

DEPARTMENT OF TRANSPORTATION**Federal Railroad Administration****49 CFR Parts 217 and 218**

[Docket No. FRA-2006-25267]

RIN 2130-AB76

Railroad Operating Rules: Program of Operational Tests and Inspections; Railroad Operating Practices: Handling Equipment, Switches and Fixed Derails**AGENCY:** Federal Railroad Administration (FRA), DOT.**ACTION:** Final rule.

SUMMARY: Human factors are the leading cause of train accidents, accounting for 38 percent of the total in 2005. Human factors also contribute to employee injuries. This final rule establishes greater accountability on the part of railroad management for administration of railroad programs of operational tests and inspections, and greater accountability on the part of railroad supervisors and employees for compliance with those railroad operating rules that are responsible for approximately half of the train accidents related to human factors. Additionally, this final rule will supplant Emergency Order 24, which requires special handling, instruction and testing of railroad operating rules pertaining to hand-operated main track switches in non-signalized territory. Finally, an appendix has been added to 49 CFR part 218 to provide guidance for remote control locomotive operations that utilize technology in aiding point protection.

DATES: This regulation is effective April 14, 2008.

FOR FURTHER INFORMATION CONTACT:

Douglas H. Taylor, Staff Director, Operating Practices Division, Office of Safety Assurance and Compliance, FRA, 1200 New Jersey Avenue, SE., RRS-11, Mail Stop 25, Washington, DC 20590 (telephone 202-493-6255); or Alan H. Nagler, Senior Trial Attorney, Office of Chief Counsel, FRA, 1200 New Jersey Avenue, SE., RCC-11, Mail Stop 10, Washington, DC 20590 (telephone 202-493-6038).

SUPPLEMENTARY INFORMATION:**Table of Contents for Supplementary Information**

- I. Background and Authority
- II. Proceedings to Date
 - A. Increase in Human Factor Caused Accidents and Noncompliance
 - B. Accident at Graniteville, SC and Safety Advisory 2005-01
 - C. Emergency Order No. 24

- D. Secretary of Transportation's Action Plan for Addressing Critical Railroad Safety Issues
- E. Railroad Safety Advisory Committee (RSAC) Overview
- F. Establishment of the Railroad Operating Rules Working Group and Development of the NPRM
- G. Development of the Final Rule
 - 1. Summary of the Comments
 - 2. RSAC's Working Group Reviewed the Comments
 - 3. Consideration of Underlying Principles in Emergency Order 24
 - 4. Recognition of the Need To Improve Railroad Programs of Operational Tests and Inspections
- III. Remote Control Operations
 - A. Background
 - B. Situational Awareness
 - C. Technology Aided Point Protection
- IV. General Comments/Major Issues
 - A. Enforcement
 - B. Good Faith Challenge—Legal Issues
 - 1. FRA's Rulemaking Authority
 - 2. FRA's Enforcement Authority
 - 3. Multiple Enforcement Actions
 - 4. Anti-Retaliation Provision
 - C. Preemptive Effect
- V. Section-by-Section Analysis
- VI. Regulatory Impact and Notices
 - A. Executive Order 12866 and DOT Regulatory Policies and Procedures
 - B. Regulatory Flexibility Act and Executive Order 13272
 - C. Paperwork Reduction Act
 - D. Federalism Implications
 - E. Environmental Impact
 - F. Unfunded Mandates Act of 1995
 - G. Energy Impact

I. Background and Authority

The Federal Railroad Safety Act of 1970, as codified at 49 U.S.C. 20103, provides that, "[t]he Secretary of Transportation, as necessary, shall prescribe regulations and issue orders for every area of railroad safety supplementing laws and regulations in effect on October 16, 1970." The Secretary's responsibility under this provision and the balance of the railroad safety laws have been delegated to the Federal Railroad Administrator. 49 CFR 1.49(m). In the field of operating rules and practices, FRA has traditionally pursued a very conservative course of regulation, relying upon the industry to implement suitable railroad operating rules and mandating in the broadest of ways that employees be "instructed" in their requirements and that railroads create and administer programs of operational tests and inspections to verify rules compliance. This approach was based on several factors, including a recognition of the strong interest the railroads have in avoiding costly accidents and personal injuries, the limited resources available to FRA to directly enforce railroad operating rules, and the apparent success of management and employees in

accomplishing most work in a safe manner.

Over the years, however, it became necessary to "Federalize" certain requirements, either to remedy shortcomings in the railroads' rules or to emphasize the importance of compliance and to provide FRA a more direct means of promoting compliance. These actions, which in most cases were preceded or followed by statutory mandates, included adoption of rules governing—

- 1. Blue Signal Protection for employees working on, under or between railroad rolling equipment (49 CFR part 218, subpart B);
- 2. Railroad Communications (49 CFR part 220);
- 3. Prohibition of Tampering with Safety Devices (49 CFR part 218, subpart D); and
- 4. Control of Alcohol and Drug Use in Railroad Operations (49 CFR part 219).

In addition, FRA has adopted requirements for Qualification and Certification of Locomotive Engineers (49 CFR Part 240) that directly prohibit contravention of certain specified operating rules and practices.

FRA believes these programs of regulation contribute positively to railroad safety, in part because they contribute significantly to good discipline among affected employees.

FRA is not specifically required by statute to issue a regulation on the subjects covered by this final rule. However, FRA believes that establishing greater accountability for implementation of sound operating rules is necessary for safety. FRA initiated and finalized this rulemaking because it has recognized that human factor train accidents comprise the largest single category of train accident causes and because existing regulations have proven inadequate to achieve a significant further reduction in their numbers or severity. Moreover, the current situation in the railroad industry, which is characterized by strong market demand, extensive hiring of new employees, and rapid attrition of older employees now becoming eligible for retirement, demands a more substantial framework of regulations to help ensure that operational necessity will not overwhelm systems of safeguards relied upon to maintain good discipline.

The theme of this final rule is accountability. It embodies both a broad strategy intended to promote better administration of railroad programs and a highly targeted strategy designed to improve compliance with railroad operating rules addressing three critical areas. Within this framework, FRA has

taken responsibility to set out certain requirements heretofore left to private action. FRA will be monitoring compliance with those requirements through appropriate inspections and audits, and when necessary will be assessing appropriate civil penalties to assure compliance. Railroad management will be held accountable for putting in place appropriate rules, instructions, and programs of operational tests. Railroad supervisors will be held accountable for doing their part to administer operational tests and establish appropriate expectations with respect to rules compliance. Railroad employees will be held accountable for complying with specified operating rules, and will have a right of challenge should they be instructed to take actions that, in good faith, they believe would violate those rules. It is intended that this framework of accountability promote good discipline, prevent train accidents, and reduce serious injuries to railroad employees. In this supplementary information section, FRA provides a detailed explanation of the growing number of accidents, the severity of some of those accidents, the agency's prior actions, and a discussion of major subjects addressed in the proposed rule or raised by the comments to that proposal.

II. Proceedings to Date

A. Increase in Human Factor Caused Accidents and Noncompliance

FRA has grown steadily more concerned over the past few years as the frequency of human factor caused accidents has increased. When these accidents are reported, the reporting railroad is required to cite the causes of the accident. In the case of a human factor caused accident, an employee or employees are typically associated with a failure to abide by one or more railroad operating rules. Over the past few years, FRA inspectors have simultaneously observed a substantial increase in noncompliance with those railroad operating rules that are frequently cited as the primary or secondary causes to these types of accidents.

Accidents caused by mishandling of equipment, switches and derails rose from 370 to 640 per year from the years 1997 to 2004—an increase of 42 percent. The greatest causes of these accidents as identified by the railroads were (1) switch improperly lined and (2) absence of employee on, at or ahead of a shoving movement. These two issues alone account for over 60 percent of all accidents caused annually by employees

mishandling of equipment, switches and derails.

A grouping of four other causes saw steady increases from 133 per year in 1997 to 213 per year in 2004—a cumulative increase of 37 percent; these causes are (1) failure to control a shoving movement, (2) switch previously run through, (3) cars left in the foul and (4) failure to apply or remove a derail. Two additional causes of accidents, (1) switch not latched or locked and (2) car(s) shoved out and left out of clear, were the cited cause of only 10 accidents in 1997 and 40 accidents in 2004.

While the accident data shows significant increases in these areas, the data collected by FRA during inspections suggests that the number of accidents could easily increase at an even greater rate. FRA inspection data shows that noncompliance related to mishandling of equipment, switches and derails rose from 319 to 2,954 per year from the years 2000 to 2004—a nine-fold increase. The most common areas of human factor noncompliance were (1) employee failed to observe switch points for obstruction before throwing switch; (2) employee failed to ensure all switches involved with a movement were properly lined; (3) employee failed to ensure switches were latched or locked; (4) employee failed to ensure switches were properly lined before movement began; and (5) employee left equipment fouling adjacent track.

Several other related issues of noncompliance also saw substantial increases, although the overall number of incidents found by FRA was lower than the top five. These additional areas of noncompliance are: (1) Employee left derail improperly lined (on or off); (2) absence of employee on, at, or ahead of shoving movement; (3) employee failed to ensure train or engine was stopped in the clear; (4) employee failed to ensure switches were properly lined after being used; (5) employee failed to reapply hasp before making move over switch (if equipped); (6) employee failed to relock the switch after use; and (7) one or more employees failed to position themselves so that they could constantly look in the direction of movement.

Some noncompliance data applies particularly to human factor mistakes FRA noted during inspections of operations involving remotely controlled locomotives. FRA assigned noncompliance codes to identify the following problems specifically associated with these remote control operations: (1) Employee operated equipment while out of operator's range of vision; (2) employee failed to provide

point protection, locomotive leading; and (3) employee failed to provide point protection, car leading. In 2004, the first year that FRA collected data under those codes, FRA inspectors recorded 29 instances of noncompliance with the railroad's operating rules underlying the three codes. In 2005, the number of instances of noncompliance with those same codes recorded by FRA inspectors increased to 92. These types of noncompliance are continuing with some frequency as in 2006, FRA noted 43 instances of noncompliance with those cause codes and in the first half of 2007, FRA has noted 23 instances.

B. Accident at Graniteville, SC and Safety Advisory 2005-01

Although the increasing number of human factor caused accidents impacted the railroad industry and its employees, a catastrophic accident that occurred at Graniteville, South Carolina on January 6, 2005, catapulted the issue into the national spotlight. As the National Transportation Safety Board (NTSB) described in its report NTSB/RAR-05/04, PB2005-916304 (Nov. 29, 2005), that accident occurred when Norfolk Southern Railway Company (NS) freight train 192, while traveling in non-signalized territory at about 47 miles per hour (mph), encountered an improperly lined switch that diverted the train from the main track onto an industry track, where it struck an unoccupied, parked train (NS train P22). The collision derailed both locomotives and 16 of the 42 freight cars of train 192, as well as the locomotive and 1 of the 2 cars of train P22. Among the derailed cars from train 192 were three tank cars containing chlorine, one of which was breached, releasing chlorine gas. The train engineer and eight other people died as a result of chlorine gas inhalation. About 554 people complaining of respiratory difficulties were taken to local hospitals. Of these, 75 were admitted for treatment. Because of the chlorine release, about 5,400 people within a 1-mile radius of the derailment site were evacuated for 9 to 13 days. The property damage, including damages to the rolling stock and track, exceeded \$6.9 million. In 2006, NS recorded expenses of \$41 million related to this incident. This burden includes property damage and other economic losses, personal injury and individual property damage. (It should be noted that this figure does not include losses for which NS was insured, nor other costs that are associated with the accident such as liability incurred, increased shipping rates, higher insurance rates and other societal costs, i.e., expenses for non-

railroad businesses, and expenses incurred related to claims from this accident.) NTSB determined that the probable cause of the collision was the failure of the crew of NS train P22 to return a main track switch to the normal position after the crew completed work at an industry.

The crew's failure violated railroad operating rules but did not violate any Federal requirement. NS Operating Rule 104, in effect at the time, placed primary responsibility with the employee handling the switch and other crewmembers were secondarily responsible if they were in place to observe the switch's position. NTSB/RAR-05/04 at 8. In addition, NTSB concluded that NS rules required a job briefing which "would likely have included a discussion of the switches and specifically who was responsible for ensuring that they were properly positioned [and that] [h]ad such a briefing taken place, the relining of the switch might not have been overlooked." *Id.* at 44. FRA concurs that the lack of intra-crew communication regarding the switch's position was particularly significant at the time the crew was preparing to leave the site. *Id.* at 8-9.

Four days after the Graniteville accident (and coincidentally, two days after a similar accident at Bieber, California with serious, but not catastrophic consequences), FRA responded by issuing Safety Advisory 2005-01, "Position of Switches in Non-Signaled Territory." 70 FR 2455 (Jan. 10, 2005). The issuance of a safety advisory is an opportunity for the agency to inform the industry and the general public regarding a safety issue, to articulate agency policy, and to make recommendations. FRA explained in the safety advisory that "[a] review of FRA's accident/incident data shows that, overall, the safety of rail transportation continues to improve. However, FRA has particular concern that recent accidents on Class I railroads in non-signaled territory were caused, or apparently caused, by the failure of railroad employees to return manual (hand-operated) main track switches to their normal position, i.e., usually lined for the main track, after use. As a result, rather than continuing their intended movement on the main track, trains approaching these switches in a facing-point direction were unexpectedly diverted from the main track onto the diverging route, and consequently derailed."

Safety Advisory 2005-1 strongly urged all railroads to immediately adopt and comply with five recommendations that were intended to strengthen, clarify

and re-emphasize railroad operating rules so as to ensure that all main track switches are returned to their normal position after use. The recommendations emphasized communication both with the dispatcher and other crewmembers. FRA recommended that crewmembers complete and sign a railroad-created Switch Position Awareness Form (SPAF). Proper completion of a SPAF was expected to trigger specific communication relevant to critical elements of the tasks to be performed. Additional training and railroad oversight were also recommended.

C. Emergency Order No. 24

Safety Advisory 2005-1 did not have the long-term effect that FRA hoped it would. The Safety Advisory was intended to allow the industry itself a chance to clamp down on the frequency and severity of one subset of human factor accidents, i.e., those accidents involving hand-operated main track switches in non-signaled territory. FRA credits the Safety Advisory with contributing to a nearly six-month respite from this type of accident, from January 12 through July 6, 2005, but following this respite there was a sharp increase in serious accidents.

Three serious accidents over a 28-day period from August 19 to September 15, 2005, were the catalyst for FRA issuing an emergency order: Emergency Order No. 24 (EO 24); Docket No. FRA-2005-22796, 70 FR 61496 (Oct. 24, 2005). The three accidents cited in EO 24 resulted in fatal injuries to one railroad employee, non-fatal injuries to eight railroad employees, an evacuation of civilians, and railroad property damage of approximately two million dollars. Furthermore, each of these accidents could have been far worse, as each had the potential for additional deaths, injuries, property damage or environmental damage. Two of the accidents could have involved catastrophic releases of hazardous materials as these materials were present in at least one of the train consists that collided.

FRA is authorized to issue emergency orders where an unsafe condition or practice "causes an emergency situation involving a hazard of death or personal injury." 49 U.S.C. 20104. These orders may immediately impose "restrictions and prohibitions * * * that may be necessary to abate the situation." *Id.*

EO 24 was necessary because despite the Safety Advisory, there was insufficient compliance with railroad operating rules related to the operation of hand-operated main track switches in non-signaled territory. FRA considered

issuing another Safety Advisory, but that might at best only provide another temporary respite. The issuance of EO 24 was "intended to accomplish what the Safety Advisory could not: implement safety practices that will abate the emergency until FRA can complete rulemaking." 70 FR at 61498. FRA further concluded that "reliance solely on employee compliance with railroad operating rules related to the operation of hand-operated main track switches in non-signaled territory, without a Federal enforcement mechanism, is inadequate to protect the public safety." 70 FR at 61499.

EO 24 is built on the foundation of FRA's regulations, at 49 CFR part 217, which require each railroad to instruct its employees on the meaning and application of its code of operating rules, and to periodically test its employees to determine their level of compliance. With regard to hand-operated switches in non-signaled territory, EO 24 requires that each railroad (1) instruct its employees, (2) allow only qualified employees to operate and verify switches, (3) require employees to confirm switch positions with the dispatcher prior to releasing the limits of a main track authority, (4) develop a Switch Position Awareness Form for employees to complete when operating switches, (5) require employees to conduct job briefings at important intervals, (6) require intra-crew communication of switch positions after a switch is operated, (7) enhance its program of operational tests and inspections under 49 CFR part 217, and (8) distribute copies of EO 24, and retain proof of distribution, to all employees affected. Minor clarifying amendments were made to EO 24 in a second notice, but the overarching requirements remained unchanged from the first notice. 70 FR 71183 (Nov. 25, 2005).

D. Secretary of Transportation's Action Plan for Addressing Critical Railroad Safety Issues

Prior to the Graniteville accident, FRA had developed and implemented procedures to focus agency resources on critical railroad safety issues. Such procedures were appropriate even though the industry's overall safety record had improved over the last decade and most safety trends were moving in the right direction. FRA recognizes that significant train accidents continue to occur, and the train accident rate has not shown substantive improvement in recent years. Several months after the Graniteville accident, the Secretary of Transportation announced a National

Rail Safety Action Plan to address this need. FRA acknowledged in the plan that "recent train accidents have highlighted specific issues that need prompt government and industry attention." Action Plan at 1 (published on FRA's Web site at <http://www.fra.dot.gov/>).

In the plan, FRA introduced its basic principles to address critical railroad safety issues. One basic principle is that FRA's safety program is increasingly guided by careful analysis of accident, inspection, and other safety data. Another basic principle is that FRA attempts to direct both its regulatory and compliance efforts toward those areas involving the highest safety risks. The plan is intended to be proactive in that it will target the most frequent, highest risk causes of accidents.

FRA identified "reducing human factor accidents" as one of the major areas in which the agency planned initiatives. In fact, the plan discusses this issue first because it constitutes the largest category of train accidents, accounting for 38 percent of all train accidents over the first five years of this decade, and human factor accidents were growing in number at the time the action plan was implemented. Furthermore, FRA's plan takes aim at reducing human factor accidents because in recent years most of the serious events involving train collisions or derailments resulting in release of hazardous materials, or harm to rail passengers, have been caused by human factors or track problems.

FRA's analysis of train accident data has revealed that a small number of particular kinds of human errors are accounting for an inordinate number of human factor accidents. For example, the eight human factor causes involving mishandling equipment, switches and derails that FRA is addressing in this final rule accounted for nearly 48 percent of all human factor accidents in 2004; these eight causes, which resulted in accidents causing over \$113 million in damages to railroad property from 2001–2005, can be grouped into three basic areas of railroad operations: (1) Operating switches and derails; (2) leaving equipment out to foul; and (3) the failure to protect shoving or pushing movements. Thus, this rulemaking is meant to address nearly half of all human factor caused accidents on all classes of track.

Of the 118 human factor causes that are tracked, the leading cause was improperly lined switches, which alone accounted for more than 16 percent of human factor accidents in 2004. The next two leading causes were shoving cars without a person on the front of the

movement to monitor conditions ahead, i.e., lack of point protection, and shoving cars with point protection but still resulting in a failure to control the movement; these two shoving related causes together accounted for 17.6 percent of human factor accidents in 2004. The remaining five causes addressed in this final rule account for nearly 14 percent of the total number of accident causes; these causes involve leaving cars in a position that fouls an adjacent track, operating over a switch previously run through, a failure to apply or remove a derail, a failure to latch or lock a switch, and a failure to determine before shoving that the track is clear ahead of the movement. The two catch-all general causes that might be cited when a railroad believes one or more related causes may apply or is unsure of the exact cause are: (1) Other general switching rules; and (2) other train operation/human factors.

The human factor causes that are the central focus of this final rule are of a type that involve noncompliance with established railroad operating rules related to fundamental railroad operations. In each case, compliance can be objectively and conclusively determined. For example, it can be definitively determined whether switches are properly lined, locked, latched or had been previously run through. It can be determined whether a shoving movement was made without point protection or without the signals or instructions necessary to control the movement. Similarly, it can be determined whether a car is left fouling a track such that it is causing an unsafe operating condition, or whether the track is clear ahead for a shoving movement. Finally, it can also be determined with certainty whether there has been a failure to apply or remove a derail.

The top human factor causes that FRA is choosing not to address with this final rule are already regulated, to some extent, or would be significantly more difficult to regulate. For example, several human factor causes relate to the failure to apply a sufficient number of hand brakes; that issue is already covered by regulation at 49 CFR 232.103(n). Speeding issues, including restricted speed, are regulated to discourage clearly excessive speeding by imposing revocation periods or civil penalties for locomotive engineer violators. 49 CFR 240.117(e)(2) and 240.305(a)(2). Establishing a clear rule for regulating a train handling issue, such as a locomotive engineer's improper use of an independent brake or air brakes to prevent excess buff or slack action, can pose difficulties as

train handling is an area where locomotive engineers exercise discretion. 58 FR 18982, 18992 (Apr. 9, 1993) (describing in section-by-section analysis why FRA amended the qualification and certification of locomotive engineer's rule to require revocation only when there is a failure to conduct certain brake tests as opposed to the more general, original requirement to revoke for "failure to adhere to procedures for the safe use of train or engine brakes." 56 FR 28228, 28259 (June 19, 1991)). Likewise, the operating conditions related to improper coupling are too numerous to easily address through regulation, and determination of responsibility related to train handling and train make-up involves often complex technical issues that are still subject to study. See *Safe Placement of Train Cars, Report to the Senate Committee on Science, Commerce and Transportation and the House Committee on Transportation and Infrastructure* (June 2005), published at <http://www.fra.dot.gov>.

Developing close call data. As part of its mission to improve railroad safety, FRA is sponsoring the Confidential Close Call Reporting System Demonstration Project to demonstrate the effectiveness of a confidential close call reporting system for the railroad industry. "Close calls" in this context are unsafe events that do not result in a reportable accident but very well could have. In other industries such as aviation, implementation of close call reporting systems that shield the reporting employee from discipline (and the employer from punitive sanctions levied by the regulator) have contributed to major reductions in accidents. In March of 2005, FRA completed an overarching memorandum of understanding with railroad labor organizations and railroad management to develop pilot programs to document close calls. Participating railroads will be expected to develop corrective actions to address the problems that may be revealed. The aggregate data may prove useful in FRA's decision-making concerning regulatory and other options to promote a reduction in human factor-caused accidents. However, the project has not yet produced sufficient data to consider in this final rule.

E. Railroad Safety Advisory Committee (RSAC) Overview

In March 1996, FRA established RSAC, which provides a forum for developing consensus recommendations to FRA's Administrator on rulemakings and other safety program issues. The Committee includes representation from

all of the agency's major customer groups, including railroads, labor organizations, suppliers and manufacturers, and other interested parties. A list of member groups follows:

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

Effective May 2006, the following additional members have been added to the Committee:

Transportation Security Administration*;

American Chemistry Council;
 American Petroleum Institute;
 Chlorine Institute;
 Fertilizer Institute; and
 Institute of Makers of Explosives.

*Indicates associate, non-voting membership.

When appropriate, FRA assigns a task to RSAC, and after consideration and debate, RSAC may accept or reject the task. If the task is accepted, RSAC establishes a working group that possesses the appropriate expertise and representation of interests to develop recommendations to FRA for action on the task. These recommendations are developed by consensus. A working group may establish one or more task forces to develop facts and options on a particular aspect of a given task. The task force then provides that information to the working group for consideration. If a working group comes to unanimous consensus on recommendations for action, the package is presented to the full RSAC for a vote. If the proposal is accepted by a simple majority of RSAC, the proposal is formally recommended to FRA. FRA then determines what action to take on the recommendation. Because FRA staff play an active role at the working group level in discussing the issues and options and in drafting the language of the consensus proposal, FRA is often favorably inclined toward the RSAC recommendation. However, FRA is in no way bound to follow the recommendation, and the agency exercises its independent judgment on whether the recommended rule achieves the agency's regulatory goal, is soundly supported, and is in accordance with policy and legal requirements. Often, FRA varies in some respects from the RSAC recommendation in developing the actual regulatory proposal or final rule. Any such variations would be noted and explained in the rulemaking document issued by FRA. If the working group or RSAC is unable to reach consensus on recommendations for action, FRA moves ahead to resolve the issue through traditional rulemaking proceedings.

F. Establishment of the Railroad Operating Rules Working Group and Development of the NPRM

On April 14, 2005, FRA held a Human Factors Workshop which convened members of RSAC for the purpose of developing a task statement to be presented at the next RSAC meeting. FRA explained that current regulations do not address compliance with the relevant operating rules that cause the preponderance of human factor

accidents. The agency expressed a desire to standardize and adopt these rules as Federal requirements with greater accountability being the goal. It was also raised that training and qualification programs should be included as part of the task because employee compliance is certainly directly related to how well employees are instructed and tested. FRA suggested that one area of consideration was to improve its regulations (49 CFR part 217) which require each railroad to instruct its employees on the meaning and application of its code of operating rules, and to periodically test its employees to determine their level of compliance. Many participants expressed a preference for non-regulatory action.

On May 18, 2005, the RSAC accepted a task statement and agreed to establish the Railroad Operating Rules Working Group whose overall purpose was to recommend to the full committee how to reduce the number of human factor caused train accidents/incidents and related employee injuries. The working group held eight two-day conferences, one per month from July 2005 through February 2006. The vast majority of the time at these meetings involved review of an FRA document suggesting language that could form the basis of proposed regulatory text.

The draft proposed rule text that FRA developed for the working group was the agency's first attempt to address several broad concerns. One, FRA set out to propose regulations that addressed those human factors that are the leading cause of train accidents. This involved analyzing the accident/incident data, identifying the relevant causes, identifying the relevant operating rules and procedures, and synthesizing those railroad rules and procedures in clear and enforceable language. Two, FRA's issuance of EO 24 was intended to address the emergency created by the mishandling of hand-operated main track switches in non-signalized territory that caused several tragic accidents; however, EO 24 was never intended to be a permanent arrangement, and the initiation of an informal rulemaking was necessary to provide the public and the regulated community an opportunity to provide comment on preferences for a final rule. Three, as the agency with oversight of railroad safety, FRA was aware of both the successes and failures of each railroad's program of operational tests and inspections required pursuant to 49 CFR 217.9. The draft proposed rule text was designed to close loopholes and impose specific reviews to focus testing and inspection programs on the

operating rules that have the greatest impact on safety.

FRA clearly benefitted from the participation of the working group in detailed review of railroad operating rules and practices. The working group's meetings provided a meaningful forum for interested participants to be able to offer insight into the strengths and weaknesses of FRA's suggested draft proposed rule text and related issues. Unfortunately, the RSAC participants were unable to reach a consensus for making formal recommendations prior to issuance of the proposed rule. The working group's consensus was limited to an agreement to reconvene to discuss the NPRM, and any comments received, after the NPRM comment period closed. Relying heavily on items that the working group achieved near consensus on and ideas suggested by FRA that received support from at least some members of the working group, FRA published an NPRM on October 12, 2006. 71 FR 60372.

G. Development of the Final Rule

As mentioned previously in this preamble, FRA's main purpose in issuing this rule is to reduce the number of accidents/incidents attributed to human factor causes and this regulation is narrowly tailored to accomplish that goal. The correlation between these accidents/incidents and the final rule have been established. This final rule is the product of FRA's decisions regarding the most effective way to regulate after review and consideration of input from both the comments filed in the docket and the RSAC. This final rule is also the product of FRA's experience with EO 24; FRA is adopting many of its requirements and revising others. Furthermore, this final rule requires revisions to each railroad's operational testing and inspection program to ensure that each railroad's officers are better qualified to conduct tests and inspections and each railroad is, in fact, focusing its program on the most serious safety concerns.

1. Summary of the Comments

The NPRM specified that written comments must be received by December 11, 2006, and that comments received after that date would be considered to the extent possible without incurring additional expense or delay. FRA received 12 comments by the deadline and two comments after the deadline. As an aid to further discussion at a meeting of the RSAC Operating Practices Working Group held in early February 2007, FRA prepared two comment summaries which have

been added to the docket. These documents contained the same information but one document arranged the comments by commenter and the other by section commented on. The 14th comment received, i.e., the comment of Mr. Walter C. Rockey filed on February 5, 2007, was received too late to include in these summary documents, although the comment was reviewed and considered. Thus, FRA considered all 14 comments filed with the docket.

The 14 commenters touched upon nearly every section of the NPRM, including some who made general comments that applied to the overall nature or approach of the NPRM. Some of the comments are addressed in the section of this preamble titled "IV. General Comments/Major Issues." Most of the comments, however, were specific to a particular proposed section and thus it made greater sense to address the comment in the section of the preamble titled "V. Section-by-Section Analysis." FRA believes that it has addressed each of the comments made by the 14 commenters, either directly or indirectly, and has consequently considered all known reasonable alternatives to the NPRM.

2. RSAC's Working Group Reviewed the Comments

The Railroad Operating Rules Working Group held two multi-day meetings (February 8–9, 2007 and April 4–5, 2007) in an attempt to achieve consensus recommendations based on the proposed rule and the comments received. The RSAC participants were able to achieve limited consensus on a few items and those consensus items were agreed to by the full RSAC. In the areas where RSAC was able to achieve a consensus recommendation, FRA honored the principle of each recommendation and generally sought to carry forward the elements of the discussion draft that had benefited from thoughtful comment by RSAC participants. The final rule's text, however, might be slightly different in light of regulatory drafting requirements. FRA developed a greater appreciation for the nuances of each of the railroad operating rules and practices discussed; and, armed with that additional insight, FRA has sought to put forth a reasonable final rule that reflects real world railroading.

FRA has noted in the section-by-section analysis where we have adopted an RSAC recommendation or deviated from it. FRA also refers to comments and suggestions made by members of the Working Group, full RSAC, or other commenters so as to show the origin of

certain issues and the nature of discussions concerning those issues. FRA believes these references serve to illuminate factors it has weighed in making its regulatory decisions, as well as the logic behind those decisions. The reader should keep in mind, of course, that only the full RSAC makes recommendations to FRA, and it is the consensus recommendation of the full RSAC on which FRA is acting. However, FRA is in no way bound to follow the recommendation, and the agency exercises its independent judgment on whether the recommendations achieve the agency's regulatory goal, is soundly supported, and is in accordance with policy and legal requirements.

3. Consideration of Underlying Principles in Emergency Order 24

EO 24 illuminated the problems associated with mishandling of hand-operated main track switches in non-signalized territory. While there may be more than one cause that contributes to noncompliance with the operating rules, accidents could be prevented by strict employee compliance with those rules. Accidents involving this type of switch often occur when the employee operating the switch loses focus on the task at hand. In an effort to refocus the attention of employees who operate switches, EO 24's seven sections can be boiled down to three major components: (1) Instruction, (2) communication, and (3) verification through testing. FRA's final rule incorporates these three major components but with a broader application.

Instruction. It is fundamental that an employee cannot be expected to properly abide by operating rules without proper instruction, especially when those operating rules have been amended. To that end, EO 24 provides an outline for essential initial instruction and periodic instruction. Likewise, FRA is requiring enhanced instruction, training, and examination, i.e., qualification, for employees on the relevant operating rules, pertaining to handling equipment, switches and fixed derails.

Communication. FRA agrees with the general principle that mistakes can be prevented or corrected by proper communication. Communication prevents noncompliance and accidents because it generally is how people working together know what each other is doing. For example, EO 24 stressed the importance of communication by requiring job briefings at certain crucial intervals: Before work is begun; each time a work plan is changed; and at completion of the work. Such regular

job briefings ensure that employees working together understand the task they are intending to perform and exactly what role is expected of them and their colleagues. Through proper job briefings, employees can prevent some mishaps and contain others from worsening a bad situation. For these reasons, FRA proposes a job briefing component to this rulemaking.

In the background section of EO 24, FRA described a recurrent scenario of noncompliance where a train crew's mistake in leaving a main track switch lined for movement to an auxiliary track was the last act or omission that resulted in an accident; and yet these types of accidents are preventable through reliable communication of the actual switch position. This scenario "occurs when a train crew has exclusive authority to occupy a specific track segment until they release it for other movements and [yet] that train crew goes off duty without lining and locking a hand-operated main track switch in its normal position." 70 FR at 61497. It is unfortunate that FRA has to clarify that the communication be reliable and accurately reflect the switch position, but some accident investigations have revealed employees whose actions implied more of an interest in quitting work for the day than taking the safe route to verify a switch's position and whether it was properly locked. FRA's final rule retains EO 24's emphasis on intra-crew communication or intra-roadway worker group communication. See 70 FR at 61499–50 and § 218.105.

Perhaps the most controversial aspect of EO 24 is the requirement that employees operating hand-operated main track switches in non-signalized territory complete a Switch Position Awareness Form (SPAF). The SPAF requirement is controversial because it creates a paperwork burden for employees and railroads. Switches may be lined and locked properly, but a violation of EO 24 may occur for merely failing to fill out a single component on the form. Critics of the form may not appreciate that FRA's intention for requiring a SPAF is to create a contemporaneous communication that reminds the employee of the importance of properly lining and locking such main track switches.

In the case of a train crew, the contemporaneous communication created by the SPAF is twofold: (1) The SPAF itself is a written communication that reminds the employee operating the switch to keep track of the switch's position and (2) another crewmember, typically the locomotive engineer, serves as a secondary reminder to the employee operating the switch because

that other crewmember is also required to request information as to the switch's alignment. As FRA clarified in EO 24's second notice, it is immaterial how crewmembers communicate, e.g., whether in-person, by radio, by hand signals, or other effective means, as long as the communication takes place. 70 FR 71186 and 71188. By requiring both the SPAF and the intra-crew communication, FRA is requiring some redundancy, i.e., two communication reminders to properly line and lock such switches in the case of a train.

For purposes of EO 24, the paperwork burden and the redundancy in communication created by the introduction of the SPAF was acceptable. The very sharp increase in collisions, deaths and injuries resulting from improperly lined main track switches required FRA to take decisive action. Prior to EO 24, many railroads had already adopted the use of a SPAF voluntarily as a best practice suggested in Safety Advisory 2005–1. However, the inclusion of a SPAF in EO 24 does not bind the agency to forever require it; and the final rulemaking promulgates an alternative approach that does not include it. Of course, as this subpart prescribes minimum standards and each railroad may prescribe additional or more stringent requirements, each railroad has the choice to decide whether to continue using a SPAF after the effective date of this rule.

FRA decided not to require a SPAF in this final rule because the comprehensive communication requirements contained in §§ 218.103 and 218.105, create a direct enforcement mechanism that makes enforcement through a SPAF redundant. For example, the final rule includes a requirement that all crewmembers verbally confirm the position of a hand-operated main track switch that was operated by any crewmember of that train before it leaves the location of the switch. See § 218.105(c)(1). Likewise, the final rule requires that upon the expiration of exclusive track occupancy authority for roadway workers, roadway workers who operate hand-operated main track switches report the position of any such switches operated to the roadway worker in charge. See § 218.103(c)(2).

NTSB also "does not believe that * * * the use of forms [such as a SPAF] is sufficient to prevent recurrences of accidents such as the one at Graniteville." NTSB/RAR–05/04 at 45. In support of this position, NTSB cites to the example of railroads that require train crews to record signal indications as they are encountered en route in order to lessen the chance that a block

or other fixed signal will be missed or misinterpreted by a crew. Meanwhile, NTSB states that it "has investigated a number of accidents in which such forms, although required and used, did not prevent crews from missing signals and causing accidents." *Id.*

Although NTSB does not support the use of a SPAF, it did express agreement with the emergency order in two respects. That is, NTSB supported EO 24's requirements directing that job briefings be held at the completion of work and that a train crewmember who repositions a hand-operated main track switch in non-signalized territory communicate with the engineer regarding the switch position. In support of this position, NTSB explains that "a comprehensive safety briefing was not held before the work at Graniteville [and] [h]ad such a briefing been held before and, more importantly, after the work (as required by the FRA emergency order), the accident might have been avoided." *Id.* at 46. As stated previously, FRA is retaining these two aspects from the emergency order in its rule.

The EO 24 requirements for employees releasing the limits of a main track authority in non-signalized territory to communicate with the train dispatcher have, for the most part, carried over to this final rule and been strengthened. The final rule retains the requirement in EO 24 that an employee releasing the limits of a main track authority in non-signalized territory communicate with the train dispatcher that all hand-operated main track switches operated have been restored to their normal position, unless the train dispatcher directs otherwise, but only to the extent that the switches are at the location where the limits are being released. 70 FR at 61499 and § 218.105(d). With the elimination of the requirement for a SPAF, it would be difficult for an employee to recall the condition of any particular hand-operated main track switch operated and there would likely be a reaction for an employee to believe he or she left all such switches in proper position—without much opportunity to double-check the condition of those faraway switches at that time. As mentioned previously, accidents often occur where the limits are being released and that is why the final rule has placed emphasis on addressing the problem prior to departing the train's location. The switches located at the point of release of the limits should be readily accessible for any employee who is unsure of the condition the switch was last left in. The final rule also adds the requirement that the employee report

that the switch has been locked; locking of the main track switch should prevent easy access to unauthorized users.

Hand-in-hand with the EO 24 requirement that the employee contact the dispatcher to release main track authority in non-signaled territory is the corresponding requirement in EO 24 for train dispatchers; that is, EO 24 requires that the train dispatcher must also confirm the switch positions with the employee releasing the limits before clearing the limits of the authority and confirm that the SPAF was initialed as required. The final rule also requires the train dispatcher to verify the switch position information with the employee and the requirement for the dispatcher to confirm that the switch is locked in the intended position by repeating to the employee releasing the limits the report of the switch position and asking whether that is correct. The final rule also strengthens the current requirement in EO 24 by requiring that the employee then confirm this information with the train dispatcher.

Verification through testing. The third major component of EO 24's requirements involves the verification of compliance through testing. FRA's regulations, at 49 CFR Part 217, require each railroad to instruct its employees on the meaning and application of its code of operating rules, and to periodically test its employees to determine their level of compliance. Compliance with railroad operating rules is critical, especially when technology does not provide a fail safe option.

4. Recognition of the Need To Improve Railroad Programs of Operational Tests and Inspections

Most railroads have excellent written programs of operational tests and inspections, but FRA has identified weaknesses in the oversight and implementation of nearly all of these programs. For example, some railroad testing officers lack the competency to perform operational tests and inspections. Likewise, some railroads do not perform operational tests that address the root cause of human factor accidents, while others view the requirement as a numbers-generating exercise, and consequently conduct relatively few meaningful tests. That is, while it may be important that employees come to work with the proper equipment (and FRA considers that a basic requirement which, of course, must be satisfied), FRA's concern is that not enough verification testing is occurring on the operating rules most likely to cause accidents,

including but not limited to rules addressing handling of switches.

