for on-track safety where prohibited.....	\$3,000	\$5,000
(b) Informational line-up procedures inadequate to protect roadway workers.....	\$5,000	\$10,000
(c) Failure to discontinue informational line-ups by required date .....	\$5,000	\$10,000
214.335	On-track safety procedures for roadway work groups	
(a) Failure to provide on-track safety for a member of a roadway work group .....	\$3,000	\$5,000
(b) Member of roadway work group fouling a track without authority of employee in charge .....		\$2,000
(c) Failure to provide train approach warning or working limits on adjacent track where required.....	\$3,000	\$5,000
214.337	On-track safety procedures for lone workers	
(b) Failure by employer to permit individual discretion in use of individual train detection.....	\$5,000	\$10,000
(c) (1) Individual train detection used by non-qualified employee .....	\$2,000	\$4,000
(c) (2) Use of individual train detection while engaged in heavy or distracting work .....		\$2,000
(c) (3) Use of individual train detection in controlled point or manual interlocking .....		\$2,000
(c) (4) Use of individual train detection with insufficient visibility .....		\$2,000
(c) (5) Use of individual train detection with interfering noise .....		\$2,000

(c) (6) Use of individual train detection while a train is passing.....		
\$3,000 .....	(d).....	\$2,000
(e) Lone worker unable to maintain vigilant lookout .....		\$2,000
(f) (1) Failure to prepare written statement of on-track safety.....		\$1,500
(f) (2) Incomplete written statement of on-track safety .....		\$1,000
(f) (3) Failure to produce written statement of on-track safety to FRA .....		\$1,500
214.339 Audible warning from trains		
(a) Failure to require audible warning from trains.....	\$2,000 .....	\$4,000
(b) Failure of train to give audible warning where required .....	\$1,000 .....	\$3,000
214.341 Roadway maintenance machines		
(a) Failure of on-track safety program to include provisions for safety near roadway maintenance machines.....	\$3,000 .....	\$5,000
(b) Failure to provide operating instructions .....	\$2,000 .....	\$4,000
(b) (1) Assignment of non-qualified employee to operate machine .....	\$2,000 .....	\$5,000
(b) (2) Operator unfamiliar with safety instructions for machine.....	\$2,000 .....	\$5,000
(b) (3) Roadway worker working with unfamiliar machine .....	\$2,000 .....	\$5,000
(c) Roadway maintenance machine not clear of passing trains .....	\$3,000 .....	\$6,000
214.343 Training and qualification, general		
(a) (1) Failure of railroad program to include training provisions .....	\$5,000 .....	\$10,000
(a) (2) Failure to provide initial training.....	\$3,000 .....	\$6,000
(b) Failure to provide annual training.....	\$2,500 .....	\$5,000
(c) Assignment of non-qualified railroad employees to provide on-track safety...	\$4,000 .....	\$8,000
(d) (1) Failure to maintain records of qualifications .....	\$2,000 .....	\$4,000
(d) (2) Incomplete records of qualifications.....	\$1,000 .....	\$3,000
(d) (3) Failure to provide records of qualifications to FRA .....	\$2,000 .....	\$4,000
214.345 Training for all roadway workers .....		
214.347 Training and qualification for lone workers .....		
214.349 Training and qualification of watchmen/lookouts.....		
214.351 Training and qualification of flagmen .....		
214.353 Training and qualification of roadway workers who provide on-track safety for roadway work groups.....		
214.355 Training and qualification in on-track safety for operators of roadway maintenance machines .....		

<sup>1</sup> A penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to \$20,000 for any violation where circumstances warrant. See 49 CFR part 209, Appendix A.