In EO 24, FRA's verification through testing and inspection requirements were narrowly focused on those operating rules involving the operation of hand-operated main track switches in non-signaled territory. The purpose of this narrow focus was to create a special obligation for only those types of rules violations that were causing the emergency situation. FRA still believes compliance with these types of rules should be verified. The final rule replaces EO 24's requirements and adds requirements for verification of testing on a broader number of operating rules directly related to the root cause of human factor accidents; that is, the final rule requires testing of all the rules related to part 218, subpart F, not just those rules related to hand-operated main track switches in non-signaled territory.

The final rule also amends §§ 217.4 and 217.9 to require competency of railroad testing officers. In FRA's view, it is unfathomable that railroad testing officers would be allowed to conduct tests and inspections without proper instruction, on-the-job training, and some kind of written examination or observation to determine that the person is qualified to do the testing; however, Federal regulations currently do not require that railroad testing officers be qualified in such a manner. Railroads should already be shouldering this burden without Federal requirements so we do not view this as a substantial burden; instead, we view the qualification of railroad testing officers as a necessary expense of operating a railroad.

Furthermore, railroad officers that test for noncompliance are typically the same officers who are in charge of operations. In that regard, a railroad officer, who is knowledgeable of Federal requirements and the government's enforcement authority over individual officers, should be discouraged from ordering an employee to violate any operating rule inconsistent with proposed part 218, subpart F. In other words, if all railroad testing officers on a particular railroad are properly qualified, it will be more difficult for railroad officers to accept inconsistency in the application of operating rules.

FRA is amending § 217.9 to require railroads to focus programs of operational tests and inspections "on those operating rules that cause or are likely to cause the most accidents or incidents." See § 217.9(c)(1). Except for the smallest freight railroads, FRA is requiring that each railroad conduct one or more reviews of operational tests and

inspections that should help guide each railroad in the implementation of its program. The quarterly and six-month reviews for freight railroads, as well as the reviews for passenger railroads, in § 217.9(e) would formalize a best practice from some of the largest and safest railroads nationwide. These reviews are intended to ensure that each railroad is conducting tests and inspections directed at the causes of human factor train accidents and employee casualties. Each program will be specifically required to include appropriate tests and inspections addressing the rules dealing with handling of switches, leaving equipment in the clear, and protecting the point of the shove. Structured tests or observations permit railroads to find employees that need additional training or who may benefit from a reminder that it is not acceptable to take shortcuts that violate the operating rules.

Furthermore, the final rule's requirements to amend the program of operational tests and inspections, by emphasizing its purpose to focus on operating rules violations that cause accidents, should cut down on the disparity between the few instances of noncompliance found by many railroads with the many instances of noncompliance found through FRA inspections on the same railroads (see discussion in "*Increase In Human Factor Caused Accidents and Noncompliance*"). While railroads have universally done an acceptable job of taking corrective action following an accident, railroads have not done as well in consistently testing for the variety of operating rules, at a variety of locations, and at different times of the day, in order to meet FRA's expectations for an effective testing and inspection program. Accidents and incidents of noncompliance should be prevented by the formalization of the process of verification through testing and FRA's ability to inspect each railroad's program of operational tests and inspections, as well as its records.

Finally, FRA emphasizes that it is retaining an enforcement mechanism, as it did in EO 24, because prior reliance on the railroad to ensure employee compliance with railroad operating rules without a Federal enforcement mechanism has repeatedly proven to be inadequate to protect the public and employee safety. Under current regulations, FRA has been able to effectively intervene in railroad operating rules compliance issues (apart from those already codified as obligations under existing regulations) only indirectly, through use of substantial resources, and in the case of

exceptionally pervasive noncompliance. The system of accountability provided for in this final rule will, by contrast, encourage railroad management to prevent a lessening of oversight or decline in compliance by reviewing safety performance in detail, assisting individual employees to acquire habits of work that are consistent with safety by permitting them to challenge directions that could cause them to cut corners, and permitting individual FRA inspectors to more persuasively seek corrective action early in the process of deteriorating rules compliance.

III. Remote Control Operations

A. Background

Remote control devices have been used to operate locomotives at various locations in the United States for many years, primarily within certain industrial sites. Railroads in Canada have made extensive use of remote control locomotives for more than a decade. FRA began investigating remote control operations in 1994 and held its first public hearing on the subject in February 1995 to gather information and examine the safety issues relating to this new technology. On July 19, 2000, FRA held a technical conference in which all interested parties, including rail unions, remote control systems suppliers, and railroad industry representatives, shared their views and described their experiences with remote control operations. This meeting was extremely beneficial to FRA in developing its subsequent Safety Advisory.

On February 14, 2001, the FRA published recommended guidelines for conducting remote control locomotive operations. See 66 FR 10340, Notice of Safety Advisory 2001-01, Docket No. FRA-2000-7325. By issuing these recommendations, FRA sought to identify a set of "best practices" to guide the rail industry when implementing this technology. As this is an emerging technology, FRA believes this approach serves the railroad industry by providing flexibility to both manufacturers designing the equipment and to railroads in their different operations, while reinforcing the importance of complying with all existing railroad safety regulations. All of the major railroads have adopted these recommendations, with only slight modifications to suit their individual requirements.

Regarding the enforcement of Federal regulations as they apply to remote control locomotive operations, the Safety Advisory explains that: "although compliance with this Safety Advisory is voluntary, nothing in this

Safety Advisory is meant to relieve a railroad from compliance with all existing railroad safety regulations [and] [t]herefore, when procedures required by regulation are cited in this Safety Advisory, compliance is mandatory." *Id.* at 10343. For example, the Safety Advisory clearly states that "each person operating an RCL [remote control locomotive] must be certified and qualified in accordance with 49 CFR Part 240 [FRA's locomotive engineer rule] if conventional operation of a locomotive under the same circumstances would require certification under that regulation." *Id.* at 10344.

In November 2001, all six major railroads submitted to FRA their training programs for remote control operators as required by Part 240. Since that initial filing, several railroads have made changes to their remote control training programs at FRA's request. FRA is closely monitoring this training and making additional suggestions for improvement on individual railroads as they become necessary. These training programs currently require a minimum of two weeks classroom and hands-on training for railroad workers who were previously qualified on the railroad's operating and safety rules. Federal regulations require that locomotive engineers be trained and certified to perform the most demanding type of service they will be called upon to perform. Thus, a remote control operator who will only be called upon to perform switching duties using a remote control locomotive would not need to be trained to operate a locomotive on main track from the control stand of the cab. Major railroads are currently reviewing their remote control operator training plans in light of discussions with labor representatives and FRA regarding the requirements of these positions.

In addition to the required training, the regulations require railroads to conduct skills performance testing of remote control operators that is comparable to the testing required of any other locomotive engineer performing the same type of work. Federal regulations also hold remote control operators responsible for compliance with the same types of railroad operating rules and practices that other locomotive engineers are required to comply with in order to retain certification. See 49 CFR 240.117. Any alleged noncompliance triggers an investigation and review process. If a violation is found, the remote control operator will be prohibited from operating a locomotive on any railroad in the United States for a minimum of

15 days to a maximum of three years. The length of the prohibition (or revocation of the certificate) depends on whether the person was found to have committed other violations within the previous three years and whether the railroad, using its discretion, determined that the person had completed any necessary remedial training.

Furthermore, FRA addressed the current Federal locomotive inspection requirements and the application of those requirements to remote control locomotive technology. For example, the Safety Advisory states that the remote control locomotive "system *must* be included as part of the calendar day inspection required by 49 CFR 229.21, since this equipment becomes an appurtenance to the locomotive." 66 FR at 10344 (emphasis added). Another example of a mandatory requirement mentioned in the Safety Advisory is that the remote control locomotive "system components that interface with the mechanical devices of the locomotive, e.g., air pressure monitoring devices, pressure switches, speed sensors, etc., should be inspected and calibrated as often as necessary, *but not less than* the locomotive's periodic (92-day) inspection." *Id.* (emphasis added); see 49 CFR 229.23. Thus, the Safety Advisory reiterated that existing Federal regulations require inspection of the remote control locomotive equipment.

Although some aspects of this proposed rule pertains to main track operations where remote control locomotive operations rarely occur, most of the problems this proposal is intended to address are found equally in conventional and remote control locomotive yard switching operations. As FRA reported to Congress earlier this year, "RCL [i.e., remote control locomotive] and conventional train accident rates were virtually identical for those major railroads that made extensive use of both types of operations." "Final Report—Safety of Remote Control Locomotive Operations" ("Final Report") (March 2006) (published on FRA's Web site at <http://www.fra.dot.gov/>). The current remote control locomotive technology is best used for yard switching operations and is primarily used for that purpose. See Final Report at 15–17.

The final rule would continue FRA's policy of implementing minimum requirements for safe remote control locomotive operations within the confines of railroad operating rules having broad applicability. As previously explained, FRA has found existing rules adequate to accommodate safe remote control locomotive

operations without the need to draft a rule narrowly focused on remote control locomotive operations. *See* Docket No. FRA-2000-8422 (found at <http://dms.dot.gov/>) (denying a request for initiation of a rulemaking to solely address remote control locomotive issues). That said, after identifying certain characteristics of remote control locomotive shoving or pushing operations, FRA is implementing one requirement that pertains to remote control locomotive operations; that requirement addresses the problem of lack of situational awareness. *See* § 218.99(c). FRA also recognizes the relatively new use of permanently installed cameras in yards or at grade crossings which permit an employee to provide point protection without being physically present on, at, or ahead of the movement. Although it is possible for this technology to be used in conventional operations, e.g., by a yardmaster for a train crew, we believe it is more often used for remote control locomotive operations. *See* § 218.99(b)(2). The following background on these two issues should illuminate them further.

B. Situational Awareness

In FRA's recent report to Congress, the agency identified the potential for a reduction in a remote control operator's situational awareness as one of four human factor issues that warrant close attention as remote control locomotive technology continues to evolve. *See* Final Report at 24-26. A locomotive engineer, including a remote control operator, who is located in the cab of a controlling locomotive has a greater situational awareness than a remote control operator located on the ground. A remote control operator located on the ground may also be more easily distracted by conflicting movements or other physical dangers caused by continuously moving about the yard than a person located in a locomotive cab. The nature of remote control locomotive operations can also cause the remote control operator to be distracted by concentrating on switching operations, e.g., constantly referring to the switch list, coupling and uncoupling cars, and, pitching and catching. Also, a remote control operator on the ground may forget, or may not know, the locomotive orientation (i.e., the particular direction the remote control locomotive is heading) due to his or her location away from the remote control locomotive, and thus may inadvertently initiate a movement in the wrong direction. Similarly, a defective or misaligned switch could cause a movement to be

diverted onto a connecting track unintentionally and go unnoticed if the remote control crewmembers are not observing the direction of movement. Apparently, the latter is what happened on December 7, 2003, on the Union Pacific Railroad in San Antonio, Texas, when a remote control locomotive operator, while switching, was struck and killed by his locomotive at the west end of UP's East yard. The employee had reversed one end of a crossover switch and was walking toward the other end of the crossover switch to line it when he was struck from behind by the remote control locomotive. The employee had started the remote control locomotive moving as he was walking toward the other end of the crossover. *See* Final Report at 90. This move was initiated after the employee pushed a button to realign a power-assisted switch, but likely did not wait at the switch machine to confirm visually that the points had moved to the correct position. NTSB/RAB-06/02 at 9. In addition to lack of adequate railroad oversight of the misaligned power-assisted switch, NTSB concluded that the probable cause of this accident was the employee's "inattentiveness to the location of the locomotives and the switch position." NTSB/RAB-06/02 at 11. Certainly, this inattentiveness is another way to describe a lack of situational awareness.

As many railroads were not eager to invest in remote control technology until after FRA issued its Safety Advisory 2001-01, there is limited data and few studies completed detailing the safety implications of remote control operations; however, among the few studies that have been completed, situational awareness has arisen as a recurring theme. For example, in a study funded by FRA, an independently conducted root cause analysis of six remote control locomotive-involved accidents/incidents that occurred in 2006, found that the loss of situational awareness was a major factor in five of the accidents/incidents analyzed. Human Factors Root Cause Analysis of Accidents/Incidents Involving Remote Control Locomotive Operations (May 2006) (DOT/FRA/ORD-06/05) (published on FRA's Web site at <http://www.fra.dot.gov/downloads/Research/ord0605.pdf>). Further analysis suggests that remote control locomotive technology facilitated this loss of awareness in four of these five accidents/incidents by enabling remote control operators to control their cuts of cars away (i.e., remotely) from the point of movement. Additionally, four probable contributing factors were

related to one or more remote control operator's control of a movement from a physical location away from the remote control locomotive and/or cut of cars. Consequently, the independent contractor who performed the root cause analysis identified the loss of remote control operator situational awareness as one of only four critical safety issues identified. *See* Final Report at 85-90.

FRA also sponsored the same independent contractor to undertake a study based on focus group sessions with remote control operators. These sessions provided a forum to gather information about operator experiences with remote control locomotive operations, to identify safety issues, lessons learned, and best practices from those who are most familiar with remote control locomotive operations and equipment. Focus groups also provided a means to solicit suggestions on how to improve remote control locomotive operations. One of the themes identified was that situational awareness can be lost when the remote control operator is not in the immediate vicinity of the remote control locomotive. Among the recommended practices from the focus groups were the suggestions to standardize operating practices and to require remote control operators to protect the point at all times. *See* Final Report at 79-85.

The Brotherhood of Locomotive Engineers and Trainmen (BLET) sponsored a study by Dr. Frederick C. Gamst, a private consultant specializing in railroading, and Mr. George A. Gavalla, a private consultant and former FRA Associate Administrator for Safety. "Hazard Survey of Remote Control Locomotive Operations on the General System of Railroads in the United States" ("BLET Study") (The BLET Study is available in the docket for this NPRM). The BLET Study is based on anecdotal information supplied by railroad workers and officers who voluntarily self-reported their thoughts and experiences concerning their interactions with remote control operations. All of the self-reporting was done in writing and mainly via the Internet in its various forms of communication (i.e., e-mails, bulletin-boards, weblog, etc.). The study catalogues the myriad experiences, complaints, and ideas that were recorded by Dr. Gamst over three years beginning in January 2002. The anecdotal information collected by Dr. Gamst reflects the same general themes identified in the focus group study sponsored by FRA and described in the preceding paragraph. As in FRA's sponsored focus group study, the information Dr. Gamst collected is not

statistically sampled to be representative of all remote control operators in the U.S. or Canada. While the main drawback to these types of studies is that the researchers do not attempt to validate any statements made by employees, as participation is often premised on the condition that employees remain anonymous, the collection of individual opinions and perceptions taken as a whole are useful in identifying problems associated with remote control operations. Like the FRA's sponsored studies, the BLET's sponsored study also identified perceived problems associated with a remote control crew not observing the direction of movement. Specifically, the BLET study raised the issue as the reason why a remote control operator might keep shoving or pulling after a movement derailed or collided with an obstruction. *Id.* at 60–62.

C. Technology Aided Point Protection

The proposed rule contained a preamble discussion regarding how cameras and other technologies are increasingly being installed as an alternative to having an employee directly observing the leading end of a shoving or pushing movement. The technology permits indirect observation and is in use, mainly in yards, to provide point protection during remote control operations or when it would be more efficient during some conventional operations. In the proposed rule, FRA explained that it is possible to set up these cameras and monitors so that they provide at least an equivalent level of safety to that of an employee protecting the point. Of course, not every operation may be set up properly, working properly, or provide an equivalent level of safety. In order to facilitate the use of such technology, the final rule would only permit such an operation to substitute for an employee's direct visual determination where the technology provides an equivalent level of protection to that of a direct visual determination. *See* § 218.99(b)(3)(i).

Even with this clarification, the proposed rule raised the concern regarding whether previously published guidance should be incorporated in the final rule. The BRS commented that there are too many questions regarding the safe use of remote cameras and that regulation is necessary to provide that cameras cannot be used when they are not working as intended for any reason. FRA believes the final rule addresses BRS's concern as the technology cannot possibly afford an equivalent level of protection if it is not working properly. Furthermore, FRA has decided to incorporate the guidance as an appendix

to part 218. Appendix D includes further explanation and mandatory requirements for exercising the option to provide point protection with the aid of technology as permitted in § 218.99(b)(3)(i).

The issue of reliance on non-crewmembers to carry out some remote control locomotive operator crew functions was raised in the focus group study sponsored by FRA and summarized in the Final Report. The remote control operators that made up the focus groups had indicated that there were occasions in which a non-crewmember, generally a yardmaster, would provide point protection, line switches, or check the status of a derail for a remote control crew. When this was allowed, several potential problems could result. First, there is great potential for an error in communication or a misunderstanding between the non-crewmember and the crewmembers regarding the activity or status of equipment. Further, a yardmaster who is occupied with his or her other responsibilities might not give the task the attention it deserves, or could be distracted and give an incorrect answer to a question by a remote control crewmember (e.g., "is the move lined?"). The result could be that the task does not get completed or there is an error in task execution. Further, the remote control crew might not have any alternative way of determining that there is a problem with the point protection provided by the non-crewmember until it is too late. *See* Final Report at 82. Similar issues were raised in the BLET Study. BLET Study at 44.

In response to these concerns, FRA has specified additional requirements for technology aided point protection to be used by remote control locomotive operations at highway-rail grade crossings, pedestrian crossings, and yard access crossings in Appendix D, II. One, before conducting such operations, diagnostic testing is required to determine the suitability of the crossing for permitting technology aided point protection. The Crossing Diagnostic Team shall include representatives from the railroad, FRA, as well as the relevant State and local governments. Two, Appendix D specifically requires such operations to be conducted only "at crossings equipped with flashing lights, gates, and constant warning time train detection systems;" thus, it is clear that such operations are not permitted where there are passive warning systems or only some but not all of those active warning systems listed. Three, the safety of such operations is enhanced by having the remote control operator view

the monitor and thus that has also been added to the requirements. The fourth and fifth requirements for such operations are intended to ensure that the cameras are arranged so that the remote control locomotive operator can accurately judge the end of the movement's proximity to the crossing as well as the speed and driver behavior of any approaching motor vehicles. Six, the remote control locomotive operator is required to be able to determine that the flashing lights and gates are working as intended either by sufficient camera resolution or a remote health monitoring system. The seventh and final requirement for such operations is that the railroad notify FRA's Associate Administrator for Safety in writing when this type of protection has been installed and activated at a crossing.

IV. General Comments/Major Issues

A. Enforcement

FRA received a variety of comments that expressed concern about enforcement of the rule. At the RSAC working group meetings, the labor organizations expressed concern that the final rule might enable FRA to assess civil penalties against individual employees for noncompliance with what were formerly just railroad operating rules. FRA understands from the comments and RSAC discussions that the labor organizations would prefer that FRA implement a process for employees to report unsafe conditions, such as FRA's Confidential Close Call Reporting System Demonstration Project discussed in this preamble (II. D.), rather than penalizing employees. BMWED's comments may have captured the labor position best when it expressed that there are underlying root causes for why accidents occur and thus FRA should exercise maximum restraint in assessing civil penalties against individual employees. BMWED also requested that FRA limit enforcement to individual railroad employees who commit the most egregious, gross and willful violations, and that mistakes, human error, and poor judgment do not rise to the level of the most egregious, gross and willful violations.

FRA wishes to clarify some apparent misunderstandings. For instance, there was a general idea expressed by labor participants in the RSAC meetings that this final rule would be different than the other Federal rail safety regulations because this one specifically allows FRA to enforce the regulation against an individual employee. This is incorrect. Each of FRA's rail safety regulations permit enforcement against any person who violates a regulatory requirement or

causes the violation of any requirement. See e.g., § 217.5 and § 218.9. "Person" is broadly defined and includes any employee, regardless of whether the employer is a railroad or not, or whether the employee is a manager, supervisor or other official. In other words, this final rule is not unique to FRA's regulations in that it permits FRA to take enforcement action against individual persons for a failure to comply including the assessment of civil penalties if the violation is willful or the issuance of a warning letter for a willful or nonwillful violation or a notice of proposed disqualification for a willful or nonwillful violation that demonstrates the person's unfitness for safety-sensitive service.

In response to BMWED's concern that FRA limit enforcement to individual railroad employees who commit the most egregious, gross and willful violations, we note that this is very similar to FRA's existing enforcement policy which we would apply to enforcement of this final rule. In both parts 217 and 218, FRA already states that "[p]enalties 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 to persons, or has caused death or injury." *Id.* FRA's well-established policy with regard to the assessment of civil penalties against individuals will apply here. See 49 CFR part 209, app. A.

Likewise, in the NPRM, FRA mentioned the concern that there may be instances where an employee realizes that he or she violated an operating rule but is afraid of the consequences of reporting the error—even when such reporting would have the potential to prevent an accident or injury to other workers or innocent bystanders. NTSB addressed this point in its report on the Graniteville accident when it stated that a "significant civil penalty may have an unintended impact on safety under some circumstances. That is, an employee who, after leaving a work site, realizes that a switch has been left improperly lined may be made more reluctant than in the past to immediately report the error to train dispatchers. The threat of the severe fine may prompt the employee to attempt a remedy (such as returning later to reline the switch) before the mistake can become known. As happened in the September 2005 fatal collision in Shepherd, Texas, such action on the part of the employee could contribute to an accident that might otherwise have been avoidable." NTSB/RAR-05/04 at 46. FRA disagrees with NTSB that

FRA's enforcement program would have a negative effect on an employee's decision to remedy a mistake. Given FRA's published enforcement policy, an employee who recognizes noncompliance and seeks to correct it has likely not acted willfully nor been grossly negligent. Instead, an individual civil penalty is warranted where an employee recognizes noncompliance and does not act to correct it. Thus, FRA's enforcement policy offers employees an incentive to self-report noncompliance as doing so would likely be considered a reason for FRA to exercise its enforcement discretion not to take enforcement action against the individual. (Self-reporting is not, however, a defense to a potential individual liability action, and self-reporting does not absolutely preclude FRA from taking enforcement action against an individual although FRA would consider self-reporting a strong reason for mitigation of the civil penalty, disqualification order, or other enforcement remedy.) When each railroad instructs its employees on its operating rules, it should emphasize this incentive to self-report. In addition, we encourage each railroad to reconsider its own discipline policy so that it does not discourage self-reporting of inadvertent noncompliance.

B. Good Faith Challenge—Legal Issues

Both prior to and subsequent to the publication of the NPRM, AAR raised legal objections to FRA promulgating a rule with a good faith challenge requirement as found in § 218.97. AAR's objections essentially raised four main issues: (1) Whether FRA has the authority to issue a regulation requiring good faith challenge procedures; (2) whether FRA is preempted by statute from enforcing regulatory good faith challenge procedures; (3) whether any regulatory good faith challenge procedures would contradict legislative intent by subjecting railroads to multiple enforcement actions and penalties; and (4) whether FRA is preempted by statute from requiring and enforcing an anti-retaliatory provision as part of the good faith challenge requirements.

Some of AAR's concerns are premised on the legislative history and statutory construction of 49 U.S.C. 20109 (Section 20109), which offers rail employees protections from retaliation when engaged in specified safety-related conduct. Meanwhile, Section 20109 was amended between the deadline for comments to the NPRM and this final rule. Public Law 110-53, which became effective on August 3, 2007, substantially amended Section 20109 by

increasing the number of situations in which an employee is statutorily protected from retaliation. For example, paragraph (a) of Section 20109 makes it unlawful to discriminate against employees when the discrimination is at all based on an "employee's lawful, good faith act:" (1) To aid nearly any type of investigation whether initiated by a governmental agency, Congress, or another person with supervisory authority over the employee or the authority to conduct such investigations; (2) "to refuse to violate or assist in the violation of any Federal law, rule, or regulation relating to railroad safety or security;" (3) to file a complaint, directly cause a railroad safety or security enforcement proceeding to be brought, or testify in such a proceeding; (4) "to notify, or attempt to notify, the railroad carrier or the Secretary of Transportation of a work-related personal injury or work-related illness of an employee;" and (5) to accurately report hours on duty pursuant to the Hours of Service Laws. Rail employees looking to seek protection against alleged retaliation for refusing to violate or assist in the violation of one of the regulations in part 218, subpart F, would likely do so under Section 20109(a)(2).

Under Section 20109(b), the statute prohibits a railroad employer from retaliating against an employee for: (1) "Reporting, in good faith, a hazardous safety or security condition;" (2) refusing to work, under certain conditions, when a hazardous safety or security condition is confronted in the employee's duties; and (3) refusing to authorize the use of any safety-related equipment, track or structures, if those items are in a hazardous safety or security condition and certain other conditions are met. Unlike Section 20109(a)(2), a refusal under Section 20109(b) is not predicated on a refusal to violate or assist in the alleged violation of any Federal law, rule, or regulation relating to railroad safety or security. Another substantial change to Section 20109 is that the statute no longer states that disputes and grievances are to be handled under the Railway Labor Act ("RLA"), but instead permits relief under this section to be initiated by an employee filing a complaint with the Secretary of Labor. Considering the substantial changes to Section 20109, rail employees and railroads are encouraged to carefully review the statute in order to respectively retain the protections afforded and comply with the law.

In consideration of the statutory amendments to Section 20109, there is no longer a need for a regulatory anti-

retaliation provision. This determination is further discussed in this section under the title “4. Anti-Retaliation Provision.” We anticipate that the elimination of the regulatory anti-retaliation provision, as well as other changes to the good faith challenge procedures made in response to various comments should allay most concerns, both legal and non-legal, raised by AAR and other commenters. Furthermore, for the following reasons, FRA remains unconvinced that there are any legal impediments to promulgating a good faith challenge regulation.

1. FRA’s Rulemaking Authority

One of AAR’s legal issues is the assertion that FRA does not have rulemaking authority to issue a good faith challenge provision. We disagree. FRA has authority to regulate railroad safety under 49 U.S.C. 20103 (Section 20103). More specifically, the language of Section 20103(a) mandates that “[t]he Secretary of Transportation, as necessary, shall prescribe regulations and issue orders for every area of railroad safety” (emphasis added). In addition, case law supports a broad interpretation of an agency’s authorizing statute. For example, in *Whirlpool Corp. v. Marshall*, 445 U.S. 1 at 11, (1980), the Supreme Court concluded that OSHA “clearly conform[ed] to the fundamental objective of the [Occupational Safety and Health] Act”—the purpose of which was “to prevent occupational deaths and serious injuries”—when it promulgated a regulation limiting retaliation against employees that refuse to work because of a good faith belief that they would be subjected to real danger of death or injury. Similarly, in promulgating § 218.97, FRA is conforming to the objective of its authorizing statute (to improve railroad safety), by prescribing a regulation which gives employees the right to challenge what may be an unsafe work assignment. Accordingly, FRA is authorized to issue the rule’s good faith challenge provision because it is intended to improve railroad safety.

AAR does not challenge FRA’s authority to regulate railroad safety under Section 20103. Instead, AAR claims that Section 20109 precludes that authority as it relates to the good faith challenge procedures, specifically singling out the proposed anti-retaliation provision previously found at § 218.97(b)(2). Meanwhile, changes to the rule and the statute have rendered AAR’s concerns moot. For instance, the final rule does not contain an anti-retaliation provision similar to the proposed provision and, thus, there cannot be a conflict between

Congressional intent and that particular regulatory provision.

AAR also argues that by legislating to provide employees a right to refuse to work in certain circumstances under Section 20109, Congress intended to preclude FRA from issuing a rule providing employees the right to exercise a good faith challenge in similar circumstances. It is important to note that the good faith challenge in both the NPRM and this final rule is distinguished from the statutory refusal to work as the regulatory challenge does not permit an employee to refuse to comply with the challenged directive indefinitely, but instead only protects the employee from being required to do the challenged task while the appeal process afforded by the good faith challenge procedures is on-going. See proposed § 218.97(b)(3), redesignated as § 218.97(c)(5)(iv) and (d)(2). The issue thus becomes whether Congress intended to preempt this type of rulemaking by FRA.

In support of such an argument, AAR asserts that FRA does not have the authority to issue rules providing for the good faith challenge for the same reasons that FRA may not directly regulate hours of service. In particular, AAR cites *Atchison, Topeka and Santa Fe Ry. v. Pena*, 44 F.3d 437, 441–42 (7th Cir. 1994), *aff’d, Bhd. of Locomotive Engineers v. Atchison, Topeka and Santa Fe Ry.*, 516 U.S. 152 (1996), in which the Seventh Circuit overturned FRA’s interpretation of the Hours of Service Act, 45 U.S.C. 61–66 (“Hours of Service Act”). AAR stated that “[s]ince Congress has established hours-of-service restrictions, FRA has no rulemaking authority to establish its own hours-of-service requirements.” AAR’s Comments at 3 (Dec. 11, 2006). By analogy, AAR argues that as Congress has established specific standards and a specific process for an employee to refuse work in Section 20109, FRA has no rulemaking authority to establish its own requirements for an employee to refuse work.

AAR’s analogy to, and reliance on, *Atchison* is misplaced. FRA is neither interpreting Section 20109 nor issuing rules that implement Section 20109. In order to effectuate that point, the final rule specifically requires in § 218.97(b)(2) that a railroad or employer’s good faith challenge written procedures “shall indicate that the good faith challenge described in paragraph (b)(1) is not intended to abridge any rights or remedies available to the employee under a collective bargaining agreement, or any Federal law including, but not limited to, 29 U.S.C. 651 *et seq.*, 6 U.S.C. 1142, or 49 U.S.C.

20109.” This requirement in the regulation is intended to clarify that FRA is not attempting to undermine the Congressional intent or language found in Section 20109. Instead, FRA is using the clear substantive rulemaking authority in railroad safety matters found in Section 20103.

2. FRA’s Enforcement Authority

Another of AAR’s legal issues is the assertion that FRA’s proposed rule provides for resolution of disputes and grievances arising in situations already covered by Section 20109. AAR argues that enforcing the good faith challenge procedures proposed in the NPRM would contradict legislative intent to preclude any agency enforcement of this issue and that Section 20109 provides similar employee protections and requires disputes, claims and grievances arising under that section to be handled by the RLA. AAR further notes that a House of Representatives committee report in the legislative history for that statute demonstrates that Congress intended the RLA to “be the exclusive means for enforcing this section” and that it did “not intend for FRA to be involved in this area.” H.R. Rep. No. 1025, 96th Cong., 2d Sess., at 16 (1980). AAR thus argues that the enforcement of the regulatory good faith challenge procedures is preempted by Section 20109(c) and its legislative history. With the recent amendments to Section 20109, AAR’s references to legislative history have lost relevancy. However, FRA disagrees with AAR’s position under the former statute and the version effective August 3, 2007.

AAR confuses procedures for handling the initial exercise of a right with procedures for handling a claim of retaliation “resulting from” the initial exercise of a right. Under the former statute, Section 20109(c) provided procedures for handling a claim of retaliation as a consequence of the initial refusal to work. That section stated that “a dispute, grievance, or claim arising under this section is subject to resolution under section 3 of the Railway Labor Act.” This language refers to disputes, claims and grievances resulting from a claim of retaliation as a result of the employee’s exercise of the right under former Section 20109. The legislative history of that statute corroborates this assertion. A House of Representatives Committee Report discussing the remedy under former Section 20109 refers to discrimination not involving discharge or suspension “such as assignment to undesirable duties.” Since a dispute over an assignment of undesirable duties refers to an act of retaliation rather than an

exercise of the initial right to refuse work, this report lends support to the proposition that the language “dispute, grievance, or claim arising under this section” in former Section 20109(c) refers to disputes resulting from the retaliation that occurred and not from the initial exercise of the right to refuse to work. The same position is applicable to Section 20109 as recently amended.

This rulemaking, on the other hand, only requires procedures for handling the “initial” exercise of the good faith challenge. These procedures include such actions as not requiring the challenging employee to complete the work until the good faith challenge is resolved and allowing the employee to document the challenge. The procedures provide employers and employees with a process for handling an employee’s good faith challenge. Unlike Section 20109, the procedures do not provide employers and employees with a process for handling an employee’s claim of retaliation resulting from his or her good faith challenge. Therefore, FRA’s procedures for handling the good faith challenge do not contradict legislative intent as applied to this issue.

3. Multiple Enforcement Actions

AAR argues that the good faith challenge would contradict legislative intent by subjecting railroads to multiple enforcement actions and penalties in situations where both the statutory right to refuse work under Section 20109 and the regulatory right to a good faith challenge would apply. Assuming the employee chose to make a good faith challenge and then claimed that he was consequently retaliated against, AAR argues that the employer would not only be subject to a civil penalty by the FRA under the regulation but would also be subject to damages by the Department of Labor (“DOL”) for violating Section 20109. AAR argues that multiple penalties for the same occurrence contradict legislative intent.

The statutory and legislative histories of Section 20109 do not appear to support AAR’s claim that multiple penalties are impermissible. While former 49 U.S.C. 20109(d), current 49 U.S.C. 20109(e), and H.R. Report No. 1025 state that employees may not seek protection under multiple provisions, they do not address the issue of preventing employers from facing multiple penalties. The statutory “election of remedies” provision is intended to protect an employer from having to pay the same types of damages to an employee multiple times just because there are multiple statutory

provisions upon which an employee could file a complaint or a suit. The election of remedies provision is intended to prevent, for example, an employee from getting double the backpay, compensatory damages, and punitive damages the employee is entitled to by seeking protection under both the Occupational Safety and Health Act of 1970, 29 U.S.C. 660(c), and Section 20109. We believe AAR is misinterpreting the election of remedies provision by confusing FRA’s enforcement of penalties against an alleged bad actor versus an employee seeking remedies for him or herself. Furthermore, a railroad routinely may face multiple demands for penalties or lawsuits in safety matters. Many times, when FRA enforces a regulation against a railroad for a set of facts, the railroad is privately sued based on the same set of facts. This situation is no different and legally acceptable.

4. Anti-Retaliation Provision

AAR made several arguments suggesting that FRA is prohibited by statute from including an anti-retaliation provision in the rule and, although FRA disagrees with AAR’s legal conclusion, the proposed anti-retaliation provision found in § 218.97(b)(2) of the NPRM has not been retained in the final rule. FRA proposed an anti-retaliation provision that required each railroad’s good faith written procedures to provide that an employee making a good faith challenge not be discharged or in any way discriminated against for making the challenge. In order for the good faith challenge to achieve its intended purpose, i.e., improve railroad safety, it is fundamental that an employee be protected from retaliation when holding an employer or supervisor accountable. In October 2006, when the NPRM was published, the Federal laws protecting rail employees from retaliation were more narrowly written than the recently amended statutory protections provided for in Section 20109; consequently, when the NPRM was published, FRA was concerned that there could be multiple scenarios where an employee could raise a good faith challenge and not otherwise be legally protected from employer retaliation.

Given the statutory amendments effective August 3, 2007, it is unlikely that a rail employee, whether working for a publicly-owned railroad, a privately-owned railroad, or a contractor or subcontractor of either type of railroad, would not be protected from retaliation under either Section 20109 or 6 U.S.C. 1142, which was also enacted in Public Law 110–53. These two

statutes protect employees from retaliation for “the employee’s lawful, good faith act done, or perceived by the employer to have been done or about to be done * * * to refuse to violate or assist in the violation of any Federal law, rule, or regulation relating to” either “public transportation safety or security” or “railroad safety or security” respectively. 6 U.S.C. 1142(a)(2) or 49 U.S.C. 20109(a)(2); *see also* 29 U.S.C. 660(c). These statutes require DOL to investigate complaints of anti-retaliatory action and provide an array of remedies to an employee for violation of the law including reinstatement, backpay with interest, compensatory damages, and punitive damages up to \$250,000. 49 U.S.C. 20109(d)(3) and 6 U.S.C. 1142(d)(3). Consequently, the recently effective anti-retaliatory statutory protections afforded to rail employees would now protect an employee from retaliation under FRA’s good faith challenge rule and it is thus unnecessary for this final rule to require that each railroad include a similar anti-retaliation provision in its good faith challenge procedures.

Any potential FRA enforcement of anti-retaliation under the good faith challenge regulation would likely only add a nominal deterrent effect given the substantial remedies employees may seek directly against a defendant under the employee protections statutes. FRA’s enforcement authority is limited to civil penalty assessments up to \$27,000 against employers and individuals (*see* 49 U.S.C. 21301), emergency orders, compliance orders and agreements, and FRA’s other statutorily granted enforcement authority. FRA does not have the authority to collect damages or back pay on behalf of any employee, nor order a railroad to reverse itself on a claim of discharge, discrimination or other retaliation. In consideration of these employee protection alternatives, FRA has decided to remove the anti-retaliatory provision from this rule rather than try to duplicate an investigation into alleged anti-retaliatory acts or omissions that an employee will certainly want to pursue under a collective bargaining agreement, with DOL, or in another forum.

Given the changed playing field for Federal inquiries into alleged retaliation, FRA is now assured that claims of retaliation will be adequately investigated and remedied by another Federal agency. FRA has already held discussions with DOL on ways to integrate FRA’s safety program with DOL’s whistleblower protection program. For example, FRA’s employees will be trained to recognize when an

employee has alleged retaliation so that FRA may inform employees of their basic rights and refer such employees to DOL. FRA anticipates taking other action to inform employees of the statutory protections, such as providing a link to DOL's Web site from FRA's Web site and reminding employee complainants of the statutory protection.

C. Preemptive Effect

The American Association for Justice (AAJ) commented that FRA had impermissibly broadened the scope of preemption under 49 U.S.C. 20106. AAJ objected to FRA's discussion in the preamble of the NPRM regarding 49 CFR 217.2 and 49 CFR 218.4. FRA's discussion of each of these sections was identical, providing that:

This section informs the public of FRA's intention and views on the preemptive effect of the rule. The preemptive effect of this rule is broad, as its purpose is to create a uniform national standard. Section 20106 of Title 49 of the United States Code provides that all regulations prescribed by the Secretary related to railroad safety preempt any State law, regulation, or order covering the same subject matter, except a provision necessary to eliminate or reduce an essentially local safety hazard that is not incompatible with a Federal law, regulation, or order and that does not unreasonably burden interstate commerce. Exceptions would be rare. In general, 49 U.S.C. 20106 will preempt any State law—whether statutory or common law—and any State regulation, rule, or order, that concerns the same subject matter as the regulations in this rule. 71 FR 60372 at 60382 and 60386.

AAJ specifically objected to FRA's assertion that the preemptive effect of the rule is broad, that exceptions would be rare, and that § 20106 preempts common law claims. In support of its position that these assertions amounted to an expansion of preemption, AAJ cited *In re Soo Line R. Co. Derailment of January 18, 2002*, 2006 WL 1153359, an unreported Minnesota state court decision. In that decision, the court found for various reasons that plaintiffs' claims were not preempted. Some were not preempted, according to the court, because although Federal regulations covered the subject matter of the claims, the conditions at the location at the time of the derailment constituted an essentially local safety hazard. Others were not preempted, the court said, because the Federal regulations covering the subject matter of the claims were violated. A third category of claims were found not to be preempted because the regulations alleged to cover the subject matter of the claims were deemed by the court not specific enough to do so, and a final group of claims were found not

to be preempted because there was no regulation covering the subject matter. While FRA disagreed with AAJ's comments, AAJ's comments have been rendered moot by enactment of Pub. L. No. 110–53, discussed below.

Normal State negligence standards apply where there is no Federal action covering the subject matter. In Pub. L. No. 110–53, Congress recently clarified the availability of State law causes of action under section 20106 where there is Federal action covering the subject matter. As amended, 49 U.S.C. 20106 provides that issuance of these regulations preempts any State law, regulation, or order covering the same subject matter, except an additional or more stringent law, regulation, or order that is necessary to eliminate or reduce an essentially local railroad safety or railroad security hazard; that is not incompatible with a law, regulation, or order of the United States Government; and that does not unreasonably burden interstate commerce. Section 20106 permits State tort actions arising from events or activities occurring on or after January 18, 2002, for the following: (a) A violation of the Federal standard of care established by regulation or order issued the Secretary of Transportation (with respect to railroad safety, such as these regulations) or the Secretary of Homeland Security (with respect to railroad security); (b) a party's violation of, or failure to comply with, its own plan, rule, or standard that it created pursuant to a regulation or order issued by either of the two Secretaries; and (c) a party's violation of a State standard that is necessary to eliminate or reduce an essentially local safety or security hazard, is not incompatible with a law, regulation, or order of the United States Government, and does not unreasonably burden interstate commerce. Nothing in section 20106 creates a Federal cause of action on behalf of an injured party or confers Federal question jurisdiction for such State law causes of action.

V. Section-by-Section Analysis

Part 217—[Amended]

Section 217.2 Preemptive Effect

This section informs the public of FRA's intention and views on the preemptive effect of the rule. The preemptive effect of this rule is broad, as its purpose is to create a uniform national standard. Section 20106 of Title 49 of the United States Code provides that all regulations prescribed by the Secretary related to railroad safety preempt any State law, regulation, or order covering the same subject matter, except an additional or more stringent provision necessary to

eliminate or reduce an essentially local safety or security hazard that is not incompatible with a Federal law, regulation, or order and that does not unreasonably burden interstate commerce. Section 20106 permits State tort actions arising from events or activities occurring on or after January 18, 2002, for the following: (a) A violation of the Federal standard of care established by regulation or order issued by the Secretary of Transportation (with respect to railroad safety, such as these regulations) or the Secretary of Homeland Security (with respect to railroad security); (b) a party's violation of, or failure to comply with, its own plan, rule, or standard that it created pursuant to a regulation or order issued by either of the two Secretaries; and (c) a party's violation of a State standard that is necessary to eliminate or reduce an essentially local safety or security hazard, is not incompatible with a law, regulation, or order of the United States Government, and does not unreasonably burden interstate commerce. Nothing in section 20106 creates a Federal cause of action on behalf of an injured party or confers Federal question jurisdiction for such State law causes of action. The NPRM language has been amended to reflect the changes made to Section 20106.

Only one comment addressed this paragraph and that comment has been discussed in the preamble. *See* IV. General Comments/Major Issues, C. Preemptive Effect.

Section 217.4 Definitions

FRA has added a definition of *Associate Administrator for Safety* to this section that is consistent with other definitions of this term in this chapter. The purpose of including this definition is to identify an official who would have the authority to require amendments to programs of operational tests and inspections. FRA did not receive any comments related to this definition.

FRA has added a definition of *qualified* to this section. The need for this definition arose from the new requirements for railroad testing officers in § 217.9. As further explained in the analysis for that section, it is not acceptable for a railroad testing officer to be monitoring or instructing employees without being instructed, trained and examined, i.e., qualified, on the railroad's operating rules and the tests the officer is expected to perform; thus, FRA is requiring such qualification. A person cannot be considered qualified unless he or she has successfully completed all "instruction, training, and examination"

programs required by both the railroad and this part.

The definition of “qualified” is modeled after the definition used in § 240.7 in this chapter and should have the same meaning despite some slight differences. The phrase “training and testing” has been replaced by “instruction, training, and examination” to more thoroughly reflect the educational aspects of the requirements for a qualified person. The definition does not contain the word “appropriate” prior to the educational aspects so as to emphasize that the educational aspects of qualifying a person are mandatory, not discretionary. A word choice was made to substitute the term “successfully completed” for the word “passed.” The definition added to part 217 is the same definition added to part 218, subpart F. The relevant comments FRA received pertained to the proposed requirements in § 217.9 and not the definition itself.

Section 217.9 Program of Operational Tests and Inspections; Recordkeeping

FRA is amending and adding paragraphs to this section. Although not every existing paragraph is being amended, FRA is reprinting the entire section to make it easier for readers to follow.

FRA’s amendment to paragraph (a) would clarify that the requirement to conduct operational tests and inspections specifically include tests and inspections sufficient to verify compliance with the requirements of subpart F of part 218 of this chapter. The proposed and final rules identify certain operating rules with which noncompliance has led to an increase in human factor-caused accidents. Subpart F of part 218 requires that each railroad have in effect certain operating rules and that each railroad officer, supervisor and employee uphold and comply with those rules. As the operating rules identified in subpart F of part 218 are designed to address the most frequently caused human factor accidents, FRA’s amendment to paragraph (a) requires that each railroad periodically conduct operational tests and inspections to determine the extent of compliance with its code of operating rules, timetables, and timetable special instructions, specifically including tests and inspections sufficient to verify compliance with the requirements of subpart F of part 218 of this chapter, in accordance with a written program as required by paragraph (c) of this section. The program’s increased focus on human factor-caused accident prevention should direct awareness to

the related operating rules and correlate with a decrease in such accidents.

Paragraph (b) is added to this section to establish new responsibilities for both railroads and those railroad officers who conduct operational tests and inspections, i.e., railroad testing officers. FRA inspections and investigations have revealed railroad testing officers who lack the fundamental knowledge to perform adequate tests and inspections. In order for these officers to be able to do a proper job, they must know the railroad’s operating rules, how the tests they will conduct fit into the railroad’s testing program, and how to conduct a proper test. AAR and APTA recommended amending paragraph (b)(1)(iii) because they believe this paragraph might be wrongly interpreted to require field training on every operational test an officer might be authorized to conduct. FRA does not agree that changing “as necessary to achieve proficiency” to “when necessary to achieve proficiency” changes the meaning, as AAR and APTA prefer. We also disagree with AAR’s interpretation of the proposed, and now final, paragraph. It is unnecessary for every railroad testing officer to be qualified and receive field training on every conceivable operational test. Experience can substitute for field training, as long as the person is able to conduct an acceptable test. In addition, a railroad testing officer does not need to receive field training on an operational test that the officer will not be asked to conduct. Of course, if an officer who conducts an improperly executed test is found to lack relevant experience conducting such a test and any field training on how to conduct such a proper test, FRA would consider the event to be a violation of the requirement. That said, FRA recognizes that some tests and inspections are so simple that no particular experience or training should be necessary; a railroad will need to use discretion and make training decisions on a case-by-case basis if it chooses not to train its railroad testing officers on each operational test. Paragraph (b)(1)(iv) requires that railroad testing officers conduct operational tests in accordance with the railroad’s program for such tests and inspections. A test that is incompetently executed should not count towards compliance with a railroad’s program of operational tests and inspections. Finally, this paragraph requires written records documenting that each railroad testing officer was properly qualified and that such records be made available to FRA upon request.

FRA received several comments with regard to proposed paragraph (b). BRS

and BLET expressed support for the concept of requiring railroad testing officers to be qualified on operating rules, the testing program and conducting operational tests. AAR requested a “grandfather provision” that would allow current testing officers to continue conducting tests for ninety days after the effective date of the rule before records would need to be kept that these testing officers were qualified in accordance with paragraph (b)(2). Similarly, APTA requested that each railroad have until December 21, 2008, to qualify its railroad testing officers on the operational testing program. In the NPRM, FRA expressed disagreement with the need for such a grandfather provision. However, based on the comments and further consideration of the qualification and recordkeeping requirements, FRA will not require compliance with this paragraph until July 1, 2008, although we encourage each railroad to attempt to comply earlier.

FRA does not consider the requirements of paragraph (b) to be onerous. Each railroad should already maintain an accessible record showing when each testing officer was last qualified on the railroad’s operating rules in accordance with paragraph (b)(1)(i). It is contrary to logic that a railroad would allow a person to become a railroad testing officer without ensuring that the person is qualified on the operational testing program requirements and procedures relevant to tests and inspections the testing officer would be expected to conduct. We do not understand how a person could possibly do a testing officer’s job if the person lacked sufficient knowledge of the railroad’s testing program such that the person could not conduct an adequate test or inspection. With that understanding, FRA would not expect that a great degree of new training is necessary, nor that it would be burdensome to create a record. APTA recommended that FRA relax the record retention requirements for “grandfathered” or existing testing officers. In the alternative, we suggest that if a railroad has not previously kept a record of whether an officer is qualified on the operational testing program, that the railroad create a short survey which would allow an officer to acknowledge whether the officer considers himself/herself qualified on the various aspects of the program, as well as qualified (either through experience or prior instruction, training, and examination) on the various types of tests and inspections that the officer may be asked to conduct. Meanwhile,

FRA acknowledges that each railroad must qualify its railroad testing officers on any amended or added operating rules that seek to conform with part 218, subpart F of this chapter, and any corresponding changes to the railroad's operational testing program by July 1, 2008; however, as most of these new Federal requirements are already similar to existing operating rules on the vast majority of railroads, we do not anticipate that this additional training will be extensive. Except for adding this applicability date, the final version of paragraph (b) is the same as the version proposed.

FRA has moved paragraph (b) to (c) and added two new requirements found at (c)(1) and (c)(5). Regarding the two new requirements, FRA has implemented a scheme that requires each railroad to amend the existing program of operational tests and inspections with the purpose of requiring railroads to do a better job of focusing their tests and inspections on those types of operating rules that either cause the most human factor-caused accidents nationwide or are identified as problematic on the particular railroad's division or system. At a minimum, FRA expects railroads to test and inspect for those operating rules identified as problematic in the quarterly or six month reviews, i.e., those operating rules violations that have recently caused accidents or incidents on the division or system-wide. We also expect railroads to regularly spot-check for compliance with those operating rules that lead to accidents and incidents nationwide, even if the railroad has not specifically encountered any recent incidents. As mentioned in the **SUPPLEMENTARY INFORMATION** section under "Development of the NPRM," the verification through testing process does not always work well because during some periods of disruption related to organizational or personnel changes, some railroads do not perform operational tests that address the root cause of human factor accidents. At worst, administration of the program may be reduced to a numbers-generating exercise, and, consequently, on portions of the railroad, officers may conduct relatively few meaningful tests. Clearly, FRA intends for the program of operational tests and inspections to be meaningful and the amendments are intended to forcefully move lagging railroads to produce more meaningful tests and inspections.

Paragraph (c)(1) contains the existing requirement that the program shall provide for operational testing and inspection under the various operating

conditions on the railroad. It has also been amended, so that on or after July 1, 2008, each railroad shall be required to amend its program to "particularly emphasize those operating rules that cause or are likely to cause the most accidents or incidents, such as those accidents or incidents identified in the quarterly reviews, six month reviews, and the annual summaries as required under paragraphs (e) and (f), as applicable." Thus, FRA expects that each railroad would conduct a significant number of tests and inspections directed at addressing localized problems with compliance, such as those identified on a division, problems identified on a system-wide basis, and leading causes of human factor-caused accidents nationwide, such as those identified through this final rule.

In order to gain some specificity in each railroad's program, paragraph (c)(1) also requires "a minimum number of tests per year that cover the requirements of part 218, subpart F of this chapter." FRA is reluctant to state a percentage or specific number per number of employee work hours as each railroad may have particular operating rules it wishes to emphasize to a greater degree than the next; however, the objective in including this language is to encourage sufficient testing in these critical areas to verify good compliance by railroad operating employees and to help establish the expectation that there will be compliance with those rules. FRA would be critical of a program that placed the majority of its emphasis on enforcing operating rules that are not leading causes of accidents/incidents. The requirement for a specific minimum number of such tests per year follows from such a requirement imposed in EO 24, albeit EO 24 covered a smaller subset of the operating rules FRA is covering in part 218, subpart F. AAR requested that the rule allow a railroad to specify in its program "a minimum percentage of tests per year" that cover the requirements of part 218, subpart F of this chapter, as opposed to a just "a minimum number of tests per year." AAR's comment was somewhat unclear in that it did not specify how the percentage might be calculated; we assume that AAR means a percentage of the total number of operational tests to be performed in a given year will cover part 218, subpart F requirements. FRA is not adopting AAR's suggestion as we do not understand why a railroad that can identify a minimum number of total operational tests per year would have trouble identifying a minimum number of tests that cover the requirements of

part 218, subpart F. It may be that railroads would like the flexibility to change the minimum number of tests in periods less than a year, i.e., monthly, quarterly, or six-month intervals. FRA recognizes that, from time-to-time, a railroad may have a reduction in business, a reduction in the number of operating employees, a reduction in employee work hours, or another factor that reduces the need to conduct as many operational tests as it set forth in its operational testing program. When such factors occur, a railroad should simply amend its program and create a record explaining the reason for the reduction in the amount of minimum tests. In that way, when FRA audits the program, we can readily deduce why the railroad has reduced the minimum number of tests to be conducted, decide whether the reasons are valid, and notify the railroad if we disapprove of the action taken pursuant to paragraph (i).

Paragraph (c)(5) adds a new requirement that, on or after July 1, 2008, the program show the railroad's designation of an officer to manage the program at each level of responsibility (division or system, as applicable). The officer may be designated either by name or job title, as long as the designation clearly identifies a responsible person that FRA can contact when FRA audits the program. The officer shall also have oversight responsibility to ensure that the program is being implemented properly across each division and system-wide. FRA's expectation is that this officer will at least manage the program to ensure that the overall direction of the program is sound. This designated officer would be expected to take an active role in ensuring that divisions and the entire system are meeting program requirements and ordering changes when expectations are not met. To the degree that a system-level officer can identify a division, or a specific railroad testing officer, that is failing to appropriately direct efforts, the designated officer is expected to take corrective action. In order to ensure that the railroad's testing officers are properly directing their efforts to reduce accidents/incidents, the designated officer or officers will need to make adjustments to the implementation of the program based on any reviews that might be required in paragraph (e), as well as the annual summary produced in accordance with former paragraph (d), which has been redesignated as paragraph (f).

Additionally, former paragraph (b)(6) has been redesignated as paragraph (c)(7) without any changes from the

prior existing rule. Former paragraph (c) has been redesignated as paragraph (d) also without change.

Paragraph (e) adds requirements for periodic reviews for any railroad with at least 400,000 total employee work hours annually. FRA has decided to provide each Class I railroad (including the National Railroad Passenger Corporation) until July 1, 2008 to comply with this paragraph and, the remaining railroads to which this paragraph applies, shall comply with an applicability date of January 1, 2009. The NPRM only would have provided until the effective date of the rule to comply with this section and FRA decided to heed the concerns raised during the RSAC working group meetings that the effective date of the rule would not provide sufficient time for each railroad to implement the reviews required by this paragraph.

FRA has decided to exclude freight railroads that have less than 400,000 total employee work hours annually from conducting periodic reviews and analyses as provided in paragraph (e)(1) because only 135 smaller railroads that meet this criterion reported any human factor caused rail accidents, and of those 135 that reported such accidents, only 20 railroads reported five (5) or more human factor caused rail accidents during the years 2002 through 2005. During this four year period, these 135 smaller railroads experienced 334 human factor caused rail accidents amounting to 7 percent of all human factor caused rail accidents. It should also be considered that there are almost 600 smaller railroads that fit this criterion and yet only 135 reported any human factor caused rail accidents at all. On that basis, FRA is excepting the smallest railroads, based on the less than 400,000 employee work hours threshold, from the monthly and quarterly reviews. Of course, if FRA accumulates evidence to suggest that railroads with less than 400,000 employee work hours are experiencing a significant number of human factor caused accidents, FRA will consider whether to initiate a new rulemaking revising this final rule.

Similarly, Amtrak and the railroads providing commuter service in a metropolitan or suburban area also experience a relatively low number of human factor caused rail accidents compared to the freight railroads with greater than 400,000 employee work hours annually. During the years 2002–2004, Amtrak and the commuter railroads experienced a total of 270 accidents attributed to human factor causes. At a meeting held with members of APTA on April 27, 2006, (notes of

this meeting are in the docket of this proceeding) APTA explained that many of its member railroads do not keep accident/incident data and/or operational testing data electronically and, thus, conducting periodic reviews greater than annually would create a substantial burden for those railroads that could not simply run a report from a computer. In addition, APTA members reminded FRA that a commuter railroad's budget is dependant on the generosity of local and state governments, which may not want to upgrade computers and software which would permit quicker and more efficient accident/incident reviews. Passenger railroads are generally more stable in their organizations and experience greater continuity with respect to staffing at the line officer level (where many problems often develop).

With regard to six month reviews, however, there is a definite benefit for Amtrak and the commuter railroads to conduct a thorough system level review to achieve some degree of accountability. Meaningful reviews should help drive proper implementation of the program of operational tests and inspections—thus driving down the number of accidents/incidents attributable to human factors. APTA explained in its comments that there are funding and development issues that will require a period of training on these new regulations and any new automated reporting system that is created in response to the rule; consequently, APTA requested 12 months to implement the first six-month review under paragraph (e)(2). FRA has decided to deny APTA's request to delay implementation of the six-month review for a year. FRA does not agree with APTA that the six-month review requires a "new automated reporting system" for any railroad that does not already have one up and running. The records and reviews required by this section could be maintained by old-fashioned written records, and the analysis required could be completed without the aid of a computer or with software readily available in stores now. That said, we agree that an automated system would likely provide for more efficiently completed analysis. FRA, however, has not required such automation. Finally, FRA has not excepted even the smallest commuter railroads from the requirement that reviews be conducted, because in FRA's experience no railroad is free from the risk that good discipline will erode over time, and the consequences of a passenger train accident can be very serious indeed. The benefits of the

review are too important to postpone for a year.

For the major freight railroads, the quarterly review is to be developed and conducted at the division level unless no division headquarters, or its equivalent, exists. Most larger railroads have created division headquarters (*see* current definition in § 217.4 of this part) to manage portions of the railroad and, certainly, railroads that have divisions do so because it is more efficient. That is, it is easier for an officer at a division headquarters to know what safety issues are problematic in his or her division than an officer of a large railroad at the system level.

AAR asserted in its comments an overall objection to paragraph (e) as it deems the reviews and recordkeeping requirements of this section as "micro-management" and "command-and-control regulation at its worst." AAR maintains that monthly, quarterly, and six-month reviews are not typically conducted by freight railroads as FRA asserted in its proposed rule and that FRA is wrong to maintain that it is a best practice for freight railroads to adjust its program of tests and inspections based on one quarter's worth of data. Furthermore, AAR asserts that even if some railroads voluntarily conducted the same types of reviews without regulation, FRA is not justified to impose this "regulatory straitjacket, with the formality and recordkeeping that are byproducts of regulatory requirements," on each railroad.

FRA appreciates the comments of AAR with regard to paragraph (e) and certainly has given AAR's counterpoint due consideration. The main focus of this rule is to reduce the number of human factor caused accidents, and FRA's experience has been that one way to do that is to impose these types of review requirements which force needed improvements on a railroad's operational testing and inspection program. Prior to the publication of this rule, when FRA has identified significant problems with such a program and there has also been a correlation of noncompliance with important safety laws, FRA has shown some restraint in enforcement while working with some railroads in trying to improve compliance. On a case-by-case basis, FRA has entered into a voluntary compliance agreement with a railroad so that it is clear what enforcement action FRA will take if the operational testing and monitoring changes requested by FRA are not completed by a specific deadline.

Although voluntary compliance agreements are typically effective in improving safety on a particular railroad

or division, FRA's experience has been that the problems that trigger the need for such agreements are fairly common in the industry. The regulatory approach in this rule is significantly more efficient than entering into tens or hundreds of individual agreements. The implementation of this rule will effectively require the implementation of best practices that should aid in the reduction of accidents/incidents before FRA is able to pinpoint any problem associated with a particular railroad's system of tests and inspections. Rather than changing one railroad, or one division on a large railroad, at a time, this rule will require all but the smallest freight railroads to place greater emphasis on human factor caused accidents in each operational test and inspection program.

AAR also commented that FRA should not require that a designated officer for each division shall be the sole officer who may perform the required monthly and quarterly reviews of tests and inspections, if a railroad has divisions. AAR suggests that the rule permit each railroad the flexibility to choose whether an officer at headquarters can perform the required reviews. FRA is rejecting AAR's comment as it applies to the quarterly review. In order to comply with the requirements for the quarterly review under paragraph (e)(1)(i), an officer would need to have a detailed knowledge of the operation. It is our experience that railroads that have divisions are too large for a person at the system headquarters to have the kind of mastery over each division to conduct the kind of in-depth analysis required of the quarterly review. Where FRA has audited strong programs, division officers are conducting periodic analysis of accidents/incidents at the division level and making appropriate adjustments at the division level as remedial action. We are surprised at AAR's comments because the divisions typically operate semi-autonomously from system headquarters, albeit with regular coordination on system-wide matters. As a practical matter, if a division headquarters exists, an officer at the division level will be in the best position to perform the types of reviews required by the quarterly review.

Meanwhile, FRA has responded to AAR's comment by deleting the requirement for a monthly review. Instead, the review to determine whether each railroad testing officer is conducting the minimum number of each type of test or inspection required by the railroad's program will only be required on a quarterly basis, as opposed to a monthly basis. What was

formerly referred to as the monthly review, but is now part of the quarterly review, is not expected to be an onerous task. It is merely a quick written tally of the number of tests performed by each railroad testing officer, including the railroad operating rules tested for, and a determination made whether the tally shows adherence to the written program of operational tests and inspections. When this type of review reveals noncompliance with the program, the designated officer is required to make any necessary adjustments to the tests and inspections required of railroad officers for the subsequent period(s). The designated railroad officer in paragraph (c)(5) may or may not be the officer who performs this review, but this designated railroad officer would be required to ensure that the quarterly review is properly completed. As FRA would expect that this aspect of the quarterly review would be derived from data collected at the division level, FRA does not anticipate any problems for a division officer producing this information in a quarterly review.

FRA is mandating a comprehensive quarterly review for freight railroads under paragraph (e)(1)(i). In addition to the scorecard for each railroad testing officer (i.e., the formerly proposed monthly review), it shall include a "review of the [railroad's] accident/incident data, the results of prior operational tests and inspections, and other pertinent safety data for that division or system to identify the relevant operating rules related to those accidents/incidents that occurred during the quarter." The focus of the quarterly review is to identify those operating rules which pose the greatest risk of being violated—which should then be targeted for regular tests and inspections. That is why FRA is requiring that based upon the results of the quarterly review, the designated officer shall make any necessary adjustments to the tests and inspections required of railroad officers for the subsequent period. The quarterly review must be in writing and include the data upon which any conclusions are based. In response to several comments, FRA has clarified that any review, record or other information required by this section to be in writing may be retained electronically pursuant to paragraph (g).

FRA expects that in order to conduct a meaningful quarterly review, each railroad will review accident/incident data, operational test data, and other pertinent data. For example, a railroad should identify the relevant facts for each category of data. The relevant facts are usually covered if a railroad can answer the questions signifying who,

what, where, when, why, and how often. For accident/incident data, these questions would involve identifying all the employees involved in the accident/incident, a description of the accident/incident, the location where it occurred, the time it occurred, the root cause and any secondary causes, and whether the division or system has suffered this type of accident/incident often, sometimes or never. For operational test data, the issues include identifying the railroad testing officer(s) responsible for the particular location, whether the testing officers are testing for the operating rules responsible for any recent accidents/incidents, whether the testing officers conducted any tests where any recent accidents/incidents occurred, whether the testing officers are testing during the hours of highest incident rates, whether any railroad officers are briefing the employees as to the root or secondary causes and the fact that the railroad will be testing for compliance, and how often the officers are conducting any follow-up testing and job briefings.

FRA believes there are at least five other types of pertinent safety data that should be included in a proper quarterly review. One, if FRA has conducted any recent inspections, the railroad should check whether its officers' tests reflect FRA's findings. Two, if an employee is involved in an accident/incident, the employee's safety record may provide insight. Three, the railroad should determine if there is any correlation between the training or experience of the local railroad testing officers and the locations where accidents/incidents have occurred. Four, a railroad should similarly consider the extent to which employee experience plays a part in any given accident/incident. Fifth, a railroad's review should consider whether any operational conditions have recently changed that increased the likelihood of either noncompliance with the operating rules or accidents/incidents. Special attention to all these details in the quarterly or six month review, as applicable, should lead a railroad to meaningful application of its written program of operational tests and inspections with a greater potential for driving down the frequency and severity of accidents/incidents.

Although it would be best if quarterly reviews were completed immediately following the end of each quarter, FRA is requiring completion no later than 30 days after the quarter has ended. We did not receive any negative comments regarding the 30 day period. FRA originally considered requiring the quarterly review in half that time but railroads participating at a Railroad

Operating Rules Working Group meeting suggested that additional time would be needed for those railroads that do not maintain their safety data electronically. For those railroads that keep records electronically, FRA encourages quarterly reviews to take place contemporaneously with the conclusion of the quarter. Regardless of how long it takes to complete the quarterly review, each division or system should be prepared to redirect its railroad testing officers in order to appropriately react to any accidents/incidents of noncompliance during the previous quarter. Even where a division or system has had a particularly safe quarter, railroad testing officers should be instructed to adjust the way in which they are conducting their tests so that employees cannot easily anticipate the types of tests to be conducted, nor the dates and locations of such tests. Because freight railroads with divisions might find it difficult to do the system-wide six month review in only 30 days, especially since the quarterly reviews might not be completed until the 30th day, FRA has amended the proposed rule by allowing freight railroads 60 days after the review period has ended to complete the six month review. Passenger railroads with divisions are not quite as large or complex that completion of the six month review should take more than 30 days.

In paragraphs (e)(1)(ii) and (e)(2), six month reviews are only required for each Class I railroad, Amtrak, and each railroad providing commuter service in a metropolitan or suburban area. The basis for the requirement is that the identified freight railroads are so large that each would benefit from an officer, likely at the system headquarters, who is identifiable by name or job title, who will oversee whether each division, line or segment is complying with the program of operational tests and inspections. It is expected that such an officer would have the authority to intervene in division, line or segment operations to the extent that this officer could order changes to the way divisions are implementing the program. The purpose for such intervention would be to require certain types of operational tests or inspections based on observations made system-wide that may not be apparent to each designated division officer armed only with data from his or her own division.

In the case of Amtrak and the commuter railroads, paragraph (e)(2) requires reviews equivalent to those for the freight railroads in paragraph (e)(1), however all the reviews are to take place at least every six months. Of course, these are minimum requirements and

passenger railroads are free to initiate more frequent reviews. For example, paragraphs (e)(2)(i) and (ii) describe reviews that are equivalent to the review required for freight railroads on a quarterly basis and certainly passenger railroads may perform that review on a quarterly basis as well; however, the passenger railroads are required to comply with those two requirements at least every six months. Paragraph (e)(2)(iii) describes a review that is to be completed at least once every six months and is the equivalent of the six month review required for freight railroads. As it is required that the passenger railroads conduct the same reviews as the freight railroad with the exception of the timing of those reviews, the prior section-by-section analysis description for each review is applicable here.

Because FRA needs to be assured that each railroad is complying with any required reviews, the regulation requires that the reviews be retained for one year after the end of the calendar year to which they relate and shall be made available to FRA upon request. FRA also encourages railroads to store these records electronically, pursuant to paragraph (g), as long as the information can be produced upon request.

Former paragraph (d), which is redesignated as paragraph (f), is being amended in two respects. One amendment is merely to change the term "manhours" to "employee work hours" as the latter is gender neutral. The second amendment would clarify that this requirement does not apply to "a railroad with less than 400,000 total" employee work hours *annually*, as the current rule accidentally fails to include the qualification of the time period.

In the NPRM, FRA questioned the necessity of retaining the annual summary requirement in paragraph (f) and FRA received several comments, including from AAR, APTA, and UTU, supporting the elimination of the annual summary on operational tests and inspections requirement. After further consideration, FRA realizes that the annual review requires different information than the other reviews and that eliminating it would have a serious detrimental effect on FRA's ability to audit a railroad's program. The annual summary requires all but the smallest railroads to create a written summary of the number, type, and result of each operational test and inspection, stated according to operating divisions where applicable, that was conducted as required by paragraphs (a) and (c) of this section. This written record may be kept in an electronic format pursuant to paragraph (g). Generally, railroads keep

the data used to create this report in an electronic database which makes it relatively simple to generate the required annual summary.

Former paragraph (e) is redesignated paragraph (g) with one amendment. The former rule specified that the railroad maintain a "desk-top" computer upon which the railroad can retrieve data. As laptop and notebook computers have become more common, and their computing abilities now rival desk-top models, there is no reason to restrict railroads from using any computer to retrieve records for FRA under this section.

Proposed paragraph (h), which suggested a requirement specifying that railroads and individuals can be liable for falsifying or deliberately mutilating records required by this section, has been deleted as unnecessary for two reasons. One, if FRA has sufficient evidence to prove that a railroad or individual has falsified a program required under this section or a record kept for such a required program, then that railroad or individual could be cited by FRA for a willful violation of the underlying section. The penalty assessed would be greater than a typical civil penalty assessment. See 49 CFR 217.5 and app. A to Part 217. Thus, even with the deletion of this proposed paragraph, FRA retains the authority to assess civil penalties for falsification of the required records pertaining to this section. Two, the activity at issue is also prohibited by criminal law. See, e.g., 49 U.S.C. 21311. Consequently, FRA has decided to remove this paragraph from the final rule and would expect that the existing criminal law and this final rule will provide sufficient disincentives for railroads and individuals to complete the programs and records required under this part without falsifying, mutilating, or destroying such a record.

Proposed paragraph (i), which has been redesignated as paragraph (h) requires that FRA have some specific oversight mechanism for disapproving a railroad's program of operational tests and inspections. It also requires minimum procedures and structure for the review process. The paragraph requires that the Associate Administrator for Safety only disapprove programs required by this section for cause stated. As the disapproval decision is made for cause, it is significant for the railroad to understand exactly why FRA is disapproving the program; thus, notification of such disapproval will be made in writing and specify the basis for the disapproval decision. If the Associate Administrator for Safety disapproves the program, the railroad

has 35 days from the date of the written notification of such disapproval to either (1) amend its program and submit it to the Associate Administrator for Safety for approval, or (2) provide a written response in support of the program to the Associate Administrator for Safety. If the railroad chooses the second option to defend the allegedly defective program, the Associate Administrator for Safety will inform the railroad of FRA's final decision in writing. Although the rule is silent regarding whether a railroad may request an extension, FRA intends for the Associate Administrator for Safety, as the agency's decision-maker, to have the flexibility to decide procedural issues, such as having the ability to grant or deny requests for extensions of time, as the issues arise. The Associate Administrator for Safety renders a final decision in writing which will specify the terms and conditions under which the program will be considered approved or disapproved. If the decision denies the railroad's request in whole or in part, FRA intends for the railroad to amend its program and submit it to the Associate Administrator for Safety for approval within 35 days of the final decision as that is the period of time accorded for amending programs when a railroad chooses not to appeal the disapproval. Again, a railroad may request an extension of time to amend its program and submit it to the Associate Administrator for Safety for approval, and FRA intends for the Associate Administrator for Safety to have the flexibility to decide whether to grant or deny such procedural requests. Although enforcement action is always discretionary, FRA believes that enforcement action is warranted when a railroad fails to appropriately and timely amend its program; for this reason, FRA is requiring in paragraph (h)(2) that a failure to submit the program with the necessary revisions to the Associate Administrator for Safety will be considered a failure to implement a program under this part.

The approach in paragraph (h) recognizes that FRA will want to review such written programs during audits or investigations and that FRA should have the authority to request changes to the program if it does not meet the minimum requirements of this rule. Although FRA retains the authority to review in detail each railroad's program, FRA is not requiring that each railroad submit its program for prior review and approval. Rather, FRA intends to review the programs of the major railroads over a multi-year cycle to determine if they are effective. In BLET's written

comment, it requested that FRA reconsider this approach and instead advocated that each railroad be required to submit its operational tests and inspections program for FRA's explicit approval. BLET's reason for requiring a submission and approval process is that employees need to be afforded no less than the highest degree of assurance that a railroad's compliance monitoring is appropriate if the employee can be held responsible for noncompliance. A similar comment was raised by UTU in the context that FRA should prohibit testing officers from performing operational tests that violate operating rules or endanger employees. While FRA appreciates these comments, we are not adopting them for the following reasons. Although FRA has found deficiencies with some railroads' programs from time-to-time, if a railroad has a program, it will typically contain all the requirements necessary to be deemed approved. Most problems with a program cannot be determined until an audit or investigation reveals inadequacies. Thus, a mandatory approval process is both a drain on the agency's resources and also unlikely to reveal many programmatic deficiencies. The best time to request a programmatic change is when an inadequacy is revealed. However, the NPRM did not provide for specific procedures for FRA to take place when an inadequacy was identified. The rule has been strengthened to provide for specific oversight authority vesting with the Associate Administrator for Safety. It is also helpful to remember that FRA is requiring railroad testing officers to conduct tests and inspections in accordance with a railroad's program, and that it is implicit that an improperly conducted test shall not be considered a valid test toward satisfying any requirement under the program.

In the proposed rule, FRA solicited comments as to whether the final rule should require each railroad to instruct its employees on operating rules at least once every three years. BLET submitted a comment supporting triennial qualification of employees on all Federalized operating rules. As BLET points out, adding this requirement would merely expand the proposal to require each railroad to qualify its employees on Part 218, subpart F in this chapter, and many employees are already covered as locomotive engineers are currently required to be qualified every three years pursuant to § 240.210(c) of this chapter. FRA would add that a triennial operating class is the typical standard requirement on most railroads today. However, FRA also

recognizes that our definition of qualified might be deemed to lead to more extensive or rigorous instruction, training, and examination than is currently in practice. While that might be a positive development, FRA recognizes that there might be costs involved with assuring the additional qualifications are met, and FRA has not found a correlation between the lack of operating rules training in general and accidents/incidents. FRA's decision only requires such periodic instruction as it applies to those operating rules that would be required by part 218, subpart F because the rules set out in that subpart do have a direct correlation to a substantial number of accidents/incidents and other noncompliance detected by FRA. See § 218.95(a)(5). FRA will consider implementing another rulemaking if noncompliance with other operating rules are identified that are causing a significant number of accidents/incidents. Based on available information, the current requirement, that each railroad periodically instruct each employee on the meaning and application of the railroad's operating rules, appears to be sufficient. See § 217.11.

Section 217.11 Program of Instruction on Operating Rules; Recordkeeping; Electronic Recordkeeping

FRA did not propose any changes to this section in the NPRM; however, after the NPRM's publication we realized that it contained a cross-cite to § 217.9(e)(1) through (e)(5), which has been redesignated as § 217.9(g)(1) through (5). This citation change is the only amendment to this section.

Part 218—[Amended]

Section 218.4 Preemptive Effect

This section informs the public of FRA's intention and views on the preemptive effect of the rule. The preemptive effect of this rule is broad, as its purpose is to create a uniform national standard. Section 20106 of Title 49 of the United States Code provides that all regulations prescribed by the Secretary related to railroad safety preempt any State law, regulation, or order covering the same subject matter, except an additional or more stringent provision necessary to eliminate or reduce an essentially local safety or security hazard that is not incompatible with a Federal law, regulation, or order and that does not unreasonably burden interstate commerce. Section 20106 permits State tort actions arising from events or activities occurring on or after January 18, 2002, for the following: (a) A

violation of the Federal standard of care established by regulation or order issued the Secretary of Transportation (with respect to railroad safety, such as these regulations) or the Secretary of Homeland Security (with respect to railroad security); (b) a party's violation of, or failure to comply with, its own plan, rule, or standard that it created pursuant to a regulation or order issued by either of the two Secretaries; and (c) a party's violation of a State standard that is necessary to eliminate or reduce an essentially local safety or security hazard, is not incompatible with a law, regulation, or order of the United States Government, and does not unreasonably burden interstate commerce. Nothing in section 20106 creates a Federal cause of action on behalf of an injured party or confers Federal question jurisdiction for such State law causes of action. The NPRM language has been amended to reflect the changes made to Section 20106.

Only one comment addressed this paragraph and that comment has been discussed in the preamble. *See* IV. General Comments/Major Issues, C. Preemptive Effect.

Section 218.5 Definitions

FRA is amending the definition of *flagman's signals* in order to eliminate a reference to "torpedoes." Torpedoes are antiquated signaling devices which have fallen into disuse in the industry. Likewise, we are amending § 218.37, which refers to this definition and the placing of torpedoes when providing flag protection.

FRA is also amending the definition of *locomotive* to explain that this particular definition of *locomotive* does not apply to subpart F. The definition of *locomotive* in this section is a more mechanically-minded definition than the definition contained in 49 CFR 218.93. This definition continues to apply to the requirements in part 218, with the exception of subpart F.

Section 218.37 Flag Protection

FRA is eliminating references to "torpedoes" as these are antiquated signaling devices which have fallen into disuse in the industry. The former rule required each railroad to have in effect an operating rule which complies with this section, and thus contains references to the use of torpedoes, even though the railroad could meet other flagging requirements without ever needing to carry or use torpedoes. In the former section, there are two paragraphs that reference torpedoes. Former paragraph (a)(1)(iii) states, in part, that "[w]hen a train stops on main track, flag protection against following trains on

the same track must be provided as follows: A crew member with flagman's signals must immediately go back at least the distance prescribed by timetable or other instructions for the territory, *place at least two torpedoes on the rail at least 100 feet apart* and display one lighted fusee." The language in italics has been deleted by this final rule. Former paragraph (a)(1)(iv) states that "[w]hen required by the railroad's operating rules, a forward crew member with flagman's signals must protect the front of his train against opposing movements by immediately going forward at least the distance prescribed by timetable or other instructions for the territory *placing at least two torpedoes on the rail at least 100 feet apart*, displaying one lighted fusee, and remaining at that location until recalled." Again, the language in italics has been deleted by this final rule. Elimination of the references to torpedoes does not eliminate the requirement that each railroad have in effect an operating rule that complies with the requirements in this section. Furthermore, FRA has made minor amendments to make the regulatory language gender neutral.