**References:**

Original issue: Federal Register, Vol. 57, No. 122, June 24, 1992, page 28116  
Amended: Federal Register, Vol. 59, No. 115, June 16, 1994, page 30879  
Federal Register, Vol. 61, No. 242, December 16, 1996, page 65959

**49 CFR 214, Deficiency Codes**

**Subpart C - Bridge Worker Safety Rule**

**Section 214.103 - Fall Protection, Generally:**

- 103.01 Failure to provide fall protection.
- 103.03 Failure to use fall protection.

**Section 214.105 - Fall protection systems standards and practices:**

**(a) Fall protection systems generally:**

- 105.01 Fall protection equipment used for other purposes.
- 105.03 Failure to remove fall protection equipment from service after impact loading, damage or deterioration.
- 105.05 Failure to protect fall protection equipment from deterioration.
- 105.07 Failure to inspect fall protection equipment prior to use.
- 105.09 Failure to train personnel using fall protection equipment.
- 105.11 Failure to provide for prompt rescue after fall.
- 105.13 Failure to prevent damage to fall protection equipment.
- 105.15 Failure to use proper connectors with fall protection equipment.
- 105.17 Failure to use proper anchorages with fall protection equipment.

**(b) Personal fall arrest systems:**

- 105.21 Failure to provide conforming equipment in a personal fall arrest system.

**(c) Safety net systems:**

- 105.31 Excessive distance from working surface to safety net.
- 105.33 Working more than 30 feet above safety net without a fall arrest system.
- 105.35 Failure to provide for unobstructed fall to net.
- 105.37 Failure to test safety net.
- 105.39 Failure to use proper equipment with safety net.
- 105.41 Failure to prevent contact of safety net with surface below.
- 105.43 Failure to properly install safety net system.
- 105.45 Failure to remove defective nets from service.
- 105.47 Failure to inspect net system.
- 105.49 Failure to remove foreign objects from net system.
- 105.51 Failure to use conforming equipment in a net system.

**Section 214.107 - Working over water:**

- 107.01 Failure to provide life vest.
- 107.03 Failure to use life vest.
- 107.05 Failure to inspect floatation equipment.
- 107.07 Failure to provide ring buoys.
- 107.09 Failure to use ring buoys.
- 107.11 Failure to provide boat or skiff.
- 107.13 Boat or skiff not ready for immediate use.
- 107.15 Boat or skiff not manned where conditions require.
- 107.17 Failure to use skiff.

**Section 214.109 - Scaffolding:**

- 109.01 Use of nonconforming equipment for scaffolding.

**Section 214.113 - Head protection:**

- 113.01 Failure to provide head protection.
- 113.03 Failure to use head protection.
- 113.05 Use of non-conforming equipment for head protection.

**Section 214.115 - Foot protection:**

- 115.01 Failure to require use of foot protection.
- 115.03 Failure to use foot protection.



**Section 214.117 - Eye and face protection:**

- 117.01 Failure to provide eye and face protection.
- 117.03 Failure to use eye and face protection.
- 117.05 Use of non-conforming equipment for eye protection.
- 117.07 Use of defective equipment for eye protection.
- 117.09 Failure to provide for corrective lenses in eye protection equipment.

**Subpart C - Roadway Worker Protection Rule**

**Section 214.303 - Railroad on-track safety programs, generally**

- 303.01 Failure of a railroad to implement an On-track Safety Program.
- 303.03 On-track Safety Program of a railroad includes no internal monitoring procedure

**Section 214.305 - Compliance Dates.**

- 305.01 Failure of a railroad to comply by the specified dates

**Section 214.307 - Review and approval of individual on-track safety programs by FRA**

- 307.01 Failure to notify FRA of adoption of On-track Safety Program
- 307.03 Failure to designate primary person to contact for program review

**Section 214.309 - On-track safety program documents**

- 309.01 On-track Safety Manual not provided to prescribed employees
- 309.03 On-track Safety Program documents issued in fragments

**Section 214.311 - Responsibility of employers**

- 311.01 Roadway worker required by employer to foul a track during an unresolved challenge
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End of FRA Railroad Workplace Safety Compliance Manual