Subpart F—Handling Equipment, Switches, and Fixed Derails

Section 218.91 Purpose and Scope

As previously explained in the supplementary information, FRA has identified that noncompliance with a small number of railroad operating rules has caused an inordinate percentage of total human factor caused accidents. FRA's purpose is first to establish clear and unambiguous procedures that will provide for the safety of railroad employees and the public. In the RSAC Working Group discussions that preceded the preparation of the proposed rule, FRA noted significant variation in basic safety procedures followed on participating railroads. Although some variation is necessary to address local conditions, the presence of extensive joint operations in the railroad industry makes it essential that certain common procedures apply. Joint operations are not new to the railroad industry, as evidenced by the historic role of terminal companies. However, the practice has more recently expanded through mergers and consequent awards of trackage rights and through the creation of hundreds of small railroads that are often provided access to larger railroad's facilities to facilitate efficient interchange of cars.

In order to ensure compliance with operating rules, it is essential that they be consistent, commonly understood,

and applied in a predictable manner. Further, it must be understood that the rules may not be circumvented at the whim of a supervisor or employee to hasten completion of the work. The rules in this subpart are intended to support these purposes.

In addition, making these rules mandatory from a Federal standpoint provides an enforcement mechanism to discourage noncompliance.

FRA is standardizing this small number of railroad operating rules by establishing minimum requirements. The minimum requirements are based on accepted best practices and rules currently in use. Of course, railroads may choose to prescribe additional or more stringent requirements.

FRA received one comment regarding this section. AAR proposed that FRA add a paragraph that exempts employees subject to blue signal protection under subpart B of this chapter, or to employees moving equipment within the confines of a locomotive repair or servicing area, or a car shop repair track area. FRA disagrees with AAR's premise that employees performing these functions do not need to be qualified on the requirements of this subpart. It is absolutely imperative that all employees operating a hand-operated switch or fixed derail understand how to properly operate and determine the position of such switches and derails. We do not share AAR's belief that there is any conflict with the blue signal requirements of this chapter. Additionally, FRA did carve out one exception under proposed § 218.103(g)(2)(a), redesignated as § 218.107(c)(1)(i), so that hand-operated crossover switches could be left out of correspondence when used to provide blue signal protection under § 218.27.

FRA has also clarified in the title to this subpart, the purpose and scope section, and in § 218.109, that this subpart applies to "fixed" derails and does not apply to "portable derails." In the NPRM, FRA did not distinguish between the two general types of derails, i.e., fixed and portable. FRA is using the term "fixed derails" to contrast it with derails that are portable. Portable, or temporary, derails can easily be transported and applied at different locations throughout the day in order to protect workers and equipment as needed. Fixed, or permanent, derails cannot be easily transported because they are typically affixed to the track structure in some manner. Fixed derails are normally found prior to entering a locomotive servicing area or car shop repair area, where they are used to protect workers in those areas from

encroachment by unauthorized movements of rolling equipment. Fixed derails are also used on industry tracks to prevent rolling equipment from unintentionally rolling out onto a main track.

Section 218.93 Definitions

The definitions in this section only have applicability to this subpart so it should be easier for the reader to locate each definition in this section rather than in subpart A—General, § 218.5.

Several definitions are consistent with other definitions of these terms in this chapter. These terms are *Associate Administrator for Safety*, *employee*, *locomotive*, *pedestrian crossing*, *qualified*, and *roadway worker*. In an effort to be as clear as possible, FRA is including definitions of these terms in this subpart for the benefit of anyone unfamiliar with these terms.

FRA is defining the term *clearance point* because this term is necessary to describe an important concept that is used several times in this subpart. “Clearance point” means the location near a turnout beyond which it is unsafe for passage by equipment or a person riding the side of a car on an adjacent track. While clearance points may be identified by marks on the rail, signs, or other visible identifiers, these points are often referring to an approximate location that will need to be deduced by an employee. Railroads shall implement procedures for identifying such approximate locations and for waiting to line hand-operated switches away until equipment that has entered the track has passed this point. See §§ 218.101(c) and 218.103(d). Without a definition of clearance point, it would be difficult to define what is meant by “foul or fouling a track.” Through the proper identification of clearance points, employees can avoid collisions and personal injury to other employees riding the sides of cars.

The definitions for *correspondence of crossover switches* and *crossover* are interrelated, and should be familiar to people working in the railroad industry. FRA defined the term “correspondence of crossover switches” in the NPRM and no comments were filed suggesting that the industry was confused by the term. Crossover switches are considered in correspondence under two conditions: (1) When it is desired to travel from one adjacent track to another, both crossover switches would need to be lined for the crossover movement; or (2) if no crossover movement is desired or intended, both crossover switches must be lined for the straight-away movement, i.e., straight track.

FRA is adding a definition of *crossover* because, while drafting this final rule, we realized that the industry has not settled on one common definition of the term. Some railroads define the term crossover in their rule books as “a combination of two switches that connect two adjacent tracks.” One railroad adds the following sentence to that definition: “When lined, this switch combination allows movements to cross from one track to the other.” Other railroads simply define a crossover as “a track connection between two adjacent tracks.” Meanwhile, Christopher Schulte’s *Dictionary of Railway Track Terms*, (3d ed. 2003), defines a crossover as “a pair or group of turnouts which allows rolling stock and on-track equipment to cross from one track to another.” Still another dictionary of railway terms, Don Dressel’s *Railroad Terminology, Definitions, & Slang*, (4th ed. 1994), defines a crossover as “two turnouts * * * connecting two nearby and usually parallel tracks.” FRA is aware that there are many variations of track configurations that may resemble a crossover, or may fall generally within the parameters of one of the definitions referenced above but, as a practical matter, are not crossovers in the purest sense that FRA and most of the industry understand and intend the term to mean. Therefore, in the application of this subpart, the term crossover applies to a track connection between two adjacent, but not necessarily parallel, tracks, consisting of two switches, which is intended to be used primarily for the purpose of crossing over from one track to another. Categorically excluded from this application are track connections between adjacent tracks that, while they may physically permit equipment to pass from one track to another, are of sufficient length so as to be able to store or hold rolling equipment on them, or to set out bad order cars, or to store track equipment, or for any other purpose than solely for crossover movements. Of course, it is possible to have a crossover that holds just a few pieces of rolling equipment and that is not typically used for allowing other movements to pass or used for storage, but yet is used for such purpose. In response to these atypical situations, FRA intends to use its enforcement discretion on a case by case basis.

A definition for *foul or fouling a track* is provided because this term is necessary to describe an important concept that is used several times in this subpart. *Foul or fouling a track* means rolling equipment or on-track

maintenance-of-way equipment is located such that the end of the equipment is between the clearance point and the switch points of the switch leading to the track on which the equipment is standing. The potential for an accident is great when equipment is left standing on a track in such a manner that a movement on an adjacent track would collide with it; this is especially true when the standing equipment is left so that it appears that equipment might be able to pass by on the adjacent track. Equipment, or a person riding a side of a car, on adjacent track could strike fouling equipment. This type of accident is usually a side-swipe type accident and the severity of the accident depends on the factors involved; e.g., the factors determining severity include, but are not limited to, the speed of the moving equipment, the type of equipment struck, the contents of the cars struck, whether a person was riding a car and whether an occupied locomotive struck the equipment. The issue of foul or fouling a track is addressed in § 218.101 titled “Leaving Rolling and On-Track Maintenance-of-Way Equipment in the Clear,” because certain scenarios of fouling are avoidable and FRA believes that each railroad should have an operating rule that prohibits this dangerous practice. The final rule was amended from the NPRM to clarify an issue raised during the RSAC process. FRA was asked to clarify what it meant by the term “any part of the equipment.” Some commenters questioned whether FRA would consider a high-and-wide load, or a shifted load of lumber protruding from the side of a flat car, as “fouling” an adjacent track even though the end of the car might still be within the clearance point of the switch. FRA’s experience has been that when there are high-and-wide or shifted loads, railroads have implemented proper procedures for employees to take appropriate action and address the safety concerns. The situation FRA intends to address in this rule by defining “foul and fouling” occurs when the end of a car itself is fouling and struck by a movement on an adjacent track; the reason for FRA’s narrower focus is because that situation is the type of accident described universally in the accident/incident reports filed with FRA that are categorized as “cars left foul” or “car(s) shoved out and left out of clear.” By referring to the end of the equipment, FRA’s regulation is patterned after the long-standing operating rule, and we would hope make it easier to understand for employees. This

clarification is based on an RSAC recommendation. FRA will consider initiating a new rulemaking amending the definition of "foul or fouling" if future data reveals that high-and-wide or shifted loads become an increasing explanation for accidents/incidents.

FRA defines *hand-operated switch* broadly to identify any type of switch when operated by manual manipulation including traditional hand-operated (rigid) switches, power switches, and spring switches. Excluded from this definition are switches operated by push button or radio control if the switch is protected by distant switch indicators, switch point indicators, or other visual or audio verification that the switch points are lined for the intended route and fit properly. The definition includes all switches which are normally operated by manual manipulation of the switch lever. As FRA has defined this term, "hand-operated switch" includes switches operated by push button or radio control, but only when such switch is not protected by distant switch indicators, switch point indicators, or other visual or audio verification that the switch points are lined for the intended route and fit properly. For example, the two types of indicators provide a visual indication of the switch alignment; and other electronic advancements are capable of sending a message to a receiver indicating the switch's alignment; such that a visual check by an employee to determine that the switch is properly aligned would be redundant after receiving an electronic message that has already served that purpose. For switches that use push button or radio control technology, the "manual manipulation" aspect is that the employee is required to throw the switch; and the electronic aspect of the switch manipulation is primarily an option for avoiding personal injuries due to the throwing of a switch lever. FRA does not intend to address issues related to power-assisted switches operated from central consoles, whether within or outside of signaled territory, when so operated.

With regard to the definition of hand-operated switch, several members of the RSAC Operating Rules Working Group requested that FRA explain which employees would be required to comply with the requirements for hand-operated switches. FRA explained that the definition intended to characterize the types of switches normally operated by operating employees, whether or not there is some electronic aspect to the operation of the switch. Such operating employees include, but are not limited to, conductors, brakemen, trainmen,

switchmen and remote control operators. On rare occasions, a conventional locomotive engineer might operate a switch, although, with push button and radio control technology, it is possible that locomotive engineers may find themselves operating a greater number of switches in future years. Maintenance-of-way and mechanical employees also have occasion to operate these switches. That being said, the rule is focused on the type of switch that is operated and not the job title of the person operating; thus, regardless of a person's job classification, a person who operates a switch fitting the definition of a "hand-operated switch" is required to comply with the requirements of this subpart.

BRS commented that the proposed definition of hand-operated switch was problematic. In general, the view raised by BRS, in comments and discussions during the RSAC working group, was that the definition did not accurately describe what signalmen would consider a "hand-operated switch." In BRS's view, FRA's definition included other types of switches and was thus over-inclusive. BRS also raised a concern that if FRA has a definition of "hand-operated switch" in this subpart, that this definition might eventually be adopted by FRA in other parts of the chapter. FRA gave great consideration to this request and attempted to draft the definition according to the preferences expressed by BRS in its comments; however, FRA has decided not to amend the rule for the following reasons. In attempting to craft an alternative that defined hand-operated switch more narrowly, FRA found itself having to create and define at least three other terms as well (e.g., power switch, dual-control power switch, and manually-operated switch), in order to cover all of the types of switches FRA wanted the rule to cover. In our view, the regulation would be more complicated with four definitions when one will do. The definitions located in this section are explicitly identified as to be "used in this subpart;" any rule that FRA promulgates concerning the maintenance of different types of switches will be written in a separate part or subpart of this chapter and may require more technically detailed descriptions. Certainly, FRA is not required to maintain this definition of hand-operated switch throughout all of its regulations if it requires greater detail in other contexts. Considering all of the different crafts of workers, signalmen should have the least amount of difficulty understanding how to properly operate and verify switches.

This regulation is geared more for the perspective of operational railroad workers who simply need to know that no matter what the signal department calls the switch, FRA requires it to be treated as the equivalent of a hand-operated switch if it is unprotected by any type of indicator or verifier, and has some manual operation aspect to it—regardless of whether that manual operation is by push button or radio control. BRS's concern is a valid one, but is one that is likely to perplex more signalmen than operations employees. Finally, we make the observation that EO 24 was issued without ever defining what FRA meant by a "hand-operated switch" in non-signaled territory; this emergency order, which this final rule supercedes, has been in effect since November 22, 2005, without any person requesting interpretive guidance on this term and yet FRA's experience has been that every railroad has applied EO 24 to those types of switches defined by the "hand-operated switch" definition FRA has promulgated in this rule.

Finally, BRS requested that FRA use this rulemaking to regulate the design, inspection, and maintenance of the signals that are protected by distant switch indicators, switch point indicators, or other visual or audio verification, i.e., all those non-hand-operated switches. FRA agrees that use of substandard technology can lead to inappropriate reliance on audible or visual indications that a switch is in the desired position and locked when it is not properly aligned and secured. FRA further notes that failure to provide fouling circuits in cases where employees cannot visually confirm that no equipment is out to foul the intended route could substantially undercut the redundant safety protections intended by this rule. Finally, we acknowledge that this rule fails to adequately address the ability of employees to confirm that conflicting movements are not approaching a switch location when radio controlled switches are employed and approach circuits are not in place. FRA also agrees with BRS that there is a safety concern if any railroad is failing to regularly inspect or maintain these "other signal arrangements." However, FRA believes any such regulation of these other signal arrangements should be part of a separate rulemaking, not one intended to solely focus on railroad operating rules and practices. FRA has not yet initiated a rulemaking in this area, but held a technical conference on April 19, 2007, in Washington, DC to address the technical aspects of this issue (72 FR 14641; March 28, 2007). Interested parties may wish to file

comments to Docket No. FRA-2007-27623. Until FRA is able to provide suitable regulations to address technology being employed to perform functions described in this final rule, and similar functions, railroads should exercise caution and prudence in implementing that technology. FRA was encouraged to note that many participants in the Special Safety Inquiry appeared sensitive to this need.

FRA defined *highway-rail grade crossing* in the NPRM, but has refined the definition for purposes of this final rule. The definition in the NPRM mirrored the definition in § 234.5 of this chapter. FRA originally intended to try and keep the definition simple by carrying the same definition for this term used in the Grade Crossing Signal System Safety rule found at 49 CFR part 234; however, upon further reflection, FRA realized that the proposed definition would include many ad hoc crossings on private property that are often created and removed in short order. Some of these temporary crossings may also be illegal or built without consent of the railroad that owns the track. As the term “highway-rail grade crossing” is used in this rule in the context of protecting shoving or pushing movements, the proposed definition would have required that a railroad and its employees be responsible for determining that such ad hoc crossings are protected during shoving or pushing movements. It is conceivable that the proposed requirement could have created enforcement dilemmas, especially when a crossing is created without any notification to the railroad or train crew, or the operation occurs at night, on a curve, or there is some other reason that the ad hoc crossing would be difficult to spot without prior knowledge of its existence.

Consequently, to avoid setting this trap, FRA has changed the definition to exclude the type of ad hoc crossings that are not part of the DOT National Highway-Rail Grade Crossing inventory or are unmarked by signage indicating the presence of an at-grade crossing. If a crossing has a DOT inventory number but is not an “at-grade crossing,” the crossing does not fall within this definition. In contrast, if a crossing does not have a DOT inventory number, but has signage (e.g., crossbuck or stop sign) indicating the presence of an at-grade crossing, the crossing would fall within the definition. Although it is possible that a private property owner might quickly construct a crossing that included appropriate signs of the newly established at-grade crossing without the track owner’s permission, it would

seem ill-advised to absorb such expenses without proper permission; thus, we would expect that at nearly every crossing with crossbucks, stop signs, or other appropriate signage indicating the presence of an at-grade crossing, the railroad will be able to identify these crossings and alert its employees of the need to protect such crossings during shoving or pushing movements pursuant to § 218.99.

FRA did not propose, but has added, a definition of *industry track* in order to refine the requirements in § 218.101 “Leaving Rolling and On-Track Maintenance-of-Way Equipment in the Clear.” Industry track is defined as a switching track, or series of tracks, serving the needs of a commercial industry other than a railroad. Thus, it should be absolutely clear that a railroad yard does not contain industry track, even though, admittedly, there might be industry track connected to the yard. The RSAC recommended this definition as it distinguishes industry track from other types of tracks used for similar purposes (e.g., yard tracks, team tracks, sidings, etc.). The definition RSAC recommended, and which is the definition FRA is promulgating, is the same definition FRA uses in its Guide for Preparing Accident/Incident Reports.

FRA has maintained from the NPRM a definition of *locomotive* that is consistent with the definition contained in 49 CFR 240.7. FRA has promulgated this definition because the shoving and pushing requirements of this subpart apply to certified locomotive engineers who may be operating vehicles that meet this definition, but do not fall within the more mechanically-minded definition used elsewhere in this chapter and part. FRA is aware that this part already contains a more mechanically-minded definition, *see* § 218.5, and intends that the definition used in this subpart supercede that other definition. To clarify that there are two definitions of this term with different applicability, FRA has added language to the definitions to clarify which definition is applicable to subpart F and which is applicable to the part “except for purposes of subpart F.”

FRA has added a definition of *qualified* which is identical to the definition added for 49 CFR 217.4 in this rule. A person cannot be qualified unless he or she has successfully completed all “instruction, training, and examination” programs required by both the railroad and this subpart. Where FRA specifies that a qualified employee is to do the work, it is because we want some assurance that the person either has actual knowledge, or may

reasonably be expected to have knowledge, such that there is no question the person should be able to do the work in accordance with the railroad’s operating rules. It is imperative that only employees who have been qualified should do such work that the rule restricts to qualified employees because a railroad that allows unqualified employees to do such work is increasing the likelihood of an accident/incident.

FRA defines *remote control operator* merely to aid in the clarification of shoving or pushing movement requirements involving remote control operations versus the requirements for conventional operations. Remote control operators are “locomotive engineers” per FRA’s regulations found at 49 CFR part 240. Traditional engineers, i.e., those persons qualified to operate locomotives in a conventional manner, may be trained on remote control equipment—and are thus also certified for remote control operations; in that situation, the term remote control operator applies to the conventional engineer. Hence, the term “remote control operator” is not limited to those persons who only are certified to operate remote control locomotives, but to anyone certified to operate such locomotives. The industry uses the shorthand term “remote control operator” to refer to “remote control locomotive operators” and, because FRA solicited but did not receive any comments to the contrary, we trust that no one is confused by the dropping of the reference to “locomotives” in the terminology. FRA received one comment from AAR raising two concerns with regard to this definition. First, AAR correctly noted that the proposed definition mistakenly cited § 240.5 when § 240.7 is the accurate cite; FRA has corrected this mistake. Second, AAR suggested an alternative definition of remote control operator because it stated that the industry does not normally describe such operators as locomotive engineers. AAR’s suggestion for an alternative definition eliminates the term locomotive engineer from the definition, and refers to the operator as “an employee certified by a railroad to operate remote control locomotives pursuant to part 240 of this chapter.” FRA rejects AAR’s second suggestion because we do not agree with the distinction AAR is trying to make. Functionally, a locomotive engineer operating from a control stand in a cab and a remote control locomotive operator play the same role in switching operations, and, in some cases, they play the same role in train movements.

Thus, we consider it fundamental to both part 240 of this chapter and this final rule that a remote control operator be considered a locomotive engineer.

FRA defines *remote control zone* in order to permit a shoving or pushing operation that is safe and yet protected differently from conventional shoving or pushing operations. This zone is a term adopted by railroads that designate one or more segments of track, typically in a yard, where remote control operators can safely switch cars without continually determining that the track is clear for the movement, as long as a prior determination has been made. Although the location of a remote control zone may be permanent, the regulation requires certain conditions to be met each time a zone is used for its intended purpose of allowing an operation without an employee assigned to protect the leading end in the direction of movement, i.e., the pull-out end, of the remote control movement. See § 218.99(d).

FRA has noticed some confusion between the terms “remote control zone” and “remote control area.” A “zone” is an integral part of remote control operations, whereas an “area” describes for informational purposes only a location within which remote control operations occur and does not directly affect such operations. The “area” is usually created by putting up signs to warn employees working in the vicinity that moving locomotives may be unmanned. The “area” is typically larger than the “zone” as it covers anywhere the remote control operation could take place. It is important to create these areas so that employees are warned to use care in moving around the yard with the knowledge that using hand signals to convey a message to a moving locomotive may be in vain as there may not be an engineer in the cab to see them. Thus, these terms do not mean the same thing and should not be used interchangeably.

FRA defines *roadway maintenance activity* to distinguish between those duties prescribed for roadway workers, including movement of on-track maintenance-of-way equipment other than locomotives, and other types of duties that a roadway worker may perform which are not so limited. In other words, a person designated a “roadway worker” may engage in an activity that is not a “roadway maintenance activity.” This term is used to describe an exception to the general shoving and pushing requirements found in § 218.99(e)(3).

FRA defines *roadway worker in charge* in order to provide a generic title to the roadway worker who is in charge

of a roadway work group. The designation of such a worker enables FRA to require leaving main track switches in such a person's charge as well as being the conduit for switch alignment information when other workers in the group have operated switches. The communication among group members is similar in importance to the communication that is required between train crewmembers. FRA intends this term to have the same general usage as in subpart C of 49 CFR part 214.

FRA has added a definition of the term *siding* to describe an auxiliary track, adjacent and connected to a main track, used for meeting or passing trains. In § 218.101, the term “siding” is used in connection with an exception to leaving equipment in the clear. FRA understands that, in conversational or common usage, the term “siding” can also be taken to mean a customer's siding or an industry's siding. Meanwhile, the regulation exempts operations from abiding by the requirements for leaving equipment in the clear on industry tracks beyond the clearance point of the switch leading to the industry. By adding the definition of the term “siding,” FRA intends to clarify the narrow meaning of the term in this subpart from its broader, conversational usage.

FRA has added a definition of *signaled siding* to this rule to describe a siding within a traffic control system (TCS) territory or within interlocking limits where a signal indication authorizes the siding's use. In the NPRM, this definition was used to define a *controlled siding*, but, upon further reflection, FRA realizes that this definition actually defines a “signaled siding.” The NPRM used the term “controlled siding” in its exceptions to making a shoving or pushing movement on main tracks and controlled sidings, without requiring point protection, if certain conditions or prerequisites were met. The reason for the change to signaled siding is because the term controlled siding is not consistently applied to mean the same thing on all railroads. The term signaled siding, however, more accurately captures FRA's meaning and intent, which is a siding that is circuited (bonded) throughout its length. FRA also changed the term “centralized traffic control (CTC)” to “traffic control system (TCS)” to use the generic term rather than one specific brand of TCS.

FRA defines *switchtender* because a few railroads still utilize a worker with responsibilities for lining specific switches for trains and a person with this position is not a crewmember. FRA

defines this term because we want to acknowledge that this type of worker may be qualified to operate switches, so switches can be safely left in a switchtender's charge. FRA has not defined “switchtender” in order to suggest that railroads create such positions or that there is any sort of requirement to employ switchtenders.

FRA defines the term *track is clear* to describe the required condition of the track prior to initiating or continuing a shoving or pushing movement under § 218.99. If the four conditions for determining that the track is clear are met, then if an accident occurs, it is unlikely to be the fault of the person making the determination. That is, when the portion of the track to be used is clear there should not be any rolling equipment, on-track maintenance-of-way equipment or conflicting on-track movements that could collide with the shoving or pushing movement; there should be no intervening motor-vehicles or pedestrians to strike as all intervening public highway-rail grade crossings, private highway-rail grade crossings outside the physical confines of a railroad yard, pedestrian crossings outside of the physical confines of a railroad yard, and yard access crossings are to be protected; there should be no intervening switches or fixed derails to run through or over as these devices should all be properly lined for the intended movement; and, the shoving or pushing movement should not accidentally collide with cars on a connecting track if the portion of the track to be used has sufficient room to contain the equipment being shoved or pushed.

Within the definition of track is clear are the conditions for determining that intervening public highway-rail grade crossings, private highway-rail grade crossings outside the physical confines of a railroad yard, pedestrian crossings outside of the physical confines of a railroad yard, and yard access crossings are protected. As shoving or pushing movements typically occur without a locomotive engineer in a locomotive leading the movement, it is vital to protect crossings to prevent easily avoidable accidents. The definition for track is clear considers the crossing protected if the gates are in the fully lowered position, and have not been observed or known to be malfunctioning. Whether or not there are working gates, a crossing may be protected by stationing a designated and qualified employee at the crossing who has the ability to communicate with trains. A third option for protecting a crossing would be available when crossings are equipped only with

flashing lights or passive warning devices; in that situation, the crossing would be considered protected when it is clearly seen that no traffic is approaching or stopped at the crossing and the leading end of the movement over the crossing does not exceed 15 miles per hour.

In response to AAR's comment and input during the RSAC process, FRA has modified the definition of "track is clear" from the NPRM in several places. FRA has removed the requirement that a crewmember or other qualified employee make a visual determination because that requirement is already found in redesignated § 218.99(b)(3), formerly paragraph (b)(2). FRA has changed the term "conflicting movements" in the proposed first numbered condition to "conflicting on-track movements" in the final rule. The purpose for this change is to reflect that the track can be considered clear even if maintenance-of-way equipment is in the vicinity of the track to be shoved or pushed onto; instead, if the equipment is not on a track at the time the move is commencing or continuing, it is not considered a conflicting movement that would prevent the movement from being initiated. As discussed previously, a definition of "yard access crossing" has been added to ensure that railroads protect the crossings in railroad yards that someone other than an employee is likely to use. FRA has amended paragraph (2)(i) to reflect the proposed section analysis that crossings are protected when the crossing gates are in the fully lowered position but only when the gates have not been observed or known to be malfunctioning; FRA notes that the employees involved in the shoving or pushing move in which a determination that the track is clear is required need to share any information regarding malfunctioning grade crossings and may collectively be responsible for improperly protecting an observed or known to be malfunctioning crossing. Finally, FRA has added the qualifier in the third condition that any intervening "fixed" derails, as well as intervening switches, shall be lined for the intended movement when determining that track is clear; although FRA would also expect employees to be on the lookout for portable derails before determining that the track is clear, there certainly is no excuse for operating over an intervening fixed derail.

FRA is defining, for purposes of this subpart, the term *yard access crossing* in order to further define what grade crossings must be protected to ensure that the "track is clear" (another term defined in this section) during shoving

and pushing movements under § 218.99. A yard access crossing is a highway-rail grade crossing that is located within a yard and is either (1) open to unrestricted public access, or (2) open to persons other than railroad employees going about their normal duties, e.g., business guests or family members. A yard access crossing is one of the types of crossings that must be protected. The name is intended to describe a crossing in a railroad yard, that is regularly used by people who are not railroad employees (although railroad employees will, of course, also use these crossings). For example, one or more crossings in a yard may be open to anyone needing to get to a yard office or building. Family members and others may need to come drop off or pick up railroad employees, or make other pick-ups and deliveries; if that activity is permitted by the railroad and a crossing in the yard must be traversed, then the crossing shall be considered a yard access crossing for purposes of this rule. If the crossing is located away from yard buildings such that they would not need to be traversed by non-employees, then the crossing should not be considered a yard access crossing. FRA does not intend for every crossing in a yard to be considered a yard access crossing just because a non-employee might be foolish enough to take an unmarked or circuitous, unconventional route to the yard office. Of course, FRA advises each railroad to provide adequate signs for visitors to its yards so that there is no confusion about where to go—and thus no confusion for employees regarding which crossings are required to be protected. Generally speaking, we would expect that a crossing that consists of ballast thrown down to allow maintenance-of-way vehicles and employees to cross a track within a yard would not be the type of crossing a railroad would expect the members of the general public to cross; thus, those ad hoc crossings would nearly always not be considered a yard access crossing and would not need to be protected in accordance with the shoving and pushing requirements in this rule.

Section 218.95 Instruction, Training, and Examination

In paragraph (a), FRA requires that each railroad maintain a written program that will qualify its employees for compliance with operating rules implementing the requirements of this subpart to the extent these requirements are pertinent to the employee's duties. Thus, the pool of employees that would need to be covered by the program are those employees involved in shoving or pushing operations, remote control

operations, and any operation where equipment might be left fouling a connecting track—as well as any employee that may be required to operate hand-operated switches and fixed derails. The written program may be a stand-alone program or consolidated with the program of instruction required under § 217.11 of this chapter. FRA anticipates that most railroads would choose to consolidate this program with the part 217 requirement. Although FRA encourages the efficiencies consolidation is sure to bring, FRA's expectation is that the consolidated written program will sufficiently emphasize the requirements of this subpart. Each railroad is required to establish the program no later than July 1, 2008, and continue to maintain it thereafter.

Paragraphs (a)(1) and (a)(2) provide more details regarding what should be included in the written program. Paragraph (a)(1) requires that the program include instruction on consequences of noncompliance, i.e., that FRA can take enforcement action through civil penalties or disqualification from safety sensitive service. See 49 CFR part 209, subpart D-Disqualification Procedures. Paragraph (a)(2) requires that the written program address the need to qualify employees on all aspects of the technology the employees will be utilizing when complying with the operating rules required by this subpart. For example, employees may be expected to operate a variety of hand-operated switches and must be taught how to properly operate them as well as what to do if a malfunction or deviation is detected. This final rule differs slightly from the proposal. In the NPRM, FRA requested comments regarding whether the final rule should include any specific reference to qualification of employees on the territory where they will be working. FRA explained in the proposal that it was not immediately obvious how this concept should be applied in the subpart F context. During the RSAC discussions and in comments, labor representatives asked for a more explicit recognition of this requirement and suggested revising paragraph (a)(2) to require that each worker be "qualified," rather than just "trained," on the items listed in that paragraph. FRA agrees and has changed the relevant proposed phrasing from "shall include training" to "shall include qualifying the employee." Although this change does not amount to a specific requirement that every employee shall be territorially qualified, it is implicit that this type of qualification is required when necessary

to provide the knowledge required to comply with the subject rules. Locomotive engineers, including those that are remote control operators, are already required to be territorially qualified pursuant to part 240 of this chapter. Furthermore, FRA hopes to allay labor's fears by reminding interested parties that if territorial qualification is a necessary component for complying with one of the subpart F operating rule requirements and that qualification was not provided to an employee, FRA is unlikely to bring an enforcement action against the employee because FRA would likely have difficulty proving that the violation was "willful." See 49 CFR part 209, app. A. Finally, FRA has revised paragraph (a)(2) by changing the word "employed" to "necessary" because, in context, the word "employed" implied "used;" the change clarifies that an employee cannot be deemed qualified to accomplish the work without satisfying the qualifications requirements in the program that specify any instruction, training and examination needed to operate the technology and understand any related procedures.

Paragraphs (a)(3) and (a)(4) address the implementation schedule for this subpart. Paragraph (a)(3) requires that prior to January 1, 2009, employees performing duties subject to these requirements shall be qualified per the minimum requirements in this subpart. It is further required under paragraph (a)(3) that employees who are hired during the period following April 14, 2008 through January 1, 2009, would not be provided such a grace period; instead, is required that new hires receive the proper qualification training before being allowed to perform duties subject to the requirements of this subpart. Furthermore, under paragraph (a)(4), after January 1, 2009, no further grace period is provided and employees shall receive recurrence training at least every three years. FRA is requiring this three year window because it is becoming a standard industry practice to re-qualify employees on operating rules at least every three years and that is a reasonable time period in which to conduct continuing education. The dates in paragraphs (a)(3) and (a)(4) were extended so that they would coincide with the calendar year, rather than the effective date of the final rule. Finally, pursuant to paragraph (a)(5), the record for each employee shall document qualification of employees under this subpart by including any records of required instruction, examination and training.

Both AAR and APTA requested that FRA change the training schedule

through a longer grandfather provision than the one year proposed and extend all the schedules for implementation so that the required training could be accomplished during the normal three year cycle. The latter concern is that a large railroad with many employees to qualify will only need to train about a third of its employees each year, while FRA proposed requiring all current employees to be trained within one year from the date of the rule's publication. FRA is not adopting the suggestions because one full year should be sufficient time for a railroad to modify its operating rules according to this subpart and qualify its employees on the small number of operating rules covered by this subpart. Many railroads may find little difference, if any, between the subpart F requirements and their existing operating rules. Experienced employees should have little difficulty understanding the nuances of any of the new rules, so FRA does not envision qualifying existing employees to be greater than a refresher course with limited subjects to be covered. FRA perceives that the commenters may be expressing a frustration that the railroads will need to schedule this qualification class and not be able to logistically combine it with a regularly scheduled operating rules training class under § 217.11 for every one of its employees; i.e., employees scheduled to receive operating rules training this year would be covered, but not those previously scheduled for the following two years. FRA permits railroads to combine the training under this subpart with the § 217.11 training, but not to extend the deadlines for the subpart F training. Again, AAR and APTA's requests are denied mainly because the qualifications requirements under this subpart cover a limited number of operating rules and subject areas that experienced employees should readily comprehend without many questions or concerns.

Paragraph (b) requires that qualification records required by this subpart be retained at a railroad's system headquarters and at the division headquarters, if any, where the employee is assigned. This will enable FRA to quickly obtain such qualification records upon request. FRA has not required a retention schedule for these records as we believe the section mandates that at a minimum: (1) Records must be kept for each employee qualified and (2) when an employee is requalified, there is no longer a need for a railroad to retain the old record as it has been superseded by the new one. Paragraph (b) also includes the option to

allow a railroad to retain these records electronically in accordance with §§ 217.9(g) and 217.11(c) of this chapter; this option was added to address a comment from APTA for FRA to specify that electronic recordkeeping would be acceptable.

Paragraph (c) provides a mechanism for FRA to review and disapprove of a railroad's written program required under paragraph (a). It also requires minimum procedures and structure to the review process. The paragraph provides that the Associate Administrator for Safety will only disapprove programs of instruction, training, and examination required by this section for cause stated. As the disapproval decision is made for cause, it is significant for the railroad to understand exactly why FRA is disapproving the program; thus, notification of such disapproval will be made in writing and specify the basis for the disapproval decision. If the Associate Administrator for Safety disapproves the program, the railroad has 35 days from the date of the written notification of such disapproval to either (1) amend its program and submit it to the Associate Administrator for Safety for approval, or (2) provide a written response in support of the program to the Associate Administrator for Safety. If the railroad chooses the second option to defend the allegedly defective program, the Associate Administrator for Safety will inform the railroad of FRA's final decision in writing. Although the rule is silent regarding whether a railroad may request an extension, FRA intends for the Associate Administrator for Safety, as the agency's decision-maker, to have the flexibility to decide procedural issues, such as having the ability to grant or deny requests for extensions of time, as the issues arise. The Associate Administrator for Safety renders a final decision in writing which will specify the terms and conditions under which the program will be considered approved or disapproved. If the decision denies the railroad's request in whole or in part, FRA intends for the railroad to amend its program and submit it to the Associate Administrator for Safety for approval within 35 days of the final decision as that is the period of time accorded for amending programs when a railroad chooses not to appeal the disapproval. Again, a railroad may request an extension of time to amend its program and submit it to the Associate Administrator for Safety for approval, and FRA intends for the Associate Administrator for Safety to have the flexibility to decide whether to

grant or deny such procedural requests. Although enforcement action is always discretionary, FRA believes that enforcement action is warranted when a railroad fails to appropriately and timely amend its program; for this reason, FRA is requiring in paragraph (c)(2) that a failure to submit the program with the necessary revisions to the Associate Administrator for Safety will be considered a failure to implement a program under this part.

The approach in paragraph (c) recognizes that FRA will typically want to review such written programs during audits or investigations and that FRA should have the authority to request changes to the program if it does not meet the minimum requirements of this rule. The oversight authority vests with the Associate Administrator for Safety. Although FRA would have authority to review in detail each railroad's program, FRA is not requiring each railroad to submit its program for review and explicit approval. Rather, FRA will review the qualification programs of the railroads over a multi-year cycle, in connection with review of the overall program of operating rules, to determine if they are effective. Among the factors that would be considered would be the extent to which the program is founded on appropriate task analysis, the completeness of the curriculum, the types of instructional methods, appropriateness of written and other tests, criteria for successful completion, and—most importantly—the ability of employees said to be qualified to apply the rules in practical situations. The final rule contains more details than in the NPRM but the overall approach is not significantly different.

Section 218.97 Good Faith Challenge Procedures

FRA received a wide-variety of comments pertaining to the proposed good faith challenge procedures section. In short, the labor organizations generally supported the procedures and offered small suggestions for improvement, while the associations representing railroad management generally requested more significant changes based on legal and policy concerns. The legal concerns raised by the comments are addressed earlier in this rule in the preamble. *See* IV. General Comments/Major Issues, Good Faith Challenge—Legal Issues. While most of the procedures in this paragraph are maintained from the proposed rule, FRA has amended this section to allay valid concerns raised by the comments and to correct deficiencies in enforcing the challenge.

The main purpose of requiring that each railroad establish operating rules containing certain minimum requirements under this subpart is to ensure safe handling requirements of certain operations by employees where human factor caused accidents have historically occurred. Codifying these requirements will enable FRA to take enforcement action when necessary, and will therefore discourage noncompliance with these important safety rules. FRA is convinced that human factor caused accident rates and incidents of noncompliance would be significantly lower if each railroad were properly qualifying employees and consistently enforcing its own operating rules. FRA's perception is that on occasion some railroad officers are permissive in allowing occasional violations of operating rules in order to achieve short-term perceived efficiencies. For example, a railroad officer may order an employee to shove blind, i.e., without ensuring that the track is clear for the movement, in an effort to finish a job quickly and get a train out of the yard. If the move originated from a direct order by a railroad official, the employee might fear challenging the railroad official on the order or might have complied with so many similar orders in the past as to not perceive the danger in occasionally violating an operating rule. Another example could occur when an employee is told he or she may leave work early as soon as a particular assignment is complete. Rather than taking the longer but safer route to determine that a switch was left properly lined, the employee assumes the switch was left properly lined, even though some time has passed since the employee last observed it. This rule is intended to check emergence of the culture that occasionally accepts some degree of noncompliance with a railroad's operating rules.

One essential aspect of changing this undesirable culture of complacency with some noncompliance is to establish better lines of communication between employees and railroad officers. Section 218.95 requires that railroads have a written program that will ensure that employees are well trained and qualified to do the work. A qualified employee should readily recognize when a railroad officer has given the employee an order that does not comply with the railroad's own operating rules. In order to address this issue further, FRA is requiring good faith challenge procedures.

The good faith challenge procedures are about establishing dialogues between employees and railroad

officials. A good faith challenge is initiated by an employee who believes that if he or she obeys a particular order issued by a railroad official, the employee would violate one or more of the operating rules required by this subpart. At its core, the good faith challenge and its attendant procedures should force a railroad official to listen to an employee's concern regarding such an order and to reconsider the validity of the order. FRA has created a mechanism for appealing the first official's order to a second official in the situation where dialogue and compromise do not resolve the discrepancy.

FRA has added paragraph (a) so that the regulation sets forth the responsibility of employees to provide consistence with other good faith challenge regulations promulgated by FRA. *See* 49 CFR 214.503(a) and 214.313. This paragraph clarifies that whenever an employee makes a good faith determination that the employee has been directed to violate either FRA regulations or a railroad's operating rules regarding the handling of equipment, switches, and fixed derails, the employee shall inform the railroad or employer (as not all rail employees work directly for a railroad) of the belief that the order may be in violation. Thus, in the interest of safety, an employee has a duty to raise challenges to perceived non-complying orders. With the addition of paragraph (a), all of the proposed paragraphs required renumbering.

As explained in the proposed rule, FRA refers to the challenge as the "good faith" challenge because we do not intend for employees to abuse it. We expect bad faith challenges to never or rarely occur and for the challenge to provide, in part, for a dialogue between employee and supervisor that railroads should be permitting and encouraging without being prompted by regulation. That said, it is possible for bad faith challenges to occur. For example, if several experienced employees in a particular yard were all to initiate separate challenges where no real dispute could be articulated, this concerted effort to create a work stoppage or slowdown would be in bad faith. It might also be considered bad faith, or at least cause for concern, if an employee repeatedly made similar challenges that were without merit; in such an instance, the facts and circumstances of each incident would need evaluation as the problem could be inadequate qualifications or experience—not necessarily a challenge made in bad faith. It is certainly not an act of bad faith for an employee who

makes a challenge to have simply misinterpreted the operating rule or practice, and we would have serious concerns with a railroad that sought to punish an employee merely for asserting the challenge and being wrong. Again, we emphasize that we do not anticipate abuse of the challenge as FRA has not heard any anecdotal discussions of abuse with the already existing good faith challenges. Furthermore, if the good faith challenge is found to be regularly abused, FRA would consider amending the challenge to reduce the likelihood of abuse or abolishing the challenge during a future rulemaking.

FRA is promulgating good faith challenge procedures that are more detailed than those established for roadway workers because the officer/employee relationship dynamic is different for roadway work versus operations work. That is, the strict chain of command is more prevalent in operations than roadway work. Thus, a supervisor of roadway work may be more accepting of a challenge than an operations supervisor, e.g., a yardmaster.

The concept of a good faith challenge applied to operations is not wholly unknown in the railroad industry. For example, we applaud the efforts of Metro-North Railroad, which has instituted a good faith challenge that is much broader than what FRA is requiring through this rule. Metro-North allows good faith challenges to any directive that would violate an operating rule or instruction in the following areas: operating rules, timetable, equipment operating instructions, electrical instructions, hazardous material instructions, safety instructions, and bulletin orders and general notices. Metro-North provides its employees the right to have a second supervisor review the challenge and lists the titles of the supervisors who are able to perform a second review: Operations Managers, District Superintendents, Line Superintendents, General and System Road Foremen, Chief Rail Traffic Controllers, and Operating Rules Department Supervisors. Metro-North also pledges that it will not subject an employee to discipline for a violation of a rule or instruction when being ordered to comply by a second supervisor, provides for the right to document the challenge prior to the completion of the tour of duty, and the right to a written decision if requested promptly. Metro-North has also instituted its own form for tracking each challenge. Of course, FRA is prescribing minimum good faith challenge requirements only and each railroad may prescribe additional or

more stringent requirements. See 49 CFR 218.1.

Proposed paragraph (a) is redesignated as paragraph (b). Paragraph (b) provides the general procedures for implementing a good faith challenge specific to the requirements of this subpart; railroads or employers of railroad employees subject to this subpart, of course, are free to implement a good faith challenge in areas not subject to this subpart as Metro-North has done. Paragraph (b) requires that each employer be responsible for the training and compliance by its employees with the requirements of this subpart. Obviously, railroads will have to instruct employees on all aspects of the good faith challenge or it will have no effect. The good faith challenge procedures must be made available to roadway workers as the definition of "employee" includes "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 subpart. Although FRA does not anticipate that roadway workers would be involved in many, if any, shoving or pushing movements, the regulations pertaining to switches, fixed derails and leaving equipment in the clear would likely be applicable. FRA intends to take enforcement action where a railroad fails to properly instruct employees or a railroad's officers fail to comply with implementation of the good faith challenge procedures.

Paragraph (b)(1) requires that each employer adopt and implement written procedures which guarantee each employee the right to challenge in good faith whether the procedures that will be used to accomplish a specific task comply with the requirements of this subpart or any operating rule relied upon to fulfill the requirements of this subpart. Therefore, it is not enough for an employer to maintain such a guarantee in its written procedures as the employer has a duty to implement this guarantee. If an employee is denied the right to make a challenge, or is denied any aspect of the required procedures, FRA may seek enforcement action against the employer or individual responsible for denying the employee's right. Of course, the requirement's applicability would only be for a challenge to any order that violates a requirement in subpart F.

Paragraph (b)(1) of the rule also requires a railroad to adopt and implement written procedures as the mechanism for instituting the good faith challenge. Such written procedures should not lead to protracted arguments that are unusually disruptive to operations as FRA is requiring that each

railroad's procedures provide for "prompt" challenges. FRA's expectations are that such challenges should be resolved in a matter of minutes, certainly not an hour or more. It is within this context that FRA also specified the concept that a railroad's written procedures provide for "equitable resolution of challenges;" by this requirement, FRA meant for a railroad officer to give deference to an employee's challenge if the employee has suggested a safe way to do the work that is in compliance with the relevant operating rules. Follow-up to clarify the correct application of the rule leading to the challenge can be done at a later time or date so that a definitive answer may be provided by the railroad to the railroad officer and employee involved; e.g., a railroad's manager of operating rules may want to issue a bulletin generically outlining the challenge and the proper application of the rule. As a good practice, a railroad should take this extra step to clarify a definitive answer even if the employee does not request such a review, as provided for in paragraph (d)(4), as it may be used as a learning experience for other employees and supervisors.

FRA is revising proposed paragraph (a)(2), which has been redesignated as paragraph (b)(2). The proposed paragraph would have required that a railroad's good faith procedures indicate that the challenge is not intended to supplant any rights or remedies available to the employee under a collective bargaining agreement or under the statute providing for employee protections found at 49 U.S.C. 20109. As discussed earlier, the employee protections of this statute have been expanded and the authority to investigate whistleblower complaints has been transferred to DOL. The paragraph's revisions require that the written procedures required by this section shall indicate that the good faith challenge described in paragraph (b)(1) is not intended to abridge any rights or remedies available to the employee under a collective bargaining agreement, or any Federal law including, but not limited to, 29 U.S.C. 651 *et seq.*, 6 U.S.C. 1142, or 49 U.S.C. 20109. The citation to 29 U.S.C. 651 *et seq.* is a reference to the Occupational Safety and Health Act of 1970 (OSH Act of 1970) that is implemented by DOL's Occupational Safety and Health Administration (OSHA) and is designed to regulate employment conditions relating to occupational safety and health and to achieve safer and more healthful workplaces. Section 11(c) of the OSH Act of 1970, found at 29 U.S.C.

660(c), generally protects employees from retaliation for raising concerns or filing complaints alleging workplace safety or health violations under the Act. The citations to 6 U.S.C. 1142 and 49 U.S.C. 20109 are references to protections afforded to public transportation employees and employees of a railroad carrier engaged in interstate or foreign commerce respectively, including employees of contractors and subcontractors. Both of these provisions are implemented by DOL. Although FRA views these statutory provisions as wholly separate from the regulation we are promulgating and FRA's enforcement authority, the statutory provisions provide employees with rights and remedies in cases of retaliation for refusing to violate or assist in the violation of any Federal law, rule, or regulation related to railroad safety as well as taking other enumerated actions. The citation to these laws in the written procedures is a reminder to employees of their rights and remedies which provide an opportunity to pursue an assortment of relief, including punitive damages, against an employer for an improper action.

FRA's decision to expand paragraph (b)(2) is being made in conjunction with the deletion of proposed (b)(2). Proposed paragraph (b)(2) would have required that each railroad's good faith written procedures contain a requirement that would provide that an employee making a good faith challenge shall not be discharged or in any way discriminated against for making the challenge. FRA viewed the proposal as an essential aspect of the good faith challenge procedures as employees would certainly be discouraged from raising a challenge if the employer is not prohibited from retaliating against an employee for making a challenge. However, as explained in the preamble, the recently amended statutory employee protection provisions changed the landscape of whistleblower protection for railroad employees such that FRA no longer perceives a need for a separate regulatory requirement against retaliatory conduct. *See B. Good Faith Challenge—Legal Issues, 4. Anti-Retaliation Provision.*

Proposed paragraph (a)(3) is redesignated as paragraph (b)(3). This paragraph requires that a railroad instruct affected employees on the good faith challenge procedures contemporaneously with the training railroads are required to provide under 49 CFR 217.11. The idea is that an employee's chance of understanding the proper application of the good faith challenge should be greatest at the time

the employee is receiving instruction on the relevant operating rules. Of course, FRA does not expect a railroad to instruct an employee whose duties do not involve handling equipment, switches and derails. If an employee's duties change to include these activities, the railroad will have to provide the instruction prior to assigning the new duties.

The good faith challenge procedures are a critical component of this final rule, which is narrowly tailored with the intention to drive down the number of accidents caused by human factors. Employees learn in the classroom but there are often so many topics covered in an operating rules class that it could be difficult for an employee to retain everything taught. To compensate, railroads traditionally provide operating rule books not only to put employees on notice that compliance with these rules is expected, but also, as a reference so that each employee can check the rules and be reminded of their requirements. In similar fashion, FRA is requiring in paragraph (b)(4), previously proposed paragraph (a)(4), that each railroad provide a current copy of its written good faith procedures to each affected employee. By requiring a current copy, FRA has incorporated the idea in the proposed rule that each railroad provide each affected employee with any amendments to its written procedures prior to the effective date of the amendments. Also, like any other record FRA requires, a railroad would need to make the written procedures available for inspection by FRA during normal business hours.

Proposed paragraph (b) has been redesignated as paragraph (c). Paragraph (c) requires additional procedures for each railroad to include in its written good faith procedures. Each of these more specific requirements lays the framework for what FRA envisions as a respectful dialogue between two individuals with differences of opinion on an operations issue with a safety component; the two individuals are, of course, an employee and an officer of the railroad or employer.

Paragraph (c)(1) requires written procedures granting each employee the right to challenge any directive which, based on the employee's good faith determination, would cause the employee to violate any requirement of this subpart or any operating rule relied upon to fulfill the requirements of this subpart. The good faith challenge procedures should eliminate any stigma employees have regarding challenging railroad officers on safety issues pertaining to handling equipment, switches and derails. Likewise,

standardization of the challenge should cause railroad officers to truly reflect on the orders issued and whether any aspect of an order would result in noncompliance with the relevant railroad operating rules.

Proposed paragraph (b)(3) contained two components, one of which has been redesignated as paragraph (c)(2). Paragraph (c)(2) contains a similar requirement to the first component of proposed (b)(2), but with some important differences. Several railroads, and the associations that represent them, objected to the proposed paragraph in that it stated that the good faith written procedures include a provision "that no work is to be performed with respect to the challenged task until the challenge is resolved." The proposal was intended to duplicate a similar provision found in the roadway worker rule that required allowing the challenging employee "to remain clear of the track until the challenge is resolved." 49 CFR 214.311(b). And while this requirement has not posed any problems for employers of roadway workers, many railroads expressed dismay at this provision and sought additional amendment or deletion of this paragraph.

The amendments to paragraph (c)(2) are intended to protect the employee who made the challenge from being required to comply with the challenged directive while the challenge is unresolved. The first part of the paragraph requires that the written program "provide that the railroad or employer shall not require the challenging employee to comply with the directive until the challenge resulting from the good faith determination is resolved." This language more closely conforms to FRA's other good faith challenge regulations than the NPRM.

In RSAC Working Group meetings, FRA heard two related complaints from railroads regarding proposed paragraph (b)(3). One, several railroads commented that the proposed regulatory text did not address whether the challenging employee could be ordered to do other work while the challenge is unresolved. As it was FRA's intent to allow for this type of work, we have added paragraph (c)(3) to address this issue. Paragraph (c)(3) requires that the written procedures shall provide that the railroad or employer may require the challenging employee to perform tasks unrelated to the challenge until the challenge is resolved. Of course, whether or not a railroad or employer chooses to exercise the option of switching an employee's duties while

the challenge is being resolved is a decision for the railroad or employer.

The second of the two complaints from railroads regarding proposed paragraph (b)(3) involved a concern that the NPRM indicated that nobody could do the work with respect to the challenged task until the challenge was resolved. FRA did not agree that the NPRM prohibited another employee from doing the challenged task prior to resolving the challenge. Meanwhile, we had, and still have, reservations about providing a railroad or employer with a clear path to order some other employee to do work that another employee is challenging as non-complying—and thus unsafe. In response to the requests for clarification, paragraph (c)(4) has been added. This paragraph requires the written procedures to provide that the employer may direct an employee, other than the challenging employee, to perform the challenged task prior to the challenge being resolved as long as this other employee is informed of the challenge and does not also make a good faith determination that the challenged task would violate FRA regulations regarding the handling of equipment, switches, and fixed derails as required in this subpart, or a railroad's operating rules implementing the requirements of this subpart. Thus, paragraph (c)(4) prohibits an employer from ordering a second employee to do the work without verbally notifying this second employee that another employee has asserted a good faith challenge. At a minimum, for purposes of this paragraph being "informed of the challenge" means that the person giving the directive shall explain that another employee has made a good faith determination that the task does not comply with an operating rule or FRA regulation, as well as provide a synopsis of the specifics of the challenge. This option permits an employer, who is certain that the challenging employee is wrong, an opportunity to get the work done by another qualified person. Of course, any employee asked to perform a task that does not comply with this subpart has the same right to challenge the task, regardless of whether any other employee has also challenged that task. Also, all employees have the same responsibility under paragraph (a) to inform the employer of directives that violate this subpart or any operating rules implementing this subpart.

The second part of proposed paragraph (b)(3), which has been redesignated as (c)(5), identifies the ways that a challenge may be "resolved." Each of the ways that a challenge may be resolved has been designated in its own paragraph

numbered (i) through (iv). One, we expect that some railroad officers when challenged will realize that the employee's suggested alternative method of operation is an acceptable option that is in compliance with this subpart and the carrier's operating rules implementing this subpart. The officer may or may not agree that the original directive was non-complying but the challenge in this case can be resolved amicably. Two, after making a challenge and receiving an explanation or recitation of the rule from the officer, an employee may likewise realize that the officer's directive was in compliance and decide to comply with the directive. Three, in some situations, the challenge may lead to a discussion of options on how the task can be performed in compliance with the operating rules. That discussion may lead to a realization either that both persons were only partially correct or there is another option not previously asserted. Under those circumstances, an amicable resolution would be the advancement of a third option that was reached through communication and compromise, and is therefore satisfactory to both parties. Four, there may be instances when an officer believes the directive is permitted by the operating rules, and that either the employee's challenge is being made in bad faith or there is no reasonable alternative to the direct order; in those situations, the written procedures will provide for review as further determined under paragraph (d) of this section.

Proposed paragraph (c), which was redesignated as paragraph (d), requires each railroad to provide additional written procedures in the event that a challenge cannot be resolved amicably. Thus, the additional procedures in this paragraph are required to be complied with when the person issuing the directive determines that the employee's challenge has not been made in good faith or there is no reasonable alternative to the direct order. As it is often difficult to determine that a person is acting in bad faith, the person issuing the directive should typically give the challenging employee the benefit of the doubt that the challenge is being made in good faith and attempt to resolve the challenge without the need for further review.

In the event of a stalemate, where the challenging employee and the person issuing the directive cannot agree to resolve the challenge, paragraph (d) requires that the written procedures provide that four additional requirements be met. Paragraph (d)(1) carries over from the NPRM the requirement that an immediate review

by another railroad or employer officer be provided. The immediate review must be held by another officer who cannot be unduly influenced by the officer who issued the challenged directive or the review will not have the appearance of fairness. FRA expects that fair review will be accomplished if the reviewing officer is a different officer who is not a subordinate of the officer who issued the challenged directive. FRA envisions this immediate review as a quick check with another officer that should not be unduly burdensome.

In the NPRM, FRA requested comments regarding whether some smaller railroads might have difficulty complying with an immediate review requirement. FRA did receive comments, mostly oral during the RSAC Railroad Operating Rules Working Group meetings, explaining that the smallest railroads would likely encounter problems providing an immediate review when so few officers would be available to conduct them. Consequently, FRA has decided to revise the requirement in paragraph (d)(1) so that the immediate review will not be mandatory for each railroad with less than 400,000 total employee work hours annually.

In paragraph (d)(1)(i), FRA retains from the NPRM the requirement that the immediate review not be conducted by the person issuing the challenged directive, or that person's subordinate. APTA commented that it is not always clear what other officers are in another's chain of command, and whether one officer is subordinate to another. Although not directly addressed in the rule, the rule's silence on this issue is intended to provide each railroad with the flexibility to describe its approach in its procedures and how the intent of the rule will be followed. Similarly, during the RSAC Railroad Operating Rules Working Group meetings, AAR and APTA voiced opposition to the idea of the promulgation of a good faith challenge. Both associations were concerned that implementation of such a challenge would pose numerous logistical difficulties as well as a perceived high potential for abuse by employees. One concern raised was that on-time performance could easily be compromised if an employee raised a challenge and a quick compromise solution could not be reached. The rule does not need to address this issue as each railroad or employer needs to address it by setting up effective protocols for supervisors to follow when issuing direct orders to proceed; i.e., each yardmaster or other supervisor should know who to contact in the event that an immediate review is

needed. A railroad may wish to provide contact lists to each supervisor of other supervisors so that each supervisor has multiple people to contact in the event a challenge needs immediate review. Again, the intent of the rule is to provide for an immediate review by a railroad officer who cannot be unduly influenced by the officer who issued the initial order so that a fair review may be perceived. As explained previously in this analysis, Metro-North has addressed this issue in its good faith challenge program and has thus provided an example of how to address this issue.

The requirement in paragraph (d)(1)(ii) is based on a requirement in proposed paragraph (c)(1). During an immediate review, the reviewing officer has the same options to resolve the challenge as the person who issued the challenged directive, however, the officer making the immediate review shall also have the option described in paragraph (d)(2). FRA believes that there has to be some finality to the immediate review process and that one review is enough. Of course, paragraph (d)(1) provides the minimum immediate review requirements and a railroad is not prohibited from providing a second immediate review or other additional requirements.

Paragraph (d)(2) provides that if the officer making the railroad's or employer's final decision concludes that the challenged directive would not cause the employee to violate any requirement of this subpart or the railroad's or employer's operating rule relied upon to fulfill the requirements of this subpart and directs the employee to perform the challenged directive, the officer shall further explain to the employee that Federal law may protect the employee from retaliation if the employee refuses to do the work and if the employee's refusal is a lawful, good faith act. This paragraph is based on the option in proposed paragraph (b)(3) that suggested permitting an officer to resolve a challenge by issuing a direct order to proceed with the work as initially ordered. There may be situations where the officer making the final decision concludes that the direct order would not violate this subpart, or any operating rule relied upon to fulfill the requirements of this subpart; in that situation, the officer may direct the employee to perform the challenged directive after explaining to the employee that Federal law may protect the employee from retaliation if the employee refuses to do the work and if the employee's refusal is a lawful, good faith act. This notification requirement serves several purposes. One, it reminds

the employee of the statutory anti-retaliation protection prior to the employee choosing between doing or refusing to do the work. Two, it reminds the employee that if he or she refuses to do the work, the statutory protections will not protect him or her from retaliation if the employee is acting unlawfully or in bad faith. Three, the officer's act of providing this notification to the employee also provides a reminder to the officer that the employee is likely protected from retaliation for refusing to do the work except where there is evidence proving that the employee's refusal is unlawful or made in bad faith. An officer ordering an employee to do such work would be expected to have a high degree of confidence in issuing such an order, and we would expect railroads and employers to carefully instruct officers on these procedures, as a challenging employee might file a complaint or lawsuit based on the failure to follow proper good faith challenge procedures or for later retaliation based on a refusal to do the work.

Paragraph (d)(3) maintains a similar requirement from proposed paragraph (c)(2) that the written procedures provide the employee with an opportunity to document electronically or in writing any protest to the railroad or employer's final decision before the tour of duty is complete. The employee shall also be afforded the opportunity to retain a copy of the protest. Examples of electronic records may include, but are not limited to, recorded radio communications, electronic mail (i.e., e-mail), or filling out a computer form or database. If electronic recording is permitted by the railroad's program, railroads will need to maintain methods for providing the employee with a copy of that record. Maintaining such a record facilitates the employee's ability to follow-up on any further review requested under paragraph (d)(3). FRA considered whether to require that the employee be provided with the opportunity to create this record immediately following the direct order to proceed with the task, however, FRA has accepted several railroads' arguments that this could prove too disruptive to operations, especially passenger and commuter operations where on-time performance is critical. Additional time delays would result if an employee had the right to immediately document the challenge before returning to work. FRA has addressed this issue by requiring in paragraph (d)(3) that the employee be afforded an opportunity to document the protest electronically (e.g., by radio

transmission to be recorded) or in writing any time "before the tour of duty is complete." This additional requirement also reflects an existing statutory requirement that entitles an individual to document a protest of a direct order of a railroad carrier official or supervisor under protest communicated to the official or supervisor. 49 U.S.C. 21304. Of course, "the absence of such a protest will not be viewed as warranting a presumption of willfulness on the part of the employee who might have communicated it." 49 CFR part 209, app. A, "Civil Penalties Against Individuals." Paragraph (d)(3) does not supercede the statutory requirement nor does it exceed it. Given the existing statutory requirement, the time needed to document a protest should not pose a new burden on railroads.

FRA has deleted proposed paragraph (c)(3) which stated that the written program "provide that the employee be orally advised that completing the work as ordered will not subject the employee to penalties or consequences for noncompliance with this subpart." When FRA published the NPRM, this paragraph was intended to further clarify existing statutory rights under 49 U.S.C. 21304. Upon further reflection, FRA found the proposed paragraph could be confusing in that it might suggest that a railroad officer or supervisor could bind the FRA in the use of the agency's enforcement discretion. This might be true even where the railroad official misapplied the law, or the individual was not entitled to the right. APTA also raised a valid concern that the proposed paragraph could easily be misinterpreted in another way; e.g., an employee who invokes a good faith challenge on a shoving move may believe that he can't be disciplined, or have certification revoked if the employee is a locomotive engineer, for passing a stop signal related to that same movement even though the officer did not give the crew authority or permission to pass the signal. Despite the fact that this paragraph was deleted and that employees are not required to be orally advised that completing the work as ordered will be a defense to penalties or consequences of noncompliance under this subpart, section 21304 is still applicable. Thus, "[a]n individual is deemed not to have committed a willful violation if the individual was following the direct order of a railroad carrier official or supervisor under protest communicated to the official or supervisor." 49 U.S.C. 21304.

Proposed paragraph (c)(4), redesignated as paragraph (d)(4), requires that the direct order procedures shall also provide the employee with the right to one more review by a railroad officer designated by name or title in the written procedures who will make the final interpretation of the applicable operating rule. The railroad is not prohibited from designating more than one individual by name or title, although it would likely be useful to have one person or office overseeing these interpretations. In the proposed rule, FRA did not specify a deadline for issuing the verification decision; after further consideration, FRA has decided that some reasonable time limit should be imposed to prevent a railroad from taking an inordinate amount of time to respond to an employee's request. FRA has decided to require that a railroad issuing a verification decision must do so within 30 days after the expiration of the month during which the challenge occurred. Thus, regardless of whether the challenge occurred on November 1st or 30th, the verification decision must be provided to the employee no later than December 30. FRA considered imposing a strict 30-day deadline, but decided that this type of deadline, patterned after the one found in 49 CFR 225.11, for reporting of accidents/incidents, provides greater flexibility without unduly delaying the verification decision. This paragraph was also changed to require that the employee make the request for further review in writing; the proposed paragraph left open the possibility of a verbal request which, if left unanswered, could potentially lead to arguments over whether the request was actually made. FRA is not requiring that the written request be on a form, but a railroad may choose to create one. However, rather than permit the employee to decide whether or not the railroad should provide the employee with a written decision as in the NPRM, the railroad is required to provide the employee with a written decision so that there is no dispute regarding whether the railroad fulfilled this obligation. A final written decision will also permit FRA with the opportunity to more easily investigate claims that the challenge had merit or the railroad is not properly applying the Federal regulations.

FRA did not propose, but has added, paragraph (e) to address recordkeeping and record retention issues pertaining to the good faith challenge procedures. For example, in the NPRM, FRA required each railroad to maintain written procedures, but did not specify where

the procedures needed to be kept so FRA could inspect or copy them. Paragraph (e)(1) addresses this issue by requiring a copy of the procedures to be retained at both the railroad's system headquarters and at each division headquarters. This paragraph also explains that the procedures shall be made available to representatives of the FRA for inspection and copying during normal business hours.

In paragraph (e)(2), FRA has added a new record retention requirement for any written good faith challenge verification decision made in accordance with paragraph (d)(4). The good faith challenge procedures are designed so that most challenges will be resolved on the spot through employee/officer discussions that will not produce a written decision. When the conflict between the parties cannot be resolved on the spot, a written decision is required. FRA needs to be able to review those written verification decisions to analyze what types of conflicts did not get resolved amicably. Those types of challenges may have some merit and result in further FRA involvement to resolve underlying safety issues. The written decision should provide enough background to understand the challenge by citing the applicable rules and procedures, and providing an in-depth explanation of any interpretations necessary to analyze the factual circumstance. FRA is also requiring that those decisions be retained for at least one calendar year after expiration of the year during which the decision was issued. The requirement for record retention, while not proposed, follows as a logical requirement from proposed paragraph (c)(4) permitting the employee to request that the railroad provide a written decision. We cannot fathom that a railroad would produce such a written decision and not retain it for some reasonable period thereafter in order to retain an unaltered original and possibly to use as a reference to help address future, similar challenges.

Paragraph (e)(3) was added to clarify that each railroad is authorized to retain any records required by this section in an electronic format so long as the electronic records are kept in accordance with the standards set forth in § 217.9(g)(1) through (5) of this chapter. Of course, any records required by this section may be maintained in either written or electronic form at the option of the railroad.

Section 218.99 Shoving or Pushing Movements

Although the majority of this section remains the same as the proposed rule, a number of changes have been made in

consideration of the comments received. Four commenters raised specific issues in written comments: BMWED, AAR, UTU, and BLET. The discussions of these comments are integrated into the paragraphs under which they apply.

Generally, in conventional operations, shoving or pushing movements occur when the controlling locomotive is not leading the movement because the locomotive engineer is not in a position to have an unobstructed view of the track in the direction of the shoving movement. However, in remote control operations, there may be an issue with respect to point protection in either direction of movement. The terms "shoving" and "pushing" have the same meaning but FRA uses both terms because our nation's railroads have split in the usage of each term.

The requirement proposed in paragraph (a) has been redesignated as paragraph (a)(1) and revised, but the reasons behind the requirement remains the same. The reasons behind this paragraph are to ensure that (1) each railroad adopt and comply with an operating rule which complies with the requirements of this section; and (2) when any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person be considered to have violated the requirements of this section. The NPRM was not intended to mean, but could possibly have read, that each person was only to uphold and comply with the railroad's operating rule and not the regulation itself. The revisions to this paragraph are intended to clarify FRA's intent.

Paragraph (a)(2) adds a new requirement that the shoving or pushing movement requirements of this section do not apply to free rolling equipment—a clarification that was not in the proposed rule. FRA added this clarification regarding free rolling equipment because several participants at the RSAC working group meetings were unclear regarding whether FRA intended the rule to apply to switching activities that result in free rolling equipment, in which a shoving or pushing movement is the initial movement that allows equipment to roll free without power attached. The addition of paragraph (a)(2) is intended to clarify that this section does not apply to the rolling equipment once it is free rolling. It would be impossible to engage in this type of acceptable switching activity if a determination would need to be made that the "track is clear" prior to each release of a free

rolling car. Therefore, the rule does not apply to kicking, humping, or dropping cars as FRA does not consider those activities to be controlled shoving or pushing movements. Furthermore, FRA's experience is that each railroad that permits these activities maintains operating rules that require employees to protect free rolling equipment from traveling over highway-rail grade crossings, pedestrian crossings, and yard access crossings. FRA is rejecting the idea of regulating the movement of free rolling equipment initiated by a shoving or pushing movement because we have not seen an increase in the number of accidents/incidents in this area attributed to human factor causes; of course, if we document an increasing trend of such accidents/incidents, FRA will consider whether to initiate a rulemaking.

As specified in paragraphs (b) through (d), shoving or pushing movements can be made safely if precautions are taken. This section states those minimum precautions and requires that each railroad have in effect specific operating rules incorporating the precautions. The precautions take direct aim at those human factor causes that have been identified as causing the increasing trend of noncompliance and accidents. As specified in paragraph (e), there are other movements that could be considered shoving or pushing movements but FRA believes these other movements can be treated differently as they are safe if certain operating conditions are met.

Paragraph (b)(1) requires that prior to rolling equipment being shoved or pushed, the locomotive engineer and the employee directing the move shall be required to participate in a job briefing which will cover the means of communication to be used and how protection will be provided. The job briefing requirement in this paragraph, which remains the same as the proposed paragraph, requires that the locomotive engineer (conventional or remote control operator) shall have a job briefing detailing the method of communication used to relay information, e.g., radio, hand signals, or pitch and catch. If the employee providing protection is not part of the crew, the job briefing shall include how that qualified employee will provide that protection; for example, if a yardmaster is the qualified employee, the conductor directing the move would explain in the briefing that the yardmaster intends to provide point protection by viewing a monitor that provides a real-time image of the track from a camera set up in the yard. Under this scenario, the yardmaster would be

performing covered service under the hours of service laws.

Paragraph (b)(2) of the final rule contains the requirement that during the shoving or pushing movement, the employee controlling the movement shall not engage in any task unrelated to the oversight of the shoving or pushing movement. This requirement, which was not in the proposed rule, was added to address a concern brought to FRA's attention following the fatal accident involving a remotely controlled movement that led to FRA's issuance of Safety Advisory 2007-01. 72 FR 2333. It was also a position raised by BMWED, UTU and BLET in their comments. In both the NPRM and this final rule, the preamble addresses the problem that remote control operators may not always have complete situational awareness of the movement even if the operator is observing the movement. Obviously, if a remote control operator or other employee controlling the shoving or pushing movement is distracted by engaging in an unrelated task, that person's disengagement with the movement, even briefly, may increase the probability or severity of an accident/incident. For example, in the accident in Manlius, New York that was the subject of Safety Advisory 2007-01, FRA raised the issues of "multi-tasking" and trying to accomplish other tasks that cause the person to divert attention from providing point protection. These are two separate issues. The issue of "multi-tasking" as raised in the notice involved a remote control operator who allegedly operated from the passenger seat of a moving motor vehicle; such moves are inherently fraught with hazards, although this was not the cause of this accident/incident. The issue of diverted attention occurred after the operator determined that the track was clear for the entire length of the movement; instead of looking down the track waiting for his train to come into view, FRA's investigation suggested that the remote control operator (RCO) may have been attending to duties unrelated to the movement as the RCO did not observe the collision and initiated a brake application only after hearing a radio transmission from the yardmaster.

By requiring that the employee directing the movement not engage in any task unrelated to the oversight of the movement, the regulation increases the probability that the controlling employee will be in a position to reduce the severity of any accident that might occur. FRA considers a "task unrelated to the oversight of the movement" to be any activity that carries significant potential to distract the person directing the movement from adequately

overseeing the movement. The unrelated task would most likely be a work related activity, but certainly tasks of a personal nature could be considered significantly distracting. Any unrelated task that would remove the person from a location where oversight could be effectively performed is strictly prohibited. The following are not significantly distracting activities and are arguably not even "tasks:" momentary glances away from the direction of movement; acknowledging another person's presence; and sneezing. In contrast, the filling out of any form, e.g., a switch list, would be a distracting, unrelated task that can not be safely accomplished while the movement is occurring.

FRA acknowledges that its adoption of the requirement in paragraph (b)(2) will not prevent all accidents. A rule that requires a controlling employee to continuously observe the leading end of the movement might be more effective in preventing accidents; however, as FRA stated earlier, a "continuous observation" requirement would force more employees to either walk or ride the point—creating an even greater vulnerability that someone could get hurt. An employee walking the point could slip, trip, or fall, and an employee riding the point could be injured or killed in any collision with another piece of rolling equipment. In addition, this final rule's required determination that the track is clear prior to initiating the shoving or pushing movement should substantially reduce the likelihood of any collisions. That is, a determination that the track is clear includes the determination that "the portion of the track to be used is unoccupied by rolling equipment, on-track maintenance-of-way equipment, and conflicting on-track movements." The application of FRA's final rule reduces the likelihood of an accident between a carman operating a pickup truck across a yard crossing if the pickup truck is crossing the track at a type of yard crossing to be protected (i.e., a 'highway-rail grade crossing' or "yard access crossing" as those terms are defined under § 218.93). In addition, the severity of a collision between a shoving or pushing movement and off-track maintenance-of-way equipment may be reduced by an alert employee protecting the point who responds quickly to stop the movement. Meanwhile, railroad employees operating off-track machinery will need to continue to be careful to follow railroad operating rules that require them to protect themselves when

crossing tracks at unprotected yard crossings.

Former paragraph (b)(2), which has been redesignated as paragraph (b)(3) states the requirements for establishing point protection during shoving or pushing movements. The rule requires that only a crewmember or other qualified employee shall provide point protection. In this context, crewmembers or qualified employees include remote control operators working together, members of other train crews, and other employees, regardless of job title, who are qualified to perform the job (see definitions of "employee" and "qualified" in this subpart). The requirements of this section address work that is "covered service" under the hours of service laws. 49 U.S.C. 21101, et seq. Thus, to be a qualified employee, the employee will need to receive instruction and testing, be subject to Federal regulations controlling alcohol and drug use and hours of service recordkeeping provided for, respectively, in parts 217, 219 and 228 of this chapter. The purpose of requiring a qualified employee, as opposed to any employee, is to prevent persons that may not be qualified (e.g., taxi drivers, crane operators, or clerks) from making safety sensitive operating decisions without the proper instruction and safeguards in place. Incidentally, if an unqualified person were to perform this work in violation of the rule, the person would still have to be accounted for under the hours of service laws or the railroad would incur additional liability.

FRA has decided that some of the proposed requirements in paragraph (b)(2)(i) needed alteration based on comments received and the consideration of the facts surrounding the accident that led to the issuance of Safety Advisory 2007-01. The purpose of this paragraph remains the same, although the final rule's requirements are altered from that originally proposed. Shoving accidents often occur because a train crew makes a shoving movement without determining that the track is clear in the direction of movement. The proposed rule suggested a requirement that the employee providing point protection visually determine, for the duration of the shoving or pushing movement, that the track is clear within the range of vision or for the complete distance to be shoved or pushed. AAR commented that the phrase "the duration of the shoving movement" is problematic as there could be instances where an employee's vision is momentarily obscured and so it would not be possible to always provide a continuous, visual

observation for the entire duration of the movement. Further discussions at the RSAC working group meetings raised additional concerns. Both labor and management representatives were concerned that the requirement meant that every shoving or pushing movement would require an employee to be in position to watch the leading end of the movement even when doing so would place the employee in danger. The proposed rule would have required employees watching shoving and pushing movements to walk greater distances than most current operating rules and practices require, the result being a greater likelihood of experiencing slip, trip or fall injuries. FRA agrees with these comments. We certainly did not intend to reduce one kind of accident only to increase another type.

AAR suggested an alternative to "the duration of the shoving movement" proposed requirement. AAR's suggestion was to change the first sentence in paragraph (b)(2)(i) to read as follows: "[v]isually determining that the track is clear and will remain clear either within the range of vision or for the complete distance the equipment is to be shoved or pushed." This alternative is similar to FRA's proposal and many current railroad operating rules, however, the plain meaning of the alternative does not reflect how it is typically interpreted. The plain meaning of this alternative appears to also contain the expectation that a continuous, visual observation for the entire duration of the movement is required even if the "the duration of the shoving movement" language has been removed. Meanwhile, a near universal position was that employees can safely make shoving or pushing movements without continuously observing the leading car for the entire distance of the movement. The key to a safe move is the determination that the portion of the track to be used for the intended move is clear. The determination that the track is clear will be made prior to initiating a shoving or pushing movement, but additional portions of track may be determined to be clear during the duration of one continuous shoving or pushing movement. Furthermore, FRA did not agree with AAR's suggestion to include the phrase "and will remain clear" as this phrase adds a condition that is outside of the control of the employee providing the point protection.

After considering the comments, FRA realized that its proposed rule was also flawed in that it was repetitive. The definition of "track is clear" and the proposed point protection paragraph

both required that a crewmember or qualified employee make a visual determination. This repetitive issue has been resolved by removing the visual determination requirement from the "track is clear" definition.

The final rule differs from the proposed rule in that the determination that the track is clear no longer explicitly requires that the determination can be made "either within the range of vision or for the complete distance the equipment is to be shoved or pushed." FRA believes this proposed phrase merely added extraneous language, and thus it has been deleted from the final rule. As a practical matter, the deletion of this phrase should not have any impact on how an employee provides point protection. If a crewmember or other qualified employee responsible for controlling a shoving or pushing movement can ensure that every requirement specified in the definition of track is clear has been met, the employee may initiate and continue the movement for the full distance of the movement. For example, if a shoving movement of less than 100 car lengths is to be made onto track that is capable of holding 100 cars and a crewmember or other qualified employee observes that the track is clear for the entire length of the track, the employee may initiate movement onto or down the track; as the shoving movement continues, the employee will provide updates to the locomotive engineer, as necessary, until the entire movement is complete. Meanwhile, if the employee providing the visual determination that the track is clear can only see part of the way down the track to be shoved or pushed, and does not have the option to travel ahead of the movement to determine that the track is clear for the entire length of the movement, the employee shall only be permitted to initiate movement for the distance that the employee can visually ensure that the track is clear. In this second example, the facts are the same except that there is curvature in the track that does not allow the observing employee to see more than 20 car lengths at a time; in this situation, the employee may initiate movement onto or down the track but must have either continuous visual contact with the locomotive engineer or be in radio communication with the locomotive engineer, so as to provide distance instruction on how far the locomotive engineer may safely shove, until the shoving or pushing movement is complete. In other words, there is nothing in this rule that prohibits

incremental or multiple determinations that the track is clear until the complete distance to be shoved or pushed is traversed.

In paragraph (b)(3), the term “rolling equipment,” which is defined in § 218.5, is used. The definition of “rolling equipment” states that the term “includes locomotives, railroad cars, and one or more locomotives coupled to one or more cars.” Thus, the definition of “rolling equipment” explicitly includes locomotives. Meanwhile, FRA is aware that some railroads may incorrectly consider any movements involving consists made of locomotives alone not to be shoving or pushing movements. By adding that lite locomotives are also covered in paragraph (b)(3) and defining “lite locomotive consist” in this subpart, FRA is ensuring that lite locomotive consists are covered by the shoving or pushing movement requirements. To do otherwise would permit lite locomotive consists to shove blind without adequate point protection.

FRA has expressed the intention to provide railroads and qualified employees with the option of making the visual determination required in paragraph (b)(3)(i) with the aid of monitored cameras or other technological means, provided that the technological means and attendant procedures provide an equivalent level of protection to that of a direct visual determination. Railroads shall ensure that any monitored camera have sufficient resolution and real time coverage to provide protection equal to a direct visual determination. Concerning attendant procedures, one such procedure may be for an employee viewing a monitor to communicate updates to the locomotive engineer or controlling crewmember at appropriate intervals. FRA equates the employee monitoring the camera to the employee controlling the movement who must not engage in any task unrelated to the oversight of the movement; thus, each railroad utilizing such cameras shall implement attendant procedures limiting any of the monitoring employee’s ancillary duties that might distract from the employee’s ability to provide continual visual determinations and communication.

FRA also amended paragraph (b)(3)(i) to add a requirement that if a railroad intends to use monitored cameras or other technology to determine that the track is clear, the railroad is required to abide by the procedures prescribed in this section as well as the additional requirements prescribed in appendix D to this part. As explained in the analysis to appendix D, the addition of this

mandatory appendix is to establish safeguards for establishing technology driven point protection. The alternative would continue the haphazard application of such technology, without appropriate assurances of Federal, State, or local governmental input when such technology potentially impacts the general public.

Other technological means may include, but are not limited to, a completely circuited track indicating track occupancy, and electronic switch position indicators. AAR requested that FRA consider shove lights to be an “equivalent technological means.” Shove lights are lights that are sequentially circuited on the ends of tracks to indicate a shoving movement’s approach to the opposite end of a track. Shove lights are limited, however, as they do not show if the track is occupied between the entrance of the track and the beginning of the track circuit; in other words, shove lights alone cannot provide absolute notification that the track is clear of equipment. Consequently, FRA is willing to consider shove lights as an acceptable technological alternative to visually protecting the point as long as either: (1) The track is completely circuited to indicate occupancy; or, (2) a visual determination is made that the track is clear to the beginning of the circuited section of the track.

The requirements listed in proposed paragraph (b)(2)(ii), redesignated as paragraph (b)(3)(ii), state that a crewmember or other qualified employee give signals or instructions necessary to control the movement. Such signals or instructions may be made verbally, i.e., either via face-to-face or radio communication. However, any effective method of communication is acceptable. For example, some acceptable forms of communication include, but are not limited to, hand signals, whistle signals, and electronic signals utilizing remote control technology.

In paragraph (c), FRA requires that all remote control movements be treated as shoving or pushing movements, except when the remote control operation is being conducted like a conventional pulling operation such that the operator controlling the movement is riding the leading locomotive in a position to observe conditions ahead in the direction of movement. Under this situation, the operator is riding the point in a position to visually determine that the track ahead of the movement is clear, and is certainly in a position to determine the direction the equipment is moving. One particular reason for a remote control operator to ride the point

is to be in a position to observe that grade crossings are not obstructed.

Paragraph (c) also states two additional requirements for remote control operations during shoving or pushing movements. The first additional requirement, paragraph (c)(1), is necessary so that the remote control operator, either directly or indirectly, can confirm that the movement is observed moving in the direction intended. If the remote control operator does not confirm or receive confirmation that the equipment is traveling in the intended direction, the operator must immediately stop the movement. Accident reports indicate that remote control operators who have forgotten which way the controlling locomotive is headed may unintentionally make a reverse movement when a forward movement was intended, or vice versa; had these operators been abiding by this rule, at least some of these types of accidents could have been avoided by abiding by this rule. Further discussion on this issue may be found in the **SUPPLEMENTARY INFORMATION** section titled “Situational Awareness.”

FRA suggests that each railroad instruct its remote control operators that, whenever possible, the operator or crewmember should view the controlling locomotive when determining the direction of movement, as opposed to any other piece of equipment in the movement. It is not always logistically possible or safe for the operator or crewmember to have direct visual contact with the controlling locomotive when initiating movement—which explains why FRA is not requiring it. However, where it is logistically possible and safe to do so, that should be the preferred method. If a person is viewing the direction the controlling locomotive moves, the person would have a greater chance of observing a problem with the locomotive becoming uncoupled from the rest of the movement or a similar problem if a coupler broke between other equipment in the movement. In the alternative, as intended by paragraph (c)(1), an operator or crewmember watching the equipment for the direction of movement will need to be cognizant of time and distance from the controlling locomotive so that immediate action may be taken to stop the movement if the movement is initiated but not observed to be moving within expectations.

The title of paragraph (c) has been changed from “Remote control movement requirements” in the NPRM to “Additional requirements for remote control movements.” The reason for the

change in title is to emphasize that the requirements in paragraph (c) apply to shoving movements implemented with remote control locomotives and adds additional requirements to those general movement requirements described in paragraph (b). In other words, by changing the title, we are hoping to avoid confusion that some railroads might perceive paragraph (c) as the only requirements for shoving movements implemented with remote control locomotives. Comments were not received regarding paragraph (c).

Paragraph (c)(2) adds another requirement for remote control movements that was suggested in the preamble of the NPRM, but was not part of the proposed regulatory text. At the end of the section-by-section analysis for this section in the NPRM, FRA raised concerns regarding the reliance on technology used to contain remote control operations within zones, where remote control operators cannot directly observe the far end of the pull-out movement. Such technology is used to prevent incursions into other rail operations. The NPRM noted that “[a]lthough the rule text does not contain language on this point, FRA requests comment on whether such technology should be required to fail safe in design or at least include redundant safeguards.” FRA did not receive any comments on this issue and has decided to act to address the concern. The safety concern is that without a specific requirement some railroads might try to implement technology that is not demonstrated to be safe and therefore provides a false sense of protection to remote control crews. Without some kind of standard for concluding that the technology has either been demonstrated to be failsafe or demonstrated to provide suitable redundancy to prevent unsafe failure, a remote control crew could unreasonably conclude that the technology is safe enough to stop a movement when such reliance is unfounded. Given this inevitable reliance, failsafe or redundant technology is required to prevent collisions and derailments at the perimeter of these zones. The pull-out protection technology would not likely be relied upon as the typical method of stopping the movement from leaving the zone, but might be used to expedite a movement where the crew would ordinarily be slowed down by having to count cars and estimate the length of the movement in relation to the configuration of the facility. When determining whether the technology, such as transponders backed up by a global positioning system (GPS) with a

facility database is acceptable, FRA finds that 49 CFR part 236, subpart H and the corresponding appendix C to part 236 (“Safety Assurance Criteria and Processes”) contains appropriate safety analysis principles.

In paragraph (d), FRA recognizes that many railroads utilizing remote control technology will create a designated area of track, controlled by a remote control operator, that can make a remote control operation more efficient; this area is called a remote control zone and it is defined in this subpart. When a remote control zone is activated, a designated remote control operator has the authority to deny other movements entry into the tracks designated as within the zone. However, it is not until the remote control crewmembers determine that a particular segment meets the definition of “track is clear” that the operation may shove, push, or pull cars into the cleared track segment of the zone as required in paragraph (b)(3).

Paragraph (d) permits the point protection required by paragraph (b)(3) to be provided by a prior determination that the track is clear for a remote control operation that is shoving within an activated remote control zone, as long as the movement will take place on the pull-out end, the zone is not jointly occupied, and certain conditions are met for the prior determination that provides a reasonable assurance that the track is clear. If conditions change, such that the track is no longer clear, a new determination that the track is clear must be made. This paragraph has undergone substantial revision from the NPRM, although the underlying concept has remained unchanged. In the NPRM, the proposed rule mis-characterized this requirement as an exception to the point protection requirement, when we intended and described a point protection requirement. The final rule clarifies FRA’s intent that point protection, and all the general movement requirements under paragraph (b), are applicable to remote control movements in the zone when the remote control movement is to take advantage of the zone setup. Thus, when the movement occurs in an activated zone, on the pull-out end, and is not jointly occupied, it is possible for the remote control operator to rely on a prior determination that the track is clear rather than making a separate determination for each shoving or pushing movement.

Paragraph (d) states the obvious that, at some point in time, after the zone is activated, an initial determination must be made that the track is clear. If there is no initial determination, then the

crew certainly does not have any prior determination to fall back on. Paragraph (d)(3) provides the requirements for determining that a prior determination that the track is clear may be relied on. These changes, which are further described below, should better reflect, in hopefully what will be considered plain language, what a remote control crew needs to do to determine that the track is clear so that railroads may take advantage of shoving or pushing within a remote control zone.

Paragraph (d)(1) specifies that the remote control zone exception to a separate track is clear determination for each shoving or pushing movement applies only when the controlling locomotive of the remote control movement is on the leading end in the direction of movement. This describes a movement that is typically referred to as a remote control movement occurring on the pull-out end, and that reference is made in this paragraph. When the controlling remote control locomotive is not located on the leading end in the direction of movement, the remote control crew cannot rely on a prior determination that the track is clear and shall, instead make a separate track is clear determination for each shoving or pushing movement regardless of whether the operation is to take place within the remote control zone. FRA does not subscribe to the view that an entire yard can be characterized as a remote control zone and, as long as it is not jointly occupied, the remote control crewmembers are free to shove or push anywhere in the zone without determining that the track is clear for each shoving or pushing movement; again, the reason FRA disagrees with this view is that we believe that is an unsafe practice and that is why the rule only permits the zone exception to apply to remote control movements when the controlling locomotive of the remote control movement is on the leading end in the direction of movement.

Paragraph (d)(1) is changed from the NPRM to reflect that the remote control movement does not need to be “operated from a controlling locomotive” to fit the exception, but instead “the controlling locomotive” of the movement shall be on the leading end in the direction of the movement. This change was made to prevent future confusion that the proposed language might be interpreted to only apply when a remote control operator was actually on the controlling locomotive, when it was intended to allow for the operator to either be on the locomotive or someplace else when the controlling locomotive on the leading end in the

direction of movement is operated. In other words, the amendment is made to specifically include remote control operations no matter where the operator is located.

FRA has switched the numbers of proposed paragraphs (d)(2) and (d)(3) in an effort to lay out the sequence of determinations in a logical order.

Paragraph (d)(2) requires that the zone may not be jointly occupied at the time that a remote control crew exercises the exception permitting the reliance on a prior determination that the track is clear. This condition is directed to prevent collisions between a remote control operation that is controlling the zone, and any equipment or switches controlled or manipulated by a jointly occupying crew. Thus, this condition means that if there is a jointly occupying crew, the remote control crewmembers shall determine that the track is clear for each shoving or pushing movement and shall not rely on a prior determination that the track is clear. FRA has deleted from the proposed requirement the phrase “and has not been jointly occupied since the last determination that the track is clear.” This condition has been deleted because an amendment to proposed paragraph (d)(2), redesignated (b)(3)(iii) addresses the issue by diverting from this proposed requirement. That is, paragraph (b)(3)(iii) permits the last jointly occupying crew to make a direct relay of the track is clear determination to the remote control crewmembers. The basis for this latter change is that accidents have generally occurred when jointly occupying crews did not seek permission into the remote control zone, not that the jointly occupying crews failed to provide accurate information regarding whether the track was left clear. This issue is explained in more detail below.

Paragraph (d)(3) describes the three methods for a remote control crew to determine whether a prior determination that the track is clear is acceptable when the controlling locomotive of the remote control movement is on the leading end in the direction of movement and the zone is not jointly occupied. Paragraph (d)(3)(i) describes that, if the remote control crewmembers themselves made the prior determination, it is acceptable and a separate determination is unnecessary for each movement. Paragraph (d)(3)(ii) carries over the option from the proposed rule that one remote control crew may pass onto a relieving remote control crew an activated zone that meets the definition of track is clear. Some railroads currently allow for this transfer for efficiency purposes;

otherwise, any relieving crew would need to make an initial determination that the pull-out end of the track is clear.

FRA has added a third option, not proposed, that would permit the crewmembers from a jointly occupying crew to directly communicate to a remote control crewmember that the zone is no longer jointly occupied and meets the requirements for track is clear. This option is based on an RSAC consensus item that recommended allowing the verbal determination that the “track is clear” between the crews jointly occupying the remote control zone, provided that it is a direct communication between the crews involved, and not through a third party. The RSAC’s rationale is that a verbal, direct communication to determine “track is clear” between remote control crews is currently permitted at shift changes, so why not after a joint occupancy? After further review of FRA’s accident database, we cannot find sufficient justification to disallow this practice. If FRA develops any accident data to suggest that the practices permitted by paragraphs (d)(3)(ii) or (iii) are unsafe, we will consider amending the rule. The addition of this third option is largely based on comments received by the AAR stating that this option is currently implemented safely by its members. We want to emphasize that the “direct” communication requirement means that the crew that completed its joint occupation of the zone must speak directly with one of the remote control crewmembers. Thus, it is unacceptable for a yardmaster or other employee to relay the information between the two sets of crewmembers.

There is a greater chance of a communication error if information is allowed to be relayed from someone who does not have firsthand information. Indirect communication reduces the likelihood that a remote control crewmember would have the option to ask the crew that previously jointly occupied the zone a follow up question. “Directly communicate,” in this instance, does not mean that crewmembers are prohibited from communicating by radio, or any other communication that is not face-to-face. As further clarification, the rule includes the description that “directly communicates” means “not through a third party.” To illustrate this point, please consider the situation where two remote control operations are working side-by-side in the same remote control area. The two operations cannot share a pull-out end safely, because that would mean there is joint occupation, and, thus, each operation must be in control

of different zones. (For the difference between a remote control area and a remote control zone, please see the section analysis for the definition of “remote control zone” under § 218.93). Likewise, if another crew enters and departs the remote control zone, that last jointly occupying crew cannot contact just any remote control crewmember working in the area, but instead is required to directly communicate with a remote control crewmember from the crew of the zone just departed. To allow otherwise would mean that, at best, the last jointly occupying crew would pass on the determination that the track is clear indirectly, and, at worst, not at all.

As specified in paragraph (e), shoving or pushing movements are safe under certain operating conditions and, thus, FRA chooses to exempt these listed operations from the requirements in paragraphs (b) through (d) under the specified conditions. One, paragraph (e)(1) exempts push-pull operations when operated from the leading end in the direction of movement because if a cab control car is on the leading end of a movement and a locomotive engineer is operating the train from the cab control car, the operation is as safe as a conventional locomotive operation that does not involve shoving or pushing. Two, paragraph (e)(2) also describes a situation where a locomotive engineer is operating a train from the leading end in the direction of movement, albeit with assistance from other power. That other power assisting in the movement may be occupied and operated by a locomotive engineer, i.e., a manned helper locomotive, or an unmanned locomotive, i.e., a distributed power locomotive. Because the additional power may be located in the back or the middle of the train, this type of operation could be considered a shoving or pushing movement. The exception clarifies that as long as a manned locomotive is being operated from the leading end of the train in the direction of movement, this type of operation will not be considered a shoving or pushing movement that must comply with paragraphs (b) through (d). FRA has made minor changes to this paragraph from the NPRM in order to clarify that the manned helper locomotives or distributed power shall be “assisting a train” when “the train is being” operated from the leading end in the direction of movement for the exception to apply.

Pursuant to paragraph (e)(3), the third operational exception to the shoving or pushing minimum requirements set out in paragraphs (b) through (d) of this section is the allowance of the

performance of roadway maintenance activity under the direct control of a roadway worker performing work in accordance with railroad operating rules specific to roadway workers. In other words, a crewmember or qualified employee is not required to provide point protection when a train crew is working under the direct control of a roadway worker and that roadway worker can provide adequate point protection. For example, if a ballast or work train is operated by a train crew, a roadway worker may direct the ballast or work train crew to move the train in order to perform the maintenance activity. This exception would not permit a railroad to have an operating rule allowing a roadway worker to direct a train crew on logistical or revenue moves and such action would violate paragraph (c) of this section.

Paragraph (e)(4) permits an exception from the shoving and pushing rules because few of the shoving or pushing accidents have occurred on a main track or signaled siding. From 2002 through 2005, only about 5 percent of shoving or pushing accidents occurred on main track. However, in order to make this exemption work, a long list of conditions apply that would provide an equivalent level of safety to that of the requirements found in paragraphs (b) through (d) of this section. The requirements should look familiar to the industry as the requirements follow commonly used railroad operating rules. See General Code of Operating Rules (GCOR) 5th Edition, (effective Apr. 3, 2005) Rules 6.5, 6.6, and 6.32, and Northeast Operating Rules Advisory Committee (NORAC) Rules 116 and 138e. The following clarification is provided for a few of the requirements that may not be quite as evident as the others. Paragraph (e)(4)(i)(A) requires that if another movement or work authority is in effect within the same or overlapping limits, the shoving or pushing movement shall not be initiated until the leading end of the movement is protected by a qualified employee. Paragraph (e)(4)(ii) requires that movement is limited to the train's authority because the danger of an accident increases substantially when a train shoves beyond the limits of its current authority. The requirement in paragraph (e)(4)(iv) is met by meeting either (A), (B), or (C), as meeting any one of these three requirements should ensure safe movement into and over a highway-rail grade crossing or pedestrian crossing as those terms are defined in the definitions section of this subpart. To meet the requirement of paragraph (e)(4)(iv)(B), a designated and

qualified "employee," as defined in this subpart, must be stationed at the crossing and have the capability to communicate with trains in sufficient time to inform the train of the condition of the crossing; the rule does not specify the method of communication as the key issue is that the communication be effective. In paragraph (e)(4)(v), FRA uses the terms "interlocking limits," which is defined in § 218.5 of this part, and "controlled point limits," which is undefined but FRA considers as having the same meaning as "interlocking limits." Interlocking limits means the tracks between the opposing home signals of an interlocking. In paragraph (e)(4)(v)(C), a crewmember is in a position to determine that the train's movement has occupied the circuit controlling a signal such that the crewmember has the ability to determine that it is the leading wheels of his or her own movement that has activated the signal circuit.

Section 218.101 Leaving Rolling and On-Track Maintenance-of-Way Equipment in the Clear

The title of this section has changed from the NPRM, as well as a corresponding change in paragraph (b), to clarify that the section is intended to apply to both rolling and on-track maintenance-of-way equipment. In the NPRM, FRA used the generic term "equipment" and assumed that the term would be understood to include both types of equipment. Rather than risk confusion regarding whether the regulation only applies to rolling equipment, the rule now specifies that both rolling equipment and on-track maintenance-of-way equipment are covered by this section.

The requirement proposed in paragraph (a) has been revised, but the reasons behind the requirement remains the same. The reasons behind this paragraph are to ensure that (1) each railroad adopt and comply with an operating rule which complies with the requirements of this section; and (2) when any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section. The NPRM was not intended to mean, but could possibly have read, that each person was only to uphold and comply with the railroad's operating rule and not the regulation itself. The revisions to this paragraph are intended to clarify FRA's intent that each railroad adopt and comply with an operating rule which

establishes minimum requirements for preventing equipment from fouling connecting tracks unsafely, and that each railroad implement procedures that will enable employees to identify when the equipment is fouling. The purpose for requiring that each railroad, railroad officer, supervisor, and employee shall be considered in violation of this section when a railroad operating rule that complies with this section is violated is so that FRA has the authority to enforce this regulation as opposed to merely requiring that each railroad maintain and have in effect such a rule. In order to fully understand this section, one must consider FRA's definitions of "clearance point" and "foul or fouling a track" under § 218.93.

Paragraph (b) sets forth the general rule that rolling and on-track maintenance-of-way equipment not be left where it will foul a connecting track except as permitted in paragraphs (b)(1) through (b)(4) discussed below. This paragraph differs from FRA's proposed rule in that each of the two proposed exceptions were divided into two simpler exceptions. We hope that by breaking out the two proposed exceptions into four exceptions that the section will be easier to understand.

Paragraph (b)(1) permits equipment standing on a main track to foul a siding track switch if the fouling switch is lined for the main track on which the equipment is standing. For example, it is permissible for a train on the main track to be stopped at an absolute signal with the rear of the train fouling a siding switch lined for the main track upon which the train is standing.

Additionally, this would prohibit the switch that is being fouled from being thrown underneath the train while it is fouling the switch. See also § 218.103(b)(4) and (b)(7). Signal systems and main track authority rules should protect such movements from approaching trains.

Paragraph (b)(2) permits equipment standing on a siding to foul a main track switch if the fouling switch is lined for the siding on which the equipment is standing. While this is permissible, it is obviously not safe to do so unless movements on the main track are required to operate prepared to stop for the switch.

Paragraph (b)(3) permits equipment that is standing on a yard switching lead track (commonly referred to as a lead track, switching lead, or ladder track) to foul a yard track if the switch is lined for the yard switching lead track upon which the equipment is standing. Conversely, it is not permissible for equipment to be standing on a yard track and foul the yard switching lead

track, regardless of the position of the switch on which the equipment is standing (fouling). In simple terms, it is permissible to occupy a yard switching lead track and foul a track connected to it, but it is not permissible to occupy the connecting track in a manner that fouls the yard switching lead track.

Paragraph (b)(4) permits equipment to be left where it will foul a connecting track when the equipment is on an industry track beyond the clearance point of the switch leading to the industry. During the RSAC process, several commenters raised the issue that when picking up or setting off cars at an industry customer, a railroad is often faced with limited industry track on which to set off or pick up cars. The problem of limited track at some industries would make compliance with this rule extremely difficult within those industries and could potentially have a detrimental economic effect on those industry customers, as well as the railroads that service those industry customers. FRA's accident/incident data does not reflect that fouling within an industry has been a problem. FRA accident data indicates that of the 5% total human factor accidents caused by equipment left in the foul during the four-year period 2003 through 2006, only 0.5% (½ of one percent) occurred on industry tracks. Further, industries are constantly moving equipment around within their plants for loading/unloading, or for other purposes, thereby rendering the enforceability of the regulation within industry tracks somewhat dubious at best. Meanwhile, if an industry has limited track, and that track is crowded with rolling equipment, FRA expects railroads servicing those industries to operate at extremely slow speeds and with particularly careful observation to protect all movements from anything that may be potentially fouling the track. This change from the NPRM is based on an RSAC recommendation. FRA will certainly consider initiating a new rulemaking to include industry tracks in this section if accident/incidents increase due to fouling equipment.

Paragraph (c) requires that each railroad, whether at the system, division, or terminal level, shall implement procedures for instructing employees who handle equipment so that the employees can identify clearance points and avoid leaving equipment out to foul. One way to implement such procedures is to show employees that there are readily observable clearance points on or near the track, e.g., marks on the rails or ties indicating a clearance point. When

clearance points are not identified on or near the track, railroads must institute procedures for instructing employees on how to calculate clearance points; e.g., a railroad may choose to implement a procedure requiring employees to stand next to the rail and extend an arm to simulate the width of equipment. Great care should be used in instituting procedures for determining clearance points so that the margin of error is appropriate where employees are permitted to ride the side of a car and as the clearance point would be further back on the track for employees with bigger or longer bodies than the average person. This section is not intended to apply to close clearance as it relates to buildings, loading docks, or doorways, although a railroad may choose to provide procedures for implementing safe operations under such circumstances.

FRA received a comment from the AAR to delete this entire section because, in AAR's view, this section duplicates requirements found in other sections of the NPRM. After discussions in the RSAC process, the RSAC achieved consensus that this section is necessary, and recommended that FRA retain it. The requirement that equipment not be left where it will foul other tracks is a long-standing operating rule in the industry which is merely being Federalized to strengthen enforceability. Leaving equipment in the foul accounted for 5% of all human factor accidents during the four-year period 2003 through 2006. The RSAC acknowledged that there are other elements in the NPRM that require the track to be clear prior to a pushing or shoving movement, and for all hand-operated switches to be properly lined before fouling a track, and that these requirements might appear, perfunctorily, to obviate the need for a fouling rule. However, the RSAC also recognized that leaving equipment in the foul sets the stage for a potential accident in the event one or more of the ancillary requirements in the regulation are overlooked. In light of RSAC's consensus recommendation, and FRA's view that a specific rule is useful to reducing the many accidents attributed to failing to leave equipment in the clear, FRA is retaining this section.

FRA received several comments from BLET suggesting operational situations where it may be possible to leave equipment in the clear safely. For example, BLET suggested that FRA prohibit leaving equipment in the foul where the authorized speed is greater than restricted speed. Another BLET suggestion was for FRA to add a requirement that permission must be

obtained from the employee controlling the track prior to leaving equipment in the foul. FRA appreciates BLET's suggestions because each suggestion provided the basis for useful RSAC discussions exploring the intricacies of leaving equipment in the clear. In the end, though, FRA did not adopt BLET's suggestions because adding such suggestions would likely complicate what FRA believes is a fairly clear and concise rule.

Finally, FRA acknowledges that some railroads have yard tracks or other types of track arrangements outside of a yard which are not described as exceptions to the general requirement in paragraph (b), and fouling equipment under these particular track arrangements may not pose a real safety concern. Because of the many different types of track arrangements that are atypical, it would be difficult to craft a rule that fully encompasses every such arrangement and excepts those that pose no danger. Where there is truly an atypical arrangement that appears to violate this section but poses no true safety hazard, FRA intends to consider the safety implications when deciding whether to exercise its enforcement authority.

Section 218.103 Hand-Operated Switches, Including Crossover Switches

In the NPRM, this section was titled "Hand-operated Switches and Derails." After the RSAC process had concluded, FRA considered the scope of this section and decided that it covered several interrelated but separate issues. By including so many requirements in one section, the section appeared disjointed. Consequently, this section differs from the proposed section because it contains only a portion of the requirements found in proposed § 218.103. The rest of the proposed requirements have been redesignated within §§ 218.105, 218.107, and 218.109. Although each of these sections contains slight modifications from the proposed requirements, overall, the final rule does not differ greatly in its requirement from what was proposed.

The requirement proposed in paragraph (a) has been revised, but the reasons behind the requirement remains the same. The reasons behind this paragraph are to ensure that (1) each railroad adopt and comply with an operating rule which complies with the requirements of this section; and (2) when any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person

be considered to have violated the requirements of this section. The NPRM was not intended to mean, but could possibly have read, that each person was only to uphold and comply with the railroad's operating rule and not the regulation itself. The purpose for requiring that each railroad, railroad officer, supervisor, and employee shall be considered in violation of this section when a railroad operating rule that complies with this section is violated is so that FRA has the authority to enforce this regulation as opposed to merely requiring that each railroad maintain and have in effect such a rule. This section applies to all hand-operated switches, as that term is defined in § 218.93, including hand-operated crossover switches. This represents a departure from FRA's current enforcement scheme which is limited to hand-operated switches in non-signaled territory as specified in EO 24.

Paragraph (a)(2) has been added to require that each railroad specify minimum requirements for an adequate job briefing concerning hand-operated switches, including crossover switches. This requirement was found in the proposed rule in paragraph (i), but was redesignated in paragraph (a)(1). Because this is such a fundamental requirement, it was redesignated at the beginning of the section. As previously mentioned in the **SUPPLEMENTARY INFORMATION** section titled "Accident at Graniteville, SC and Safety Advisory 2005-01," NTSB found that catastrophic accidents, such as the one at Graniteville, SC, could be prevented by adequate job briefings. The requirement is for each railroad to have its own rules and procedures governing the minimum requirements for a satisfactory job briefing, which to FRA's knowledge, nearly all railroads already do. It is essential that employees working together know exactly what each person's role is in the job, what the methods of operation and protection will be, and the order in which segments of the job are to be accomplished. With such knowledge, one employee could recognize the mistakes of another and correct them before any operating rule violation or serious accident occurred.

Paragraph (b) sets forth certain general rules for employees who operate or verify the position of a hand-operated switch. A reference to § 218.93 has been added so that anyone reading this section will understand that "hand-operated switch" has a specific meaning for this section and subpart. Proposed paragraph (i)(2) has been redesignated as paragraph (b)(1). Paragraph (b)(1)

requires frequent job briefings at important junctures. It is critical that employees know what is expected of them before they start working, know what is expected to happen if the work plan changes after work is initiated but before the work is completed, and to confirm whether all the work was completed to everyone's satisfaction and according to the operating rules. For experienced employees, each job briefing should not be a particularly long meeting; in fact, FRA expects that some job briefings may last less than one minute, but the length of an adequate briefing will most likely depend on the complexity of the job.

Proposed paragraph (b)(1) has been redesignated as paragraph (b)(2). This paragraph sets forth the fundamental requirement that an employee operating or verifying a hand-operated switch's position shall be "qualified," as that term is defined in this subpart. It would be easy for an unqualified person to make a mistake in switch alignment or fail to recognize a defective switch because, unlike a qualified employee, the unqualified person is not trained on proper switch operation or on how to detect a defective switch. It is exactly these types of defective conditions that cause accidents and may be preventable by promulgation of this rule.

Proposed paragraph (b)(2) has been redesignated as paragraph (b)(3). This paragraph establishes a requirement that each railroad have an operating rule warning employees that each person who operates or verifies the position of a hand-operated switch is individually responsible for the position of the switch in use. The purpose of this paragraph is to remind an employee that FRA may take enforcement action against the employee personally for a willful violation. FRA hopes that the personal liability aspect of this rule will reinforce among employees the critical importance of ensuring that hand-operated switches are left properly lined before leaving the location of the switch.

Proposed paragraphs (b)(3) and (b)(4) have been redesignated as paragraphs (b)(4) and (b)(5) respectively. These paragraphs require employees to make certain observations. A slight modification has been made to each of these paragraphs by changing the phrase "visually ensure" to "visually determine." The reason for this change is to maintain consistent terminology throughout this subpart. The requirements listed are to "visually determine" that hand-operated switches are properly lined for the intended route, that no equipment is fouling the switches, that the points fit properly, and the target, if so equipped,

corresponds with the switch's position. These requirements specify the need for the operating/verifying employee to take a good, hard look at the switch. For example, a proper observation would deduce whether the switch points fit properly against the stock rail, i.e. no gaps. The operating/verifying employee should certainly not be relying on second-hand knowledge of the switch or derail's position in verifying its position.

Paragraph (b)(4) differs from the proposed requirement in that FRA has added that when an employee visually determines that hand-operated switches are properly lined for the intended route that the employee also visually determine that "no equipment is fouling the switches." If there is rolling equipment close by, an employee may have to identify the clearance points to determine whether the equipment is in fact fouling or it is safe to operate over the switch. See § 218.101. For example, if an employee can see that the switch is properly lined from the locomotive cab but is not absolutely certain that rolling equipment is in the clear, this rule prohibits movement over the switch until a proper determination can be made; in this example, the situation will likely require that the movement be stopped and a crew member get off the locomotive or train to determine the clearance points. If there is another method to safely determine the clearance points, e.g., if the rail is marked, then the requirement may be satisfied by this alternative method for determining the clearance points. FRA is not requiring that an employee disembark from a movement in all instances to determine clearance points, but is instead requiring that employees act responsibly when making this visual determination.

The issues addressed by proposed paragraphs (b)(5) and (b)(6) have been addressed by redesignated paragraph (b)(6). Paragraph (b)(5) had proposed a requirement that if the switch or derail is equipped with a lock, hook or latch, it must be in the hasp, before making movements in either direction over the switch. Proposed paragraph (b)(6) referred to physically testing a hand-operated switch or derail's lock to ensure it is secured. FRA stated in the proposed section-by-section analysis, and we restate here that this regulation does not require switches to be equipped with locks, hooks or latches. FRA's intention remains that employees must ensure that the switch is secured from unintentional movement of the switch points before making movements in either direction over the switch. Rather than confuse the requirements by

getting into the tedium of explaining how to lock, hook, or latch when FRA does not even require such securement devices, FRA has decided to set forth a rule that distinguishes the securement with a lock, hook, or latch from the securement of the switch from unintentional movement over it. For example, some switches do not have locks, hooks, or latches but are considered secure from unintentional movement when the switch handle is rotated down parallel to the ground. If the requirement in paragraph (b)(6) is followed, it should prevent derailments and accidental misalignments caused by the switch points moving under equipment.

FRA has also added the phrase "after operating a switch" to clarify that the requirement in paragraph (b)(6) does not apply to an employee who is merely verifying the position of a hand-operated switch, as opposed to actually operating the position of such a switch. Operations would be significantly delayed if every time a train crew needed to verify the position of a hand-operated switch it would also have to ensure that the switch is secure from unintentional movement of the switch points. Such a requirement would require that the train be stopped prior to movement over the switch, and a crewmember disembark to check the switch. It is reasonable to expect that the last employee who operated the switch ensured that the switch was properly secured. If certain types of switches are found to regularly fail to protect against unintentional movements, FRA will consider whether to initiate a rulemaking then.

A new requirement has been added to paragraph (b)(7). The final rule adds the prohibition of operating the switch while rolling and on-track maintenance-of-way equipment is fouling the switch. FRA overlooked this straightforward prohibition in the NPRM, although the NPRM arguably covered the issue through other proposed requirements. See §§ 218.101(c) and 218.103(d). However, following the fatal accident of a remote control operator riding the side of a car on August 30, 2007, in BNSF's Mormon Yard in Stockton, California, FRA realized that, from an enforcement perspective, neither of these other requirements explicitly covered an employee who operated a switch when someone else left equipment fouling the switch. (Although FRA's investigation of the Mormon Yard accident is ongoing, preliminary information indicates that a crew left some cars fouling a crossover switch, and the crossover switch was later lined for the crossover by one member of a remote control crew

without moving the fouling cars. The other remote control crewmember, while riding the side of a car, operated through the crossover and was struck and killed by the static fouling equipment.) By adding this prohibition to the final rule, each railroad employee who operates or verifies the position of hand-operated switches will be required to ensure that before a switch is operated or verified, and a movement over the switch is initiated, the employee is responsible for checking that equipment is not fouling the switch, whether or not the employee had left the equipment fouling.

Paragraph (b)(7) has also been amended for clarification purposes. The proposed requirement stated that an employee shall "ensure that switches are not operated while the equipment is standing or moving over a switch." The final rule requires that an operating/verifying employee shall ensure that a switch is not operated while rolling and on-track maintenance-of-way equipment is fouling the switch, or standing or moving over the switch. Thus, in addition to the added prohibition previously discussed, the final rule clarifies what it meant by "equipment." The reason for this rule is that operating a switch under a moving train or while rolling and on-track maintenance-of-way equipment is standing over it is an obvious recipe for disaster but apparently occurs with enough frequency that a requirement is necessary to discourage taking this risk. The NPRM contained a related proposed requirement that several commenters believed was ambiguous, and BMWED described as unnecessary. Given the retention of the requirement in paragraph (b)(7), we agree with the comments. This related proposed requirement was found in paragraph (f) of the NPRM. Proposed paragraph (f) mirrored an operating rule many railroads have which requires an employee, who has lined a hand-operated switch to let equipment enter or leave the main track, to stand at least 20 feet from that switch until the movement is complete. Upon further reflection, FRA believes the proposed paragraph (f) is not practical to comply with and enforce in all situations due to physical restrictions.

Under paragraph (b)(8), it is required that after operating a switch, an employee ensure that each switch, when not in use, is locked, hooked, or latched, if so equipped. This means that if the switch is equipped with a latch or hook, it must be applied and secured after it is operated. For locks, this means the lock is in the hasp, and the lock is locked. If it is a latch or hook, the latch

or hook must be in the hasp. For purposes of this section, "not in use" means that there is either no crew or equipment in the vicinity of the switch or there is a crew in the vicinity of the switch but the crew has no intention of using the switch. FRA has also added the phrase "after operating a switch" to clarify that the requirement in paragraph (b)(8) does not apply to an employee who is merely verifying the position of a hand-operated switch, as opposed to actually operating the position of such a switch.

Proposed paragraph (d) has been redesignated as paragraph (c). This paragraph requires that when rolling and on-track maintenance-of-way equipment has entered a track, approaching a hand-operated switch not lined for its intended movement, it shall not foul a track (see definition of "foul or fouling a track" in this subpart) until the switch is properly lined for the intended movement. If the switch is intended to be traileed through, such as with a spring switch, or a yard type switch commonly referred to as a "rubber switch," a "run-through switch," or a "variable switch," movement shall not trail through the switch until the route is seen to be clear or the equipment has been granted movement authority by the employee in charge of that track segment or switch. Additionally, if a train, rolling equipment or on-track maintenance-of-way equipment is closely approaching a switch and an employee observes a conflicting movement also closely approaching the switch, the track with the approaching conflicting movement shall not be fouled.

Proposed paragraph (e) has been redesignated as paragraph (d). Paragraph (d) specifies that when rolling and on-track maintenance-of-way equipment has entered a track, it is required that the hand-operated switch to that track shall not be lined away from the track until that equipment has passed the "clearance point" (as defined in this subpart) of that track. If complied with, this requirement will prevent an employee from operating a switch while equipment is fouling it, directly on it, or in close proximity to it. The purpose of this requirement is to prevent injuries and accidents caused by improper operation of switches. Injuries should be reduced by this requirement because when switches are operated with equipment fouling a switch, or directly on a switch, a switch can be hard to operate or may be put under tension such that when an employee begins to operate the switch handle, it may move unexpectedly; thus, back injuries and other muscle strains may be reduced. In

addition, accidents may be reduced as employees will not be allowed to operate switches under tension, i.e., when cars are on a switch.

Section 218.105 Additional Operational Requirements for Hand-Operated Main Track Switches

As explained in the section-by-section analysis to § 218.103, FRA has divided proposed § 218.103 into several sections so that the requirements will be easier to follow and be in a more logical order. The requirements found in this section were derived from proposed § 218.103.

The requirement proposed in paragraph (a) has been revised, but the reasons behind the requirement remains the same. The reasons behind this paragraph are to ensure that (1) each railroad adopt and comply with an operating rule which complies with the requirements of this section; and (2) when any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person be considered to have violated the requirements of this section. The NPRM was not intended to mean, but could possibly have read, that each person was only to uphold and comply with the railroad's operating rule and not the regulation itself. The purpose for requiring that each railroad, railroad officer, supervisor, and employee shall be considered in violation of this section when a railroad operating rule that complies with this section is violated is so that FRA has the authority to enforce this regulation as opposed to merely requiring that each railroad maintain and have in effect such a rule.

Proposed § 218.103(c)(1) titled "Hand-operated Main Track Switches" has been redesignated as § 218.105(b) and retitled "Designating switch position," but has otherwise remained unchanged. This paragraph provides regulatory authority over the hand-operated main track switches so that FRA regulates the positioning of all such switches. In contrast, FRA only prescribes requirements for hand-operated main track switches in non-signaled territory in EO 24.

The rule specifies that each railroad will retain discretion regarding the normal position of a hand-operated main track switch. Generally, railroad operating rules pertaining to the operation of switches provide that the normal position for a main track switch is lined and locked for movement on the main track when not in use. The purpose of this rule is so that trains traveling on main track will not be

inadvertently diverted onto another track. (Of course, this can be avoided if all trains were required to approach all main track switches prepared to stop, but that requirement would impose a substantial burden on railroads under most circumstances and would also introduce other safety concerns.) Railroads may designate a different position as normal, as some operations may be more efficient with a hand-operated main track switch's "normal" position designated in what would otherwise be referred to as the "reverse" position. No matter what position a railroad designates as the normal position of each hand-operated main track switch, the requirement is for such designations to be made in writing. The railroad may designate the normal position of the switch in its operating rules, system special instructions, timetables, general orders, or any other written documentation that will provide adequate notice to employees operating and verifying hand-operated main track switches.

FRA is unaware of any railroads that do not require locking of main track switches as a safeguard against unauthorized use. Paragraph (b) requires that employees operating and verifying hand-operated main track switches should pay careful attention to ensure that these switches, when not in use, are lined and locked in that position except under two circumstances. The first circumstance under which the employee does not need to return the switch to the designated normal position occurs when the train dispatcher directs otherwise; thus, the train dispatcher, with movement control over that main track segment, directs the crew using the switch to leave the switch in other than the normal position. The dispatcher would then be responsible for the switch and must follow railroad operating procedures for the necessary protection of the switch. Such "necessary protection" entails that the dispatcher take steps to ensure that the next train crew approaching the switch has a track warrant informing that the switch has been left reversed. In some instances, the dispatcher will need to make a note in a log of train movements, or other similar document, to ensure that subsequent dispatchers have access to the reversed switch information. The second circumstance under which the employee does not need to return the switch to the designated normal position occurs when the switch is left in the charge of a crewmember of another train, a switchtender, or a roadway worker in charge. Paragraph (b)(2) should be an

alternative safe procedure because these other employees will likewise be individually responsible for the safe and proper operation of that hand-operated main track switch; the employees performing these jobs shall be qualified on operating switches and verifying switch position according to this subpart, so there should be no inherent problems with the transfer of responsibility for the switch. Regardless of the position of the switch when the train dispatcher directs otherwise or the switch is left in the charge of another qualified employee, it must still be locked, hooked or latched, if so equipped, when not in use, as required by § 218.103(b)(8).

Just in case there is any confusion that the operation of a hand-operated main track switch is a function requiring job briefings, paragraph (c), formerly proposed § 218.103(i)(3), sets forth the requirements for such briefings where employees should be engaging in meaningful communication. Thus, in paragraph (c)(1), FRA specifically requires that before a train leaves the location where any hand-operated main track switch was operated, all crewmembers shall have verbal communication to confirm the position of the switch. Similarly, paragraph (c)(2) addresses that communication amongst employees is vital when roadway workers are working within the same work limits and operate hand-operated main track switches. Thus, when any roadway work group is working under the protections of the specified form of working limits, any employee who operates a hand-operated main track switch within such limits shall do so under the direction of the roadway worker in charge. Further, it is required that the employee operating the hand-operated main track switch shall report to the roadway worker in charge the position of all hand-operated main track switches the employee has operated to the roadway worker in charge prior to the expiration of the authority limits.

In some roadway work group situations, a roadway worker may be instructed during a job briefing to convey switch position information to an employee who is not the roadway worker in charge. In this alternative situation, the contact person is acting as an intermediary between the employee operating the switch and the roadway worker in charge. This intermediary person is commonly referred to as an "employee in charge." The rule permits the employee in charge to pass on the switch position information from the employee operating the switch to the roadway worker in charge without firsthand verification of the switch

position. The important aspect of this requirement is that the work group members are communicating the switch position and not who conveys the information. The allowance of this option reflects the reality of current operations.

A recurring concern raised by the labor organizations was that some railroads permit a maintenance-of-way employee to operate a hand-operated main track switch in non-signaled territory, typically for purposes of servicing the switch, without contacting the dispatcher or the crewmembers of any potentially on-coming trains. The concerns regarding this practice centered on whether appropriate protection was being afforded to on-coming trains that potentially could be diverted from the main track if the employee servicing the switch was unable to restore the switch to the normal position prior to the train's arrival. BMWED questioned whether it made sense to require strict communication requirements to verify the position of switches prior to the expiration of exclusive track occupancy authority but not require any communication under this other circumstance. FRA views these situations as completely different as the former applies to job briefings among a roadway worker group, not a communication with a dispatcher or control operator as BMWED is arguing for in the latter. BMWED was also concerned with the liability the rule would have for the employee who failed to restore a switch being serviced if a train came along. With regard to the liability issue, FRA has not added any regulatory requirement for such an employee servicing a switch and thus the employee's liability is unaffected by this rule.

FRA's decision not to require an employee servicing a switch to communicate with the dispatcher or control operator is based on several factors. One of the biggest factors is that FRA learned of this practice through discussions with the RSAC working group but could not find any data to support that this practice has been a problem or cause of accidents/incidents. It is FRA's understanding that this is a practice mainly on the western railroads where employees can often see on-coming trains great distances away. In the situations where employees may not be able to easily view an on-coming train, it is a common practice for a maintenance-of-way employee to contact a dispatcher or control operator in order to obtain a sense of when the next train is likely to come along. An employee working under such

conditions would likely maintain a high level of situational awareness to on-coming trains as the employee understands that he or she is providing his or her own protection, and the information obtained is not always accurate. FRA is concerned with promulgating a requirement that the employee contact the dispatcher or control operator in every instance as the formality of making that communication mandatory could lead maintenance-of-way employees to develop a false sense of safety when true block protection is not being provided.

Unless a switch is broken, it should take seconds, not minutes, to operate a switch back to normal if a train is known to be approaching. FRA assumes that a maintenance-of-way employee who realizes that a switch is broken, as opposed to needing some oil or routine maintenance, would immediately contact a dispatcher or control operator in order to obtain the authority to set up working limits or other adequate protection that would allow the employee the time to repair the switch. Certainly, FRA would not expect railroads to permit the servicing of a switch when heavy train traffic is expected. FRA would also expect railroads to coordinate such work when train schedules are available and adequate time for such service can be planned. Although FRA is not implementing any regulations on this issue, we recommend that railroads implement procedures to safeguard employees and trains when a switch requires servicing.

Proposed § 218.103(c)(2) has been redesignated as § 218.105(d). This paragraph requires that in non-signaled territory, before an employee releases the limits of a main track authority and a hand-operated switch is used to clear the main track, and, prior to departing the switch's location, certain conditions be met. An employee is prohibited from releasing the limits after departing the switch's location so that the employee who has any question about the condition of the switch has access to verifying its condition. This requirement is intended to prevent an employee from releasing the limits while located in the yard office or while traveling away from the switch's location in a taxi.

In paragraph (d)(1), the first proposed condition that must be met is that the employee releasing the limits, after conducting a job briefing in accordance with this subpart, must report to the train dispatcher that the hand-operated main track switch has been restored to its normal position and locked, unless the train dispatcher directs that the

hand-operated main track switch be left lined and locked in the reverse position. The reference to another paragraph in this section is intended to remind the employee releasing the limits that before a train, train crew, or maintenance-of-way employee leaves the location where any hand-operated main track switch was operated, all crewmembers and maintenance-of-way employees shall have a verbal communication to confirm the position of the switch. Soon after this job briefing, it is time to call the dispatcher and confirm the same information that should have been included in the train crew or maintenance-of-way employees' job briefing. If the train dispatcher wants the employee to leave the switch in the reverse position, this communication is the train dispatcher's opportunity to inform the employee of such a request. It is required that the employee and dispatcher confirm with each other the switch position and that the switch is locked so that there is little chance that any trespasser with a key or bolt cutters could tamper with the switch. As in paragraph (b)(1), a train dispatcher who directs that the switch be left in the reverse position must provide the protection necessary to ensure that the subsequent train crew or operator of on-track equipment that will approach the switch has a track warrant informing them of the switch's reverse position. Again, such "necessary protection" entails that the dispatcher take steps to ensure that the next train crew or operator of on-track equipment approaching the switch has a track warrant informing that the switch has been left reversed. In some instances, the dispatcher will need to make a note in a log of train movements or other similar document to ensure that subsequent dispatchers have access to the reversed switch information.

Paragraphs (d)(2) and (3) detail two more conditions that must be met when main track authority limits are being prepared for release. The second condition is that if the employee's report of the switch position is correct, i.e., matches the operating rule or dispatcher's direction, the train dispatcher shall repeat the reported switch position information to the employee releasing the limits and ask whether the repeated information is correct. Typically, railroad procedures require the train dispatcher to ask whether "that is correct" with regard to confirming this type of information, so the regulation is intended to reflect those commonly used procedures. The third condition is that the employee releasing the limits then confirm that

this information is correct with the train dispatcher. Railroads and employees who currently release such limits should recognize that these requirements follow the traditional rules of such release. The purpose of the dispatcher and employee repeating the switch's condition is so that both employees can confirm that the other is repeating the correct information regarding the position of the switch and that it is locked.

The rule retains the requirement in EO 24 that an employee releasing the limits of a main track authority in non-signaled territory communicate with the train dispatcher that all hand-operated main track switches operated have been restored to their normal position, unless the train dispatcher directs otherwise, but only to the extent that the switches are at the location where the limits are being released. With the elimination of a SPAF, it would be difficult for an employee to recall the condition of any particular hand-operated main track switch operated and there would likely be a reaction for an employee to believe he or she left all such switches in proper position—without much opportunity to double-check the condition of those faraway switches at that time. As mentioned previously, accidents often occur where the limits are being released and that is why the rule has placed emphasis on addressing the problem at those locations. The switches located at the point of release of the limits should be readily accessible for any employee who is unsure of the condition the switch was last left in. The rule also adds the requirement that the employee report that the switch has been locked; locking of the main track switch should prevent easy access to unauthorized users.

The requirements in paragraph (d) carry over certain employee/dispatcher communication requirements from EO 24 that provide additional checks to ensure that hand-operated main track switches are left properly lined and locked. The requirement is carefully tailored to address the switches at the location being released because FRA has determined that many of the accidents are occurring at that location. As several comments were received in response to EO 24 regarding an equivalent requirement carried over in paragraph (d), it should be helpful to describe what FRA means by the term “releasing the limits of a main track authority.” The term means releasing all or a portion of the limits (i.e., rolling up the limits) of an existing main track authority.

Section 218.107 Additional Operational Requirements for Hand-Operated Crossover Switches

As explained in the section-by-section analysis to § 218.103, FRA has broken up proposed § 218.103 into several sections so that the requirements will be easier to follow and be in a more logical order. The requirements found in this section were derived from proposed § 218.103.

The requirement proposed in paragraph (a) has been revised, but the reasons behind the requirement remain the same. The reasons behind this paragraph are to ensure that (1) each railroad adopt and comply with an operating rule which complies with the requirements of this section; and (2) when any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person be considered to have violated the requirements of this section. The NPRM was not intended to mean, but could possibly have read, that each person was only to uphold and comply with the railroad's operating rule and not the regulation itself. The purpose for requiring that each railroad, railroad officer, supervisor, and employee shall be considered in violation of this section when a railroad operating rule that complies with this section is violated is so that FRA has the authority to enforce this regulation as opposed to merely requiring that each railroad maintain and have in effect such a rule.

Paragraph (b) was formerly proposed § 218.103(g)(1). This paragraph sets forth the general rule that both hand-operated switches of a crossover shall be properly lined before equipment begins a crossover movement. Properly lined means that switches at both ends of the crossover are lined for the crossover movement. As train crews expect crossover switches to be properly lined, i.e., in correspondence (see definition of “correspondence of crossover switches”), an accident can easily occur when crossover switches are out of correspondence. A related concern that is addressed by this paragraph is what to do when equipment is traversing a crossover; the rule requires that all equipment be clear of both ends of the crossover before restoring the switches to the normal position. If employees apply a railroad operating rule that incorporates this rule, the requirement should prevent the unintentional running through of crossover switches or unintentional movements onto

another track that could potentially strike other rolling equipment.

Paragraph (c) was formerly proposed § 218.103(g)(2). This paragraph identifies four exceptions to the general rule that hand-operated crossover switches should be in correspondence. The reason for the exceptions is that each operation is safe or safer with the crossover switches out of correspondence than in correspondence. That is, each exception identifies a situation in which employees on the track are protected by diverting trains and equipment without slowing down operations.

FRA is aware that some configurations of crossover switches are quite complicated, typically due to the location of adjacent or adjoining tracks and other attendant switches. Railroads should address these complicated configurations of crossover switches when employees are instructed on the physical characteristics of the territory. Without proper instruction on how to apply a railroad's operating rule for correspondence of crossover switches, it will be difficult to hold employees accountable. However, railroads can be held accountable if employees do not properly apply such an operating rule and lack of instruction is one of the causes. Of course, if a railroad provided instruction but a violation was committed due to the complexities of the crossover configuration, FRA will exercise discretion regarding whether any enforcement action is necessary.

Paragraph (c)(1)(i) was formerly proposed § 218.103(g)(2)(i)(A). This paragraph permits mechanical department workers to line one end of a crossover away from the track under blue signal protection to allow workers on, under, or between rolling equipment. *See* 49 CFR 218.27. Similarly, paragraph (c)(1)(ii), formerly proposed § 218.103(g)(2)(i)(B), permits providing track protection for roadway workers on track that is considered “inaccessible” under § 214.327 of this chapter. Paragraph (c)(1)(iii), formerly proposed § 218.103(g)(2)(i)(C), permits those railroads that have the technology, in traffic control system (TCS) territory to allow a signal maintainer to perform maintenance, testing or inspection of the switch at only one end of a crossover while continuing to operate trains over the other crossover switch. FRA does not have any evidence to suggest this exception is an unsafe practice. Finally, the fourth exception, found in paragraph (c)(1)(iv), which was formerly proposed at the end of proposed paragraph (g)(1), recognizes that a safe operation is probable during continuous switching operations where

only one crew is using both tracks connected by the crossover.

FRA has eliminated the stated requirement in proposed § 218.103(g)(2)(ii) that crossover switches shall be immediately restored to correspondence after the protection afforded by one of the four exceptions in paragraph (c) is no longer required. After further consideration, FRA concluded that this requirement is implicit and it would be redundant to state it. If one of the paragraph (c) exceptions no longer applies, the general rule in paragraph (b) must be complied with—meaning that both hand-operated switches of a crossover shall be properly lined before rolling and on-track maintenance-of-way equipment begins a crossover movement.

Section 218.109 Hand-Operated Fixed Derails

As explained in the section-by-section analysis to § 218.103, FRA has broken up proposed § 218.103 into several sections so that the requirements will be easier to follow and be in a more logical order. The requirements found in this section were derived from proposed § 218.103.

FRA has also clarified in the title to this subpart, the purpose and scope section, and in § 218.109, that this subpart applies to “fixed” derails. In the NPRM, FRA did not distinguish between the two general types of derails, i.e., fixed and portable. FRA is using the term “fixed derails” to contrast it with derails that are portable. Portable, or temporary, derails can easily be transported and applied at different locations throughout the day in order to protect workers and equipment as needed. Fixed, or permanent, derails cannot be easily transported because they are typically affixed to the track structure in some manner. Fixed derails are normally found prior to entering a locomotive servicing area or car shop repair area, where they are used to protect workers in those areas from encroachment by unauthorized movements of rolling equipment, and on most industry tracks at or near the switch connecting with the main track. By clarifying that this subpart and section applies to fixed derails, FRA is providing up front notification that this subpart does not apply to the operation of portable derails.

During the nearly four and a half year period from January 2003 through May 2007, 154 accidents/incidents were reported by railroads to have been caused, either primarily or secondarily, by a person's failure to apply or remove a derail. Only 3 of these 154 accidents

were reported as caused by a failure to apply or remove a portable derail and thus 98% of the reportable accidents/incidents were caused by the misapplication of the railroad's operating rules for fixed derails. As the primary reason for issuing this rule is to reduce accidents/incidents attributed to human factor causes, this rule's focus on reducing accidents/incidents attributed to mishandling fixed derails is appropriately targeted.

The requirement proposed in paragraph (a)(1) has been revised, but the reasons behind the requirement remains the same. The reasons behind this paragraph are to ensure that (1) each railroad adopt and comply with an operating rule which complies with the requirements of this section; and (2) when any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person be considered to have violated the requirements of this section. The NPRM was not intended to mean, but could possibly have read, that each person was only to uphold and comply with the railroad's operating rule and not the regulation itself. The purpose for requiring that each railroad, railroad officer, supervisor, and employee shall be considered in violation of this section when a railroad operating rule that complies with this section is violated is so that FRA has the authority to enforce this regulation as opposed to merely requiring that each railroad maintain and have in effect such a rule.

Paragraph (a)(2) carries over the proposed requirement from § 218.103 that each railroad specify minimum requirements for an adequate job briefing concerning hand-operated fixed derails. The requirement is for each railroad to have its own rules and procedures governing the minimum requirements for a satisfactory job briefing, which to FRA's knowledge, nearly all railroads already do. It is essential that employees working together know exactly what each person's role is in the operation, what the methods of operation and protection will be, and the order in which segments of the job are to be accomplished. With such knowledge, one employee could recognize the mistakes of another and correct them before any operating rule violation or serious accident occurred.

Paragraph (b) derives from proposed § 218.103(h). This paragraph sets forth the general rules for hand-operated fixed derails. Paragraph (b)(1) requires that the normal position of fixed derails

is in the derailing position; but, a railroad may specify in its operating rules or special instructions that the normal position of a fixed derail is in the non-derailing position. Paragraph (b)(2) requires that fixed derails shall be kept in the derailing position whether or not any rolling or on-track maintenance-of-way equipment is on the tracks they protect, except as provided in paragraph (b)(1) or when changed to permit movement. Thus, the general rule requires that the fixed derails be returned to the derailing position once the movement is complete while the rule still allows for the flexibility of a railroad to designate otherwise or an exception in paragraph (b)(1) to apply in less common circumstances. If fixed derails are being used for protection of workers using blue signals, these rules would not be applicable as FRA already has other regulations governing derails in that circumstance. *See* 49 CFR part 218, subpart B.

The entire purpose of a derail, whether fixed or portable, is to protect something or someone. Derails are typically used to prevent equipment from rolling out onto main tracks in front of trains. They are also used to protect workers who are on a track to repair track or equipment. Derails may be placed in addition to warnings provided by signs, flags, gates, and notices in timetables and special instructions; thus, derails protect employees when other employees operating equipment or a train fail to heed these other warnings, or unattended equipment rolls freely. Although a properly applied derail that stops equipment or a train has served its purpose, FRA prohibits movements over a fixed derail in the derailing position under paragraph (b)(3). Paragraph (b)(3) will permit FRA to take enforcement action when a railroad or person causes a movement to be made over a derail in the derailing position. As the typical situation involving movement over a derail occurs at low speeds and does not result in serious injuries or excessive damage to railroad property, the industry has accepted, in FRA's view, too much tolerance for this type of incident. Consequently, while FRA plans to use its enforcement discretion, the purpose of this requirement is to reverse the permissive culture of the railroad industry that has accepted operating over a derail.

Paragraph (c) derives from § 218.103(b) and (h)(3). This paragraph addresses the same type of list of requirements that FRA is requiring for hand-operated switches, but applies them to hand-operated fixed derails. For instance, paragraph (c)(1) requires that

employees operating or verifying the position of a fixed derail shall conduct job briefings before work is begun, each time a work plan is changed, and at completion of the work. It is essential that employees performing these tasks communicate with one another at key intervals to prevent error free operations over derails. Paragraph (c)(2) requires that employees operating or verifying the position of a fixed derail shall be qualified on the railroad's operating rules relating to the operation of the derail. In FRA's view, it seems intuitive that a railroad cannot expect an employee to know how to properly operate or verify the position of a hand-operated fixed derail without qualifying the employee. Once qualified, an employee will be held individually responsible for the position of the derail in use; for the purpose of paragraphs (c)(3) and (c)(6), a fixed derail is considered "in use" if a movement is either operating over the derail, or continuously or intermittently operating over the derail while it is in the non-derailing position. Paragraph (c)(6) addresses that employees operating or verifying the position of a fixed derail shall ensure that when not in use, derails are locked, hooked, or latched in the normal position if so equipped. As FRA mentioned in the analysis to § 218.103, FRA's rule does not require switch or derail targets, latches, locks or hooks; however, if a switch or derail is equipped with any of these devices, FRA requires that the employees check that these devices are properly placed or correspond as intended. If the derail is so equipped, it shall be locked in the normal position regardless of whether the normal position is designated by the railroad as in the derailing position or non-derailing position.

Appendix D to Part 218—Requirements and Considerations for Implementing Technology Aided Point Protection

In the preamble to the NPRM, FRA restated its policy on using technology, such as cameras and monitors, to assist crews in providing point protection during shoving or pushing movements. The NPRM was the first proposed regulatory provision on this subject, and, in addition to the preamble discussion, the issue was also directly raised by proposed § 218.99(b)(2)(i). FRA received some comments on this policy and it was discussed with the RSAC working group. Generally speaking, the railroads wanted to continue using such technology without seeing any need for further regulation; meanwhile, the labor organizations were concerned that without adequate safeguards, i.e., regulations, the use of

such technology posed too many questions related to adequate functionality and reliability. After further consideration, FRA has concluded that implementing the policy as mandatory requirements is necessary to assure Federal, State and local governments, that adequate safeguards are in place to protect the general public.

The first section of appendix D addresses the general requirements and considerations for all point protection aided by technology. One of the big concerns with not having a qualified employee protecting the point is determining that the technology, and the procedures for its use, provide an equivalent level of protection to that of a direct visual determination by a crewmember or other qualified employee properly positioned to make the observation. To do that, a person must be properly qualified. FRA has addressed the qualifications issue by carrying over from the proposed rule, in § 218.95(a)(2), the requirement that each railroad must qualify employees "in any technology (and related procedures) necessary to accomplish work subject to the particular requirements, actions required by the employee to enable and use the system, means to detect malfunctioning of equipment or deviations from proper procedures, actions to be taken when malfunctions or deviations are detected, and information needed to prevent unintentional interference with the proper functioning of such technology." In summary, the rule requires employees to be qualified on proper use of the technology and what to do when the technology does not work as intended. Most malfunctions of the technology should be detectable, and result in abandoning the use of the technology for determining point protection until the malfunction can be corrected.

Although each railroad will retain some flexibility in implementing technological aids to provide point protection, the stated requirements and considerations will provide FRA with the ability to more quickly and directly enforce a change if a railroad attempts to implement a setup that does not adequately address all of the factual circumstances noted for consideration. For instance, a railroad shall not permit a camera/monitor setup that utilizes a black and white monitor that does not allow the person viewing the monitor to adequately determine a signal indication for the shoving or pushing movement. Similarly, FRA could take enforcement action against a railroad or individual for using a camera/monitor

setup during severe weather conditions that did not permit adequate camera views of whether a crossing's gates were down or the track is, in fact, clear of equipment. Another consideration before implementing technology aided point protection is who will be allowed to view the monitor and assist the crew; thus, FRA will consider enforcement action if employees do not conduct adequate job briefings or maintain adequate lines of communication between the employee controlling the movement and the employee viewing the monitor.

It is also worth mentioning that each railroad shall ensure that the technology provides "real time coverage," i.e., a view without any delay that could impact the safety of the operation and provide less protection than that of a direct visual determination. With that regard, we are concerned with internet or web-based monitoring systems that do not provide a direct feed to the monitor and could potentially be delayed by routing through a third party server or other internet portal. Although FRA is not prohibiting such web-based monitoring systems, additional safeguards would need to be employed in order to ensure that real time coverage can be obtained and the setup relied upon.

The second section of appendix D specifies additional requirements for the scenario in which remote control locomotive operations will be using technology aided point protection at highway-rail grade crossings, pedestrian crossings, and yard access crossings. All of the general requirements and considerations of the first section are also applicable to these remote control operations over grade crossings except that there should be less of a chance of a communication problem as FRA is instituting a new requirement that the remote control operator controlling the movement shall be the only person permitted to view the monitor during such operations. As the appendix explains, the purpose of this new requirement is to protect the general public, which is at greater risk of being struck by equipment at the crossings specified than employees qualified to operate in a yard environment. If the remote control operator controlling the movement is viewing the monitor, that operator should be able to react more quickly if a vehicle or pedestrian enters the crossing being viewed than if the information first had to be relayed by another person. Shaving a few precious seconds off the reaction time by eliminating the need for the relaying of information may be enough to mitigate the severity of an accident. FRA realizes

that the few railroads using this technology prior to implementation of this rule will each likely need to amend any relevant operating rules or procedures. As many of these operations involve two crewmembers who have the ability to control the movement, complying with this requirement should not be significantly burdensome. In fact, this requirement may cut down on the odd practice of having one remote control operator/crewmember controlling the movement when a second, equally capable operator/crewmember is in the best possible position to view the equipment ahead of the movement.

FRA has converted the policy statement published in the NPRM into a list of mandatory requirements for remote control locomotive operations utilizing camera/monitor setups at the types of crossings specified. The list has been altered slightly to rephrase each item as a mandatory requirement. The first requirement, to have a Crossing Diagnostic Team evaluate the crossing, is arguably the most important. Each railroad cannot be permitted to setup remote cameras at crossings for use by remote control operators without consulting FRA, and relevant State and local government officials. All types of information related to the safety of the crossing would need evaluation prior to deciding whether technology could be used safely at that crossing and determining exactly what modifications are necessary to ensure the operation is safe. Because we are requiring the expertise of a diagnostic team, FRA is permitting the diagnostic team to conclude that some or all of requirements 2, 4, 5, and 6 do not need to be complied with when a crossing is equipped with supplemental safety devices that prevent motorists from driving around lowered gates; however, the diagnostic team cannot waive the requirement that the remote control operator controlling the movement be the person viewing the monitor (requirement number 3), nor the requirement that the railroad notify the Associate Administrator for Safety in writing when this type of protection has been installed and activated at a crossing (requirement number 7). This latter requirement to contact FRA in writing has been added to ensure that FRA grade crossing specialists and signal inspectors can be made aware of when these setups have been activated and, thus, may begin monitoring the safety of such operations.

If a railroad implemented a remote camera setup to be used by a remote control operation at a highway-rail grade crossing, pedestrian crossing, or

yard access crossing prior to April 14, 2008, i.e., the effective date of this final rule, the railroad may continue to use that setup without a new crossing diagnostic team evaluation as long as a diagnostic team was previously used to make the necessary determinations. However, even if a diagnostic team was used prior to that date, compliance is required with the other requirements unless specified by a diagnostic team.

As FRA explains in its conclusion, we expect that technology will develop and improve over time. The use of new technology is typically driven by efficiencies achieved, of which safety may only be one component. Meanwhile, FRA cannot always keep up with the latest technologies without notification and we have a duty to determine whether a new technology to aid point protection provides an equivalent level of protection to that of a direct visual determination. Thus, FRA is requiring that railroads wishing to utilize the latest technologies contact the Associate Administrator for Safety in writing prior to implementation.

VI. Regulatory Impact and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule has been evaluated in accordance with existing policies and procedures, and determined to be non-significant under both Executive Order 12866 and DOT policies and procedures (44 FR 11034; Feb. 26, 1979). FRA has prepared and placed in the docket a regulatory evaluation addressing the economic impact of this final rule. Document inspection and copying facilities are available at the Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001. Access to the docket may also be obtained electronically through the Federal eRulemaking Portal at <http://www.regulations.gov>. Photocopies may also be obtained by submitting a written request to the FRA Docket Clerk at Office of Chief Counsel, Stop 10, Federal Railroad Administration, 1120 Vermont Avenue, NW., Washington, DC 20590; please refer to Docket No. FRA-2005-23080.

FRA analyzed the foregoing final rule and found that there will be relatively little change in the burden upon railroads, however, the FRA believes that much greater compliance with rules which are almost identical to what the railroads have promulgated as their own operating rules will likely result in a reduction in human factor accidents, especially those human factors causes

most directly targeted by the rulemaking. FRA believes that most railroads can achieve average reductions of 35% in these accidents, because there is one Class I railroad with better than average compliance with its own operating rules which routinely has human factor accident rates 35% below the industry average. The costs of the foregoing are minimal, because most of the procedures mandated are already incorporated in the railroads' own operating rules. The biggest costs will be related to publication of changed language, and management of the operating rules programs. The rule would have even less impact on small entities, as they are excused from most of the burdens which regulate management of their operating rules testing programs. The final rule would generate twenty-year discounted benefits of \$191,189,965, and twenty-year discounted costs of \$20,756,051, for a twenty-year discounted net benefit of \$170,433,914, if the assumptions in this analysis are correct.

B. Regulatory Flexibility Act and Executive Order 13272

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) and Executive Order 13272 require a review of proposed and final rules to assess their impact on small entities. FRA has prepared and placed in the docket an Analysis of Impact on Small Entities (AISE) that assesses the small entity impact of this final rule. Document inspection and copying facilities are available at the Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001. Access to the docket may also be obtained electronically through the Federal eRulemaking Portal at <http://www.regulations.gov>. Photocopies may also be obtained by submitting a written request to the FRA Docket Clerk at Office of Chief Counsel, Stop 10, Federal Railroad Administration, 1120 Vermont Avenue, NW., Washington, DC 20590; please refer to Docket No. FRA-2005-23080.

FRA notes that the impact on small entities have been considered throughout the development of this final rule both internally and through consultation within the RSAC forum, as described in Section II of this preamble. After the Railroad Operating Rules Working Group failed to reach a consensus recommendation, FRA reported the Working Group's unofficial areas of agreement and disagreement to the RSAC.

The AISE developed in connection with this final rule concludes that this proposal would not have a significant economic impact on a substantial number of small entities. Thus, FRA certifies that this final rule is not expected to have a significant economic

impact on a substantial number of small entities under the Regulatory Flexibility Act or Executive Order 13272.

C. Paperwork Reduction Act

The information collection requirements in this final rule have been

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

CFR Section—49 CFR	Respondent universe	Total annual responses	Average time per response	Total annual burden hours	Total annual burden cost
217.7—Operating Rules; Filing and Record-keeping:					
—Filing rules, timetables, and special instructions.	1 New Railroad	1 submission	1 hour	1	\$43
—Amendments to operating rules, timetables, and timetable special instructions by Class I, Class II, Amtrak, and Commuter Railroads.	55 Railroads	165 amendments	20 minutes	55	2,365
—Class III and Other Railroads: Copy of Current Operating Rules, Timetables, and Special Instructions.	20 New Railroads	20 submissions	55 minutes	18	774
—Class III Railroads: Amendments to operating rules.	632 Railroads	1,896 amendment	15 minutes	474	20,382
217.9—Program of Operational Tests:					
—Railroad and railroad officer testing responsibilities: Field Training.	687 Railroads	4,732 training sessions	8 hours	37,856	1,892,800
—Written records of officer testing qualifications.	687 Railroads	4,732 records	2 minutes	158	¹ 0
—Written program of operational tests/inspections.	20 New Railroads	20 programs	9.92 hours	198	8,514
—Amendments to operational tests/insp. programs.	55 Railroads	165 amendments	1.92 hours	317	13,631
—Records of individual tests/inspections.	687 Railroads	9,180,000 rcds	5 minutes	765,000	38,250,000
—Review of tests/inspections/adjustments to the program of operational tests—Quarterly reviews.	687 Railroads	37 reviews	1 hour	37	¹ 0
—Officer designations & Six Month reviews.	687 Railroads	37 designations + 74 reviews.	5 seconds + 1 hour	74	¹ 0
— <i>Passenger Railroads</i> : Officer designations & Six-Month reviews.	20 Railroads	20 designations + 34 reviews.	5 seconds + 1 hour	34	¹ 0
—Records retention: Periodic reviews.	687 Railroads	589 review rcds	1 minute	10	¹ 0

CFR Section—49 CFR	Respondent universe	Total annual responses	Average time per response	Total annual burden hours	Total annual burden cost
—Annual summary on operational tests/inspections.	37 Railroads	37 summary rclds	61 minutes	38	1,634
217.11—Program of Instruction on Operating Rules:					
—Railroads instruction of employees.	687 Railroads	130,000 instr. employees.	8 hours	1,040,000	52,000,000
—Current copy of employee periodic instruction prog.	20 New Railroads	20 programs	8 hours	160	6,880
—Amendments to current employee instruction prog.	687 Railroads	220 amendments	.92 hour	202	8,686
218.95—Instruction, Training, and Examination:					
—Records of instruction, training, examination.	687 Railroads	98,000 empl. rclds	5 minutes	8,167	351,181
—FRA disapproval of program: Railroad responses.	687 Railroads	50 submissions	1 hour	50	2,150
—Amended programs.	687 Railroads	20 amended docs	30 minutes	10	730
218.97—Good Faith Challenge Procedures.	687 Railroads	687 procedures	2 hours	1,374	10
—Copies to employees of good faith procedures.	687 Railroads	130,000 copies	6 minutes	13,000	10
—Copies of amendments to good faith procedures.	687 Railroads	130,000 copies	3 minutes	6,500	10
—Good faith challenges to railroad directives.	98,000 Employees	15 challenges	10 minutes	3	10
—Resolution of challenges.	687 Railroads	15 responses	5 minutes	1	10
—Direct order to proceed procedures: Immediate review by railroad testing officer/employer.	687 Railroads	5 reviews	15 minutes	1	10
—Documentation of employee protests to direct order.	687 Railroads	10 protest docs	15 minutes	3	10
—Copies of protest documentation.	687 Railroads	20 copies	1 minute	.33	10
—Further review by designated railroad officer.	687 Railroads	3 reviews	15 minutes	1	10
—Employee requested written verification decisions.	687 Railroads	10 written decisions	10 minutes	2	88
—Recordkeeping/Retention—Copies of written procedures.	687 Railroads	760 copies	5 minutes	63	2,709
—Copies of good faith challenge verification decisions.	687 Railroads	20 copies	5 minutes	2	86
218.97—Good Faith Challenge Procedures	687 Railroads	687 procedures	2 hours	1,374	10
—Copies to employees of good faith procedures.	687 Railroads	130,000 copies	6 minutes	13,000	10

CFR Section—49 CFR	Respondent universe	Total annual responses	Average time per response	Total annual burden hours	Total annual burden cost
—Copies of amendments to good faith procedures.	687 Railroads	130,000 copies	3 minutes	6,500	10
—Good faith challenges to railroad directives.	98,000 Employees	15 challenges	10 minutes	3	10
—Resolution of challenges.	687 Railroads	15 responses	5 minutes	1	10
—Direct order to proceed procedures: Immediate review by railroad testing officer/employer.	687 Railroads	5 reviews	15 minutes	1	10
218.99—Shoving or Pushing Movements:					
—Required operating rule compliant with this section.	687 Railroads	687 rule modific	1 hour	687	10
—General Movement Requirements: Job briefings.	100,000 RR employees	60,000 briefings	1 minute	1,000	50,000
—Point Protection: Visual determination of clear track and corresponding signals or instructions.	100,000 RR employees	87,600,000 deter/instructions + 87,600,000 signals.	1 minute	2,920,000	128,480,000
—Remote Control Movements: Confirmations by Crew.	100,000 RR employees	876,000 confirm	1 minute	14,600	642,400
—Remote Control zone, exceptions to point protection: Determination/Communication track is clear.	100,000 RR employees	876,000 deter/communications.	1 minute	14,600	642,400
—Operational exceptions: Dispatcher permitted movements that are verified.	6,000 RR Dispatchers ..	30,000 verified/permitted movements.	1 minute	500	22,000
218.101—Leaving Rolling and On-Track Maintenance-of-Way Equipment in the Clear:					
—Operating Rule that Complies with this section.	687 Railroads	687 amended op. rules 3.	30 minutes	344	10
218.103—Hand-Operated Switches and Derails:					
—Operating Rule that Complies with this section.	687 Railroads	687 amended op. rules	60 minutes	687	10
—Minimum requirements for adequate job briefing.	632 Railroads	632 modif rules	60 minutes	632	10
—Actual job briefings conducted by employees operating hand-operated main track switches.	632 Railroads	1,125,000 brfngs	1 minute	18,750	825,000

CFR Section—49 CFR	Respondent universe	Total annual responses	Average time per response	Total annual burden hours	Total annual burden cost
218.105—Additional Job Briefings for hand-operated main track switches.	687 Railroads	60,000 briefings	1 minute	1,000	¹ 0
—Exclusive track occupancy: Report of position of main track switches and conveyance of switch position.	687 Railroads	100,000 reports + 100,000 convey.	1 minute	3,334	¹ 0
—Releasing authority limits: Acknowledgments and verbal confirmations of hand-operated main track switches.	6,000 RR Dispatchers ..	60,000 reports + 60,000 confirm.	30 sec. + 5 sec	583	¹ 0
218.109—Hand-operated fixed derails—Job briefings.	687 Railroads	562,500 brfnsgs	30 seconds	4,688	234,400

¹ Incl. RIA.

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, Information Clearance Officer, at 202-493-6292 or Gina Christodoulou at 202-493-6139, or via e-mail at robert.brogan@dot.gov or gina.christodoulou@dot.gov.

OMB is required to make a decision concerning the collection of information requirements contained in this final rule between 30 and 60 days after publication of this document in the **Federal Register**. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication. Any comments should be sent to: The Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, att: FRA Desk Officer. Comments may also be sent via e-mail to OMB at the following address: oir_submissions@omb.eop.gov.

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

D. Federalism Implications

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

This is a rule with preemptive effect. Subject to a limited exception for essentially local safety hazards, its requirements will establish a uniform Federal safety standard that must be met, and State requirements covering the same subject are displaced, whether

those standards are in the form of State statutes, regulations, local ordinances, or other forms of state law, including State common law. Preemption is addressed in §§ 217.2 and 218.4, both titled “Preemptive effect.” As stated in the corresponding preamble language for §§ 217.2 and 218.4, section 20106 of Title 49 of the United States Code provides that all regulations prescribed by the Secretary related to railroad safety preempt any State law, regulation, or order covering the same subject matter, except a provision necessary to eliminate or reduce an essentially local safety or security hazard that is not incompatible with a Federal law, regulation, or order and that does not unreasonably burden interstate commerce. This is consistent with past practice at FRA, and within the Department of Transportation.

FRA has analyzed this final rule in accordance with the principles and criteria contained in Executive Order 13132. FRA notes that the above factors have been considered throughout the development of this NPRM both internally and through consultation within the RSAC forum, as described in Section II of this preamble. After the Railroad Operating Rules Working Group failed to reach a consensus recommendation, FRA reported the Working Group’s unofficial areas of agreement and disagreement to the RSAC. The RSAC has as permanent voting members two organizations representing State and local interests: AASHTO and ASRSM. The RSAC regularly provides recommendations to the FRA Administrator for solutions to

regulatory issues that reflect significant input from its State members. To date, FRA has received no indication of concerns about the Federalism implications of this rulemaking from these representatives or from any other representative. States and other governments were afforded opportunity to consult by virtue of the NPRM and comment period.

It should be noted that on April 27, 2005, FRA received from the State of California a petition for rulemaking on the subject of remote control operations referred to in the **SUPPLEMENTARY INFORMATION** section as "Technology Aided Point Protection." The petition requested that FRA initiate a rulemaking "to formally approve and establish rules affecting RCL [i.e., remote control locomotive] operations by railroads over public highway-rail at-grade crossings." California's petition did not raise an issue regarding preemption. On October 27, 2005, FRA denied California's rulemaking petition because it was procedurally deficient and it did not include sufficient information upon which to base a rulemaking proceeding. See Docket No. FRA-2005-21094 (found at <http://dms.dot.gov/>). Nevertheless, this final rule contains specific provisions of the kind requested in the California petition.

For the foregoing reasons, FRA believes that this final rule is in accordance with the principles and criteria contained in Executive Order 13132.

E. Environmental Impact

FRA has evaluated this final rule in accordance with its "Procedures for Considering Environmental Impacts" (FRA's Procedures) (64 FR 28545, May 26, 1999) as required by the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*), other environmental statutes, Executive Orders, and related regulatory requirements. FRA has determined that this final rule is not a major FRA action (requiring the preparation of an environmental impact statement or environmental assessment) because it is categorically excluded from detailed environmental review pursuant to section 4(c)(20) of FRA's Procedures. 64 FR 28547, May 26, 1999. In accordance with section 4(c) and (e) of FRA's Procedures, the agency has further concluded that no extraordinary circumstances exist with respect to this regulation that might trigger the need for a more detailed environmental review. As a result, FRA finds that this final rule is not a major Federal action significantly affecting the quality of the human environment.

F. Unfunded Mandates Act of 1995

Pursuant to Section 201 of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4, 2 U.S.C. 1531), each Federal agency "shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law)." Section 202 of the Act (2 U.S.C. 1532) further requires that "before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) currently \$128,100,000 in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement" detailing the effect on State, local, and tribal governments and the private sector. The final rule would not result in the expenditure, in the aggregate, of \$128,100,000 or more in any one year, and thus preparation of such a statement is not required.

G. Energy Impact

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

List of Subjects

49 CFR Part 217

Penalties, Railroad safety, and Reporting and recordkeeping requirements.

49 CFR Part 218

Occupational safety and health, Penalties, Railroad employees, Railroad safety, and Reporting and recordkeeping requirements.

The Final Rule

■ For the reasons discussed in the preamble, FRA amends parts 217 and 218 of Title 49, Code of Federal Regulations as follows:

PART 217—[AMENDED]

■ 1. The authority citation for part 217 continues to read as follows:

Authority: 49 U.S.C. 20103, 20107; 28 U.S.C. 2461, note; and 49 CFR 1.49.

■ 2. Section 217.2 is added to read as follows:

§ 217.2 Preemptive effect.

Normal State negligence standards apply where there is no Federal action covering the subject matter. Under 49 U.S.C. 20106 (section 20106), issuance of the regulations in this part preempts any State law, regulation, or order covering the same subject matter, except an additional or more stringent law, regulation, or order that is necessary to eliminate or reduce an essentially local railroad safety or railroad security hazard; that is not incompatible with a law, regulation, or order of the United States Government; and that does not unreasonably burden interstate commerce. Section 20106 permits State tort actions arising from events or activities occurring on or after January 18, 2002, for the following: violation of the Federal standard of care established by regulation or order issued by the Secretary of Transportation (with respect to railroad safety, such as these regulations) or the Secretary of Homeland Security (with respect to railroad security); a party's violation of, or failure to comply with, its own plan, rule, or standard that it created pursuant to a regulation or order issued by either of the two Secretaries; and a party's violation of a State standard that is necessary to eliminate or reduce an essentially local safety or security hazard, is not incompatible with a law, regulation, or order of the United States Government, and does not unreasonably burden interstate commerce. Nothing in section 20106 creates a Federal cause of action on behalf of an injured party or

confers Federal question jurisdiction for such State law causes of action.

■ 3. Section 217.4 is amended by adding the following definitions of *Associate Administrator for Safety*, *FRA*, and *Qualified* in alphabetical order to read as follows:

§ 217.4 Definitions.

* * * * *

Associate Administrator for Safety means the Associate Administrator for Safety of the Federal Railroad Administration or that person's delegate as designated in writing.

* * * * *

FRA means the Federal Railroad Administration.

Qualified means that a person has successfully completed all instruction, training, and examination programs required by the railroad and this part and that the person, therefore, has actual knowledge or may reasonably be expected to have knowledge of the subject on which the person is expected to be competent.

* * * * *

■ 4. Section 217.9 is revised to read as follows:

§ 217.9 Program of operational tests and inspections; recordkeeping.

(a) *Requirement to conduct operational tests and inspections.* Each railroad to which this part applies shall periodically conduct operational tests and inspections to determine the extent of compliance with its code of operating rules, timetables, and timetable special instructions, specifically including tests and inspections sufficient to verify compliance with the requirements of subpart F of part 218 of this chapter, in accordance with a written program as required by paragraph (c) of this section.

(b) *Railroad and railroad testing officer responsibilities.* The requirements of this paragraph are applicable on or after July 1, 2008.

(1) Each railroad officer who conducts operational tests and inspections (railroad testing officer) shall:

(i) Be qualified on the railroad's operating rules in accordance with § 217.11 of this part;

(ii) Be qualified on the operational testing and inspection program requirements and procedures relevant to the testing and inspections the officer will conduct;

(iii) Receive appropriate field training, as necessary to achieve proficiency, on each operational test or inspection that the officer is authorized to conduct; and

(iv) Conduct operational tests and inspections in accordance with the railroad's program of operational tests and inspections.

(2) Written records documenting qualification of each railroad testing officer shall be retained at the railroad's system headquarters and at the division headquarters for each division where the officer is assigned and shall be made available to representatives of the FRA for inspection and copying during normal business hours.

(c) *Written program of operational tests and inspections.* Every railroad shall have a written program of operational tests and inspections in effect. New railroads shall have such a program within 30 days of commencing rail operations. The program shall—

(1) Provide for operational testing and inspection under the various operating conditions on the railroad. As of July 1, 2008, the program must address with particular emphasis those operating rules that cause or are likely to cause the most accidents or incidents, such as those accidents or incidents identified in the quarterly reviews, six month reviews, and the annual summaries as required under paragraphs (e) and (f) of this section, as applicable;

(2) Require a minimum number of tests and inspections per year covering the requirements of part 218, subpart F of this chapter;

(3) Describe each type of operational test and inspection required, including the means and procedures used to carry it out;

(4) State the purpose of each type of operational test and inspection;

(5) State, according to operating divisions where applicable, the frequency with which each type of operational test and inspection is to be conducted;

(6) As of July 1, 2008, identify the officer(s) by name, job title, and, division or system, who shall be responsible for ensuring that the program of operational tests and inspections is properly implemented. The responsibilities of such officers shall include, but not be limited to, ensuring that the railroad's testing officers are directing their efforts in an appropriate manner to reduce accidents/incidents and that all required reviews and summaries are completed. A railroad with divisions shall identify at least one officer at the system headquarters who is responsible for overseeing the entire program and the implementation by each division.

(7) Include a schedule for making the program fully operative within 210 days after it begins.

(d) *Records.* (1) Each railroad to which this part applies shall keep a record of the date, time, place, and result of each operational test and inspection that was performed in

accordance with its program. Each record shall specify the officer administering the test and inspection and each employee tested. These records shall be retained at the system headquarters and at each division headquarters where the tests and inspections are conducted for one calendar year after the end of the calendar year to which they relate. These records shall be made available to representatives of the FRA for inspection and copying during normal business hours.

(2) Each railroad shall retain one copy of its current program for periodic performance of the operational tests and inspections required by paragraph (a) of this section and one copy of each subsequent amendment to such program. These records shall be retained at the system headquarters and at each division headquarters where the tests and inspections are conducted for three calendar years after the end of the calendar year to which they relate. These records shall be made available to representatives of the FRA for inspection and copying during normal business hours.

(e) *Reviews of tests and inspections and adjustments to the program of operational tests.* This paragraph (e) shall apply to each Class I railroad and the National Railroad Passenger Corporation effective July 1, 2008 and to all other railroads subject to this paragraph effective January 1, 2009.

(1) *Reviews by railroads other than passenger railroads.* Each railroad to which this part applies shall conduct periodic reviews and analyses as provided in this paragraph and shall retain, at each division headquarters, where applicable, and at its system headquarters, one copy of the following written reviews, provided however that this requirement does not apply to either a railroad with less than 400,000 total employee work hours annually or a passenger railroad subject to paragraph (e)(2) of this section.

(i) *Quarterly review.* The designated officer of each division headquarters, or system headquarters, if no division headquarters exists, shall conduct a written quarterly review of the accident/incident data, the results of prior operational tests and inspections, and other pertinent safety data for that division or system to identify the relevant operating rules related to those accidents/incidents that occurred during the quarter. The review shall also include the name of each railroad testing officer, the number of tests and inspections conducted by each officer, and whether the officer conducted the minimum number of each type of test or

inspection required by the railroad's program. Based upon the results of that review, the designated officer shall make any necessary adjustments to the tests and inspections required of railroad officers for the subsequent period(s). Quarterly reviews and adjustments shall be completed no later than 30 days after the quarter has ended.

(ii) *Six month review.* The designated officer of each system headquarters office responsible for development and administration of the program of operational tests and inspections shall conduct a review of the program of operational tests and inspections on a six month basis to ensure that it is being utilized as intended, that the quarterly reviews provided for in this paragraph have been properly completed, that appropriate adjustments have been made to the distribution of tests and inspections required, and that the railroad testing officers are appropriately directing their efforts. Six month reviews shall be completed no later than 60 days after the review period has ended.

(2) *Reviews by passenger railroads.* Not less than once every six months, the designated officer(s) of the National Railroad Passenger Corporation and of each railroad providing commuter service in a metropolitan or suburban area shall conduct periodic reviews and analyses as provided in this paragraph and shall retain, at each division headquarters, where applicable, and at its system headquarters, one copy of the reviews. Each such review shall be completed within 30 days of the close of the period. The designated officer(s) shall conduct a written review of:

(i) The operational testing and inspection data for each division, if any, or the system to determine compliance by the railroad testing officers with its program of operational tests and inspections required by paragraph (c) of this section. At a minimum, this review shall include the name of each railroad testing officer, the number of tests and inspections conducted by each officer, and whether the officer conducted the minimum number of each type of test or inspection required by the railroad's program;

(ii) Accident/incident data, the results of prior operational tests and inspections, and other pertinent safety data for each division, if any, or the system to identify the relevant operating rules related to those accidents/incidents that occurred during the period. Based upon the results of that

review, the designated officer(s) shall make any necessary adjustments to the tests and inspections required of railroad officers for the subsequent period(s); and

(iii) Implementation of the program of operational tests and inspections from a system perspective, to ensure that it is being utilized as intended, that the other reviews provided for in this paragraph have been properly completed, that appropriate adjustments have been made to the distribution of tests and inspections required, and that the railroad testing officers are appropriately directing their efforts.

(3) *Records retention.* The records of periodic reviews required in paragraphs (e)(1) and (e)(2) of this section shall be retained for a period of one year after the end of the calendar year to which they relate and shall be made available to representatives of FRA for inspection and copying during normal business hours.

(f) *Annual summary of operational tests and inspections.* Before March 1 of each calendar year, each railroad to which this part applies, except for a railroad with less than 400,000 total employee work hours annually, shall retain, at each of its division headquarters and at the system headquarters of the railroad, one copy of a written summary of the following with respect to its previous calendar year activities: The number, type, and result of each operational test and inspection, stated according to operating divisions where applicable, that was conducted as required by paragraphs (a) and (c) of this section. These records shall be retained for three calendar years after the end of the calendar year to which they relate and shall be made available to representatives of the FRA for inspection and copying during normal business hours.

(g) *Electronic recordkeeping.* Each railroad to which this part applies is authorized to retain by electronic recordkeeping the information prescribed in this section, provided that all of the following conditions are met:

(1) The railroad adequately limits and controls accessibility to such information retained in its electronic database system and identifies those individuals who have such access;

(2) The railroad has a terminal at the system headquarters and at each division headquarters;

(3) Each such terminal has a computer (i.e., monitor, central processing unit,

and keyboard) and either a facsimile machine or a printer connected to the computer to retrieve and produce information in a usable format for immediate review by FRA representatives;

(4) The railroad has a designated representative who is authorized to authenticate retrieved information from the electronic system as true and accurate copies of the electronically kept records; and

(5) The railroad provides representatives of the FRA with immediate access to these records for inspection and copying during normal business hours and provides printouts of such records upon request.

(h) Upon review of the program of operational tests and inspections required by this section, the Associate Administrator for Safety may, for cause stated, disapprove the program. Notification of such disapproval shall be made in writing and specify the basis for the disapproval decision. If the Associate Administrator for Safety disapproves the program,

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

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

(ii) Provide a written response in support of the program to the Associate Administrator for Safety, who informs the railroad of FRA's final decision in writing; and

(2) A failure to submit the program with the necessary revisions to the Associate Administrator for Safety in accordance with this paragraph will be considered a failure to implement a program under this part.

■ 5. Section 217.11(c) is revised to read as follows:

§ 217.11 Program of instruction on operating rules; recordkeeping; electronic recordkeeping.

* * * * *

(c) Each railroad to which this part applies is authorized to retain by electronic recordkeeping its program for periodic instruction of its employees on operating rules provided that the requirements stated in § 217.9(g)(1) through (5) of this part are satisfied.

■ 6. Appendix A to part 217 is amended by revising the entry for § 217.9 to read as follows:

APPENDIX A TO PART 217—SCHEDULE OF CIVIL PENALTIES

Section	Violation	Willful violation
217.9 Operational tests and inspections:		
(a) Failure to implement a program	\$9,500–12,500	\$13,000–16,000
(b) Railroad and railroad testing officer responsibilities:		
(1) Failure to provide instruction, examination, or field training, or failure to conduct tests in accordance with program	9,500	13,000
(2) Records	7,500	11,000
(c) Record of program; program incomplete	7,500–12,500	11,000–16,000
(d) Records of individual tests and inspections	7,500	
(e) Failure to retain copy of or conduct:		
(1)(i) Quarterly review	9,500	13,000
(1)(ii) and (2) Six month review	9,500	13,000
(3) Records	7,500	11,000
(f) Annual summary	7,500	11,000
(h) Failure to timely or appropriately amend program after disapproval	9,500–12,500	13,000–16,000

PART 218—[AMENDED]

■ 7. The authority citation for part 218 continues to read as follows:

Authority: 49 U.S.C. 20103, 20107; 28 U.S.C. 2461, note; and 49 CFR 1.49.

■ 8. Section 218.4 is added to read as follows:

§ 218.4 Preemptive effect.

Normal State negligence standards apply where there is no Federal action covering the subject matter. Under 49 U.S.C. 20106 (section 20106), issuance of the regulations in this part preempts any State law, regulation, or order covering the same subject matter, except an additional or more stringent law, regulation, or order that is necessary to eliminate or reduce an essentially local railroad safety or railroad security hazard; that is not incompatible with a law, regulation, or order of the United States Government; and that does not unreasonably burden interstate commerce. Section 20106 permits State tort actions arising from events or activities occurring on or after January 18, 2002, for the following: Violation of the Federal standard of care established by regulation or order issued the Secretary of Transportation (with respect to railroad safety, such as these regulations) or the Secretary of Homeland Security (with respect to railroad security); a party's violation of, or failure to comply with, its own plan, rule, or standard that it created pursuant to a regulation or order issued by either of the two Secretaries; and a party's violation of a State standard that is necessary to eliminate or reduce an essentially local safety or security hazard, is not incompatible with a law, regulation, or order of the United States Government, and does not unreasonably burden interstate commerce. Nothing in

section 20106 creates a Federal cause of action on behalf of an injured party or confers Federal question jurisdiction for such State law causes of action.

■ 9. Section 218.5 is amended by revising the definitions of *Flagman's signals* and *Locomotive* to read as follows:

§ 218.5 Definitions.

Flagman's signals means a red flag by day and a white light at night, and fusees as prescribed in the railroad's operating rules.

Locomotive means, except for purposes of subpart F of this part, a self-propelled unit of equipment designed for moving other railroad rolling equipment in revenue service including a self-propelled unit designed to carry freight or passenger traffic, or both, and may consist of one or more units operated from a single control.

■ 10. Section 218.37 is amended by revising paragraphs (a)(1)(iii) and (a)(1)(iv) to read as follows:

§ 218.37 Flag protection.

(a) * * *

(1) * * *

(iii) When a train stops on main track, flag protection against following trains on the same track must be provided as follows: A crew member with flagman's signals must immediately go back at least the distance prescribed by timetable or other instructions for the territory and display one lighted fusee. The crew member may then return one-half of the distance to the crew member's train where the crew member must remain until the crew member has stopped the approaching train or is recalled. When recalled, the crew

member must leave one lighted fusee and while returning to the crew member's train, the crew member must also place single lighted fusees at intervals that do not exceed the burning time of the fusee. When the train departs, a crew member must leave one lighted fusee and until the train resumes speed not less than one-half the maximum authorized speed (including slow order limits) in that territory, the crew member must drop off single lighted fusees at intervals that do not exceed the burning time of the fusee.

(iv) When required by the railroad's operating rules, a forward crew member with flagman's signals must protect the front of the crew member's train against opposing movements by immediately going forward at least the distance prescribed by timetable or other instructions for the territory, displaying one lighted fusee, and remaining at that location until recalled.

■ 11. Add new subpart F to part 218 to read as follows:

Subpart F—Handling Equipment, Switches, and Fixed Derails

Sec.

218.91 Purpose and scope.

218.93 Definitions.

218.95 Instruction, training, and examination.

218.97 Good faith challenge procedures.

218.99 Shoving or pushing movements.

218.101 Leaving rolling and on-track maintenance-of-way equipment in the clear.

218.103 Hand-operated switches, including crossover switches.

218.105 Additional operational requirements for hand-operated main track switches.

218.107 Additional operational requirements for hand-operated crossover switches.

218.109 Hand-operated fixed derails.

Subpart F—Handling Equipment, Switches, and Fixed Derails**§ 218.91 Purpose and scope.**

(a) The purpose of this subpart is to prevent accidents and casualties that can result from the mishandling of equipment, switches, and fixed derails.

(b) This subpart prescribes minimum operating rule requirements for the handling of equipment, switches, and fixed derails. Each railroad may prescribe additional or more stringent requirements in its operating rules, timetables, timetable special instructions, and other instructions.

§ 218.93 Definitions.

As used in this subpart—

Associate Administrator for Safety means the Associate Administrator for Safety of the Federal Railroad Administration or that person's delegate as designated in writing.

Clearance point means the location near a turnout beyond which it is unsafe for passage on an adjacent track(s). Where a person is permitted by a railroad's operating rules to ride the side of a car, a clearance point shall accommodate a person riding the side of a car.

Correspondence of crossover switches means both crossover switches are lined for the crossover or both are lined for the straight tracks.

Crossover means, for purposes of this subpart only, a track connection between two adjacent, but not necessarily parallel, tracks, consisting of two switches, which is intended to be used primarily for the purpose of crossing over from one track to another.

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 subpart.

Foul or fouling a track means rolling equipment or on-track maintenance-of-way equipment is located such that the end of the equipment is between the clearance point and the switch points leading to the track on which the equipment is standing.

FRA means the Federal Railroad Administration.

Hand-operated switch means any type of switch when operated by manual manipulation. For purposes of this subpart, a hand-operated switch does not include switches operated by push button or radio control when such switch is protected by distant switch indicators, switch point indicators, or other visual or audio verification that the switch points are lined for the intended route and fit properly.

Highway-rail grade crossing means, for purposes of this subpart only, an at-

grade crossing where a public highway, road, street, or private roadway, including associated sidewalks and pathways, crosses one or more railroad tracks at grade, and is identified by a U.S. DOT National Highway-Rail Grade Crossing Inventory Number, or is marked by crossbucks, stop signs, or other appropriate signage indicating the presence of an at-grade crossing.

Industry track means a switching track, or series of tracks, serving the needs of a commercial industry other than a railroad.

Lite locomotive consist means two or more locomotive units coupled without cars attached, regardless of whether the locomotive units are connected so that they may be operated from a single control stand.

Locomotive means, for purposes of this subpart only, a piece of on-track equipment (other than specialized roadway maintenance equipment or a dual purpose vehicle operating in accordance with § 240.104(a)(2) of this chapter):

(1) With one or more propelling motors designed for moving other equipment;

(2) With one or more propelling motors designed to carry freight or passenger traffic or both; or

(3) Without propelling motors but with one or more control stands.

Pedestrian crossing means a separate designated sidewalk or pathway where pedestrians, but not vehicles, cross railroad tracks. Sidewalk crossings contiguous with, or separate but adjacent to, highway-rail grade crossings, are presumed to be part of the highway-rail grade crossings and are *not* considered pedestrian crossings.

Qualified means that a person has successfully completed all instruction, training, and examination programs required by the railroad and this subpart and that the person, therefore, has actual knowledge or may reasonably be expected to have knowledge of the subject on which the person is expected to be competent.

Remote control operator means a locomotive engineer, as defined in § 240.7 of this chapter, certified by a railroad to operate remote control locomotives pursuant to § 240.107 of this chapter.

Remote control zone means one or more tracks within defined limits designated in the timetable special instructions, or other railroad publication, within which remote control locomotives, under certain circumstances specified in this part, may be operated without an employee assigned to protect the pull-out end of

the remote control movement, i.e., the end on which the locomotive is located.

Roadway maintenance activity means any work limited to the duties prescribed for a roadway worker by definition in this section, including movement of on-track maintenance-of-way equipment other than locomotives.

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 § 214.7 of this chapter.

Roadway worker in charge means a roadway worker who is qualified in accordance with § 214.353 of this chapter for the purpose of establishing on-track safety for roadway work groups.

Siding means an auxiliary track, adjacent and connected to a main track, used for meeting or passing trains.

Signaled siding means a siding within traffic control system (TCS) territory or within interlocking limits where a signal indication authorizes the siding's use.

Switchtender means a qualified employee assigned to handle switches at a specific location.

Track is clear means:

(1) The portion of the track to be used for the intended movement is unoccupied by rolling equipment, on-track maintenance-of-way equipment, and conflicting on-track movements;

(2) Intervening public highway-rail grade crossings, private highway-rail grade crossings outside the physical confines of a railroad yard, pedestrian crossings outside of the physical confines of a railroad yard, and yard access crossings are protected as follows:

(i) Crossing gates are in the fully lowered position, and are not known to be malfunctioning; or

(ii) A designated and qualified employee is stationed at the crossing and has the ability to communicate with trains; or

(iii) At crossings equipped only with flashing lights or passive warning devices, when it is clearly seen that no traffic is approaching or stopped at the crossing and the leading end of the movement over the crossing does not exceed 15 miles per hour;

(3) Intervening switches and fixed derails are properly lined for the intended movement; and

(4) The portion of the track to be used for the intended movement has sufficient room to contain the rolling equipment being shoved or pushed.

Yard access crossing means a private highway-rail grade crossing that is located within the physical confines of a railroad yard and is either:

(1) Open to unrestricted public access; or

(2) Open to persons other than railroad employees going about their normal duties, e.g., business guests or family members.

§ 218.95 Instruction, training, and examination.

(a) *Program.* Effective July 1, 2008, each railroad shall maintain a written program of instruction, training, and examination of employees for compliance with operating rules implementing the requirements of this subpart to the extent these requirements are pertinent to the employee's duties. If all requirements of this subpart are satisfied, a railroad may consolidate any portion of the instruction, training or examination required by this subpart with the program of instruction required under § 217.11 of this chapter. An employee who successfully completes all instruction, training, and examination required by this written program shall be considered qualified.

(1) The written program of instruction, training, and examination shall address the requirements of this subpart, as well as consequences of noncompliance.

(2) The written program of instruction, training, and examination shall include procedures addressing how the railroad qualifies employees in any technology necessary to accomplish work subject to the requirements of this subpart. Such procedures shall include, but are not limited to, those which explain:

(i) The purpose for using the technology;

(ii) How an employee will be expected to use the technology;

(iii) How to detect malfunctioning equipment or deviations from proper procedures;

(iv) How to respond when equipment malfunctions or deviations from proper procedures are detected; and

(v) How to prevent unintentional interference with the proper functioning of the technology.

(3) *Implementation schedule for employees, generally.* Each employee performing duties subject to the requirements in this subpart shall be initially qualified prior to January 1, 2009. Employees hired between April 14, 2008 and January 1, 2009, and all

employees thereafter required to perform duties subject to the requirements in this subpart shall be qualified before performing duties subject to the requirements in this subpart.

(4) After January 1, 2009, no employee shall perform work requiring compliance with the operating rules implementing the requirements of this subpart unless qualified on these rules within the previous three years.

(5) The records of successful completion of instruction, examination and training required by this section shall document qualification of employees under this subpart.

(b) Written records documenting successful completion of instruction, training, and examination of each employee required by this subpart shall be retained at its system headquarters and at the division headquarters for each division where the employee is assigned for three calendar years after the end of the calendar year to which they relate and made available to representatives of the FRA for inspection and copying during normal business hours. Each railroad to which this part applies is authorized to retain a program, or any records maintained to prove compliance with such a program, by electronic recordkeeping in accordance with §§ 217.9(g) and 217.11(c) of this chapter.

(c) Upon review of the program of instruction, training, and examination required by this section, the Associate Administrator for Safety may, for cause stated, disapprove the program. Notification of such disapproval shall be made in writing and specify the basis for the disapproval decision. If the Associate Administrator for Safety disapproves the program,

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

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

(ii) Provide a written response in support of the program to the Associate Administrator for Safety, who informs the railroad of FRA's final decision in writing; and

(2) A failure to submit the program with the necessary revisions to the Associate Administrator for Safety in accordance with this paragraph will be considered a failure to implement a program under this part.

§ 218.97 Good faith challenge procedures.

(a) *Employee Responsibility.* An employee shall inform the railroad or employer whenever the employee makes a good faith determination that

the employee has been directed to either take actions that would violate FRA regulations regarding the handling of equipment, switches, and fixed derails as required by this subpart, or to take actions that would violate the railroad's operating rules implementing the requirements of this subpart.

(b) *General procedures.* Each railroad or employer is responsible for the training of and compliance by its employees with the requirements of this subpart.

(1) Each railroad or employer shall adopt and implement written procedures which guarantee each employee the right to challenge in good faith whether the procedures that will be used to accomplish a specific task comply with the requirements of this subpart or any operating rule relied upon to fulfill the requirements of this subpart. Each railroad or employer's written procedures shall provide for prompt and equitable resolution of challenges made in accordance with this subpart.

(2) The written procedures required by this section shall indicate that the good faith challenge described in paragraph (b)(1) of this section is not intended to abridge any rights or remedies available to the employee under a collective bargaining agreement, or any Federal law including, but not limited to, 29 U.S.C. 651 *et seq.*, 6 U.S.C. 1142, or 49 U.S.C. 20109.

(3) Each affected employee shall be instructed on the written procedures required by this paragraph as part of the training prescribed by § 217.11 of this chapter.

(4) A copy of the current written procedures shall be provided to each affected employee and made available for inspection and copying by representatives of the FRA during normal business hours.

(c) The written procedures shall—

(1) Grant each employee the right to challenge any directive which, based on the employee's good faith determination, would cause the employee to violate any requirement of this subpart or any operating rule relied upon to fulfill the requirements of this subpart;

(2) Provide that the railroad or employer shall not require the challenging employee to comply with the directive until the challenge resulting from the good faith determination is resolved;

(3) Provide that the railroad or employer may require the challenging employee to perform tasks unrelated to the challenge until the challenge is resolved;

(4) Provide that the railroad or employer may direct an employee, other than the challenging employee, to perform the challenged task prior to the challenge being resolved as long as this other employee is informed of the challenge and does not also make a good faith determination that the challenged task would violate FRA regulations regarding the handling of equipment, switches, and fixed derails as required in this subpart, or a railroad's operating rules implementing the requirements of this subpart;

(5) Provide that a challenge may be resolved by:

(i) A railroad or employer officer's acceptance of the employee's request;

(ii) An employee's acceptance of the directive;

(iii) An employee's agreement to a compromise solution acceptable to the person issuing the directive; or

(iv) As further determined under paragraph (d) of this section.

(d) In the event that the challenge cannot be resolved because the person issuing the directive determines that the employee's challenge has not been made in good faith or there is no reasonable alternative to the direct order, the written procedures shall:

(1) Provide for immediate review by at least one officer of the railroad or employer, except for each railroad with less than 400,000 total employee work hours annually. This immediate review shall:

(i) Not be conducted by the person issuing the challenged directive, or that person's subordinate; and

(ii) Provide that a challenge may be resolved by using the same options available for resolving the challenge as the initial officer as well as the option described in paragraph (d)(2) of this section, except that the reviewing officer's decision shall not be subject to further immediate review, unless provided for in the railroad's or employer's written procedures;

(2) Provide that if the officer making the railroad's or employer's final decision concludes that the challenged directive would not cause the employee to violate any requirement of this subpart or the railroad's or employer's operating rule relied upon to fulfill the requirements of this subpart and directs the employee to perform the challenged directive, the officer shall further explain to the employee that Federal law may protect the employee from retaliation if the employee refuses to do the work and if the employee's refusal is a lawful, good faith act;

(3) Provide that the employee be afforded an opportunity to document electronically or in writing any protest

to the railroad or employer's final decision before the tour of duty is complete. The employee shall be afforded the opportunity to retain a copy of the protest;

(4) Provide that the employee, upon written request, has a right to further review by a designated railroad or employer officer, within 30 days after the expiration of the month during which the challenge occurred, for the purpose of verifying the proper application of the regulation, law, procedure or rule in question. The verification decision shall be made in writing to the employee.

(e) *Recordkeeping and record retention.* (1) A copy of the written procedures required by this section shall be retained at the employer or railroad's system headquarters and at each division headquarters, and made available to representatives of the FRA for inspection and copying during normal business hours.

(2) A copy of any written good faith challenge verification decision, made in accordance with paragraph (d)(4) of this section, shall be retained at the employer or railroad's system headquarters and at the division headquarters to which the employee was working when the challenge was initiated, and made available to representatives of the FRA for inspection and copying during normal business hours for at least one calendar year after expiration of the year during which the decision was issued.

(3) Each employer or railroad to which this subpart applies is authorized to retain by electronic recordkeeping the information prescribed in this subpart in accordance with the electronic recordkeeping standards set forth in § 217.9(g)(1) through (5) of this chapter.

§ 218.99 Shoving or pushing movements.

(a)(1) Each railroad shall adopt and comply with an operating rule which complies with the requirements of this section. When any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section.

(2) The following requirements for shoving or pushing movements do not apply to rolling equipment intentionally shoved or pushed to permit the rolling equipment to roll without power attached, i.e., free rolling equipment, during switching activities known as kicking, humping, or dropping cars.

(b) *General movement requirements.*—(1) *Job briefing.* Rolling

equipment shall not be shoved or pushed until the locomotive engineer participating in the move has been briefed by the employee who will direct the move. The job briefing shall include the means of communication to be used between the locomotive engineer and the employee directing the move and how point protection will be provided.

(2) *No unrelated tasks.* During the shoving or pushing movement, the employee directing the movement shall not engage in any task unrelated to the oversight of the shoving or pushing movement.

(3) *Point protection.* When rolling equipment or a lite locomotive consist is shoved or pushed, point protection shall be provided by a crewmember or other qualified employee by:

(i) Visually determining that the track is clear. The determination that the track is clear may be made with the aid of monitored cameras or other technological means, provided that it and the procedures for use provide an equivalent level of protection to that of a direct visual determination by a crewmember or other qualified employee properly positioned to make the observation as prescribed in this section and appendix D to this part; and

(ii) Giving signals or instructions necessary to control the movement.

(c) *Additional requirements for remote control movements.* All remote control movements are considered shoving or pushing movements, except when the remote control operator controlling the movement is riding the leading end of the leading locomotive in a position to visually determine conditions in the direction of movement. In addition to the other requirements of this section,

(1) When initiating a remote control shoving or pushing movement:

(i) The remote control operator shall visually determine the direction the equipment moves; or

(ii) A member of the crew shall visually determine the direction the equipment moves and confirm the direction with the remote control operator. If no confirmation is received, the movement shall be immediately stopped; and

(2) If technology is relied upon, whether primarily or as a safeguard, to provide pull-out protection by preventing the movement from exceeding the limits of a remote control zone, the technology shall be demonstrated

(i) To be failsafe; or

(ii) To provide suitable redundancy to prevent unsafe failure.

(d) *Remote control zone, exception to track is clear requirements.* After an

initial track is clear determination has been made in an activated remote control zone, it is not necessary to make a new determination prior to each subsequent shoving or pushing movement provided that:

(1) The controlling locomotive of the remote control movement is on the leading end in the direction of movement, i.e., the movement occurs on the pull-out end;

(2) The remote control zone is not jointly occupied; and

(3) The initial determination was made by a crewmember of either:

(i) The remote control crew;

(ii) A relieved remote control crew who has transferred the remote control zone directly to the relieving crew; or

(iii) The last jointly occupying crew who directly communicates, i.e., not through a third party, to a remote control crewmember that the remote control zone is no longer jointly occupied and meets the requirements for track is clear.

(e) *Operational exceptions.* A railroad does not need to comply with paragraphs (b) through (d) of this section in the following circumstances:

(1) Push-pull operations when operated from the leading end in the direction of movement, i.e., push mode;

(2) Shoving or pushing operations with manned helper locomotives or distributed power locomotives assisting a train when the train is being operated from the leading end in the direction of movement;

(3) During the performance of roadway maintenance activity under the direct control of a roadway worker performing work in accordance with railroad operating rules specific to roadway workers; or

(4) When the leading end of a shoving movement is on a main track or signaled siding, under the following conditions:

(i) The train dispatcher gives authority or permission to make the movement and verifies that:

(A) Another movement or work authority is not in effect within the same or overlapping limits unless conflicting movements are protected; and

(B) A main track is not removed from service by a work authority within the same or overlapping limits;

(ii) Movement is limited to the train's authority;

(iii) Movement shall not be made into or within yard limits, restricted limits, drawbridges, or work authority limits;

(iv) Movement shall not enter or foul a highway-rail grade crossing or pedestrian crossing except when:

(A) Crossing gates are in the fully lowered position; or

(B) A designated and qualified employee is stationed at the crossing and has the ability to communicate with trains; or

(C) At crossings equipped only with flashing lights or passive warning devices, when it is clearly seen that no traffic is approaching or stopped at the crossing and the leading end of the movement over the crossing does not exceed 15 miles per hour; and

(v) Movement shall not be made into or within interlocking limits or controlled point limits unless the following conditions are met:

(A) The signal governing movement is more favorable than restricting aspect;

(B) Each signal governing movement into and through interlocking limits or controlled point limits shall be continuously observed by a member of that crew who is in a position to determine that the train's movement has occupied the circuit controlling that signal as evidenced by that signal assuming its most restrictive aspect; and

(C) The movement does not exceed the train's length.

§ 218.101 Leaving rolling and on-track maintenance-of-way equipment in the clear.

(a) Each railroad shall adopt and comply with an operating rule which complies with the requirements of this section. When any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section.

(b) Rolling and on-track maintenance-of-way equipment shall not be left where it will foul a connecting track unless:

(1) The equipment is standing on a main track and a siding track switch that the equipment is fouling is lined for the main track on which the equipment is standing; or

(2) The equipment is standing on a siding and a main track switch that the equipment is fouling is lined for the siding on which the equipment is standing; or

(3) The equipment is standing on a yard switching lead track, and the yard track switch that the equipment is fouling is lined for the yard switching lead track on which the equipment is standing; or

(4) The equipment is on an industry track beyond the clearance point of the track leading to the industry.

(c) Each railroad shall implement procedures that enable employees to identify clearance points and a means to identify locations where clearance

points will not permit a person to safely ride on the side of a car.

§ 218.103 Hand-operated switches, including crossover switches.

(a)(1) Each railroad shall adopt and comply with an operating rule which complies with the requirements of this section. When any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section.

(2) Each railroad shall specify minimum requirements necessary for an adequate job briefing.

(b) *General.* Employees operating or verifying the position of a hand-operated switch shall:

(1) Conduct job briefings, before work is begun, each time a work plan is changed, and at completion of the work;

(2) Be qualified on the railroad's operating rules relating to the operation of the switch;

(3) Be individually responsible for the position of the switch in use;

(4) Visually determine that switches are properly lined for the intended route and that no equipment is fouling the switches;

(5) Visually determine that the points fit properly and the target, if so equipped, corresponds with the switch's position;

(6) After operating a switch and before making movements in either direction over the switch, ensure that the switch is secured from unintentional movement of the switch points;

(7) Ensure that a switch is not operated while rolling and on-track maintenance-of-way equipment is fouling the switch, or standing or moving over the switch; and

(8) After operating a switch, ensure that when not in use, each switch is locked, hooked, or latched, if so equipped.

(c) Rolling and on-track maintenance-of-way equipment shall not foul a track until all hand-operated switches connected with the movement are properly lined, or in the case of hand-operated switches designed and permitted to be trailed through, until the intended route is seen to be clear or the train has been granted movement authority. When a conflicting movement is approaching a hand-operated switch, the track shall not be fouled or the switch operated.

(d) When rolling and on-track maintenance-of-way equipment has entered a track, the hand-operated switch to that track shall not be lined

away from the track until the equipment has passed the clearance point of the track.

§ 218.105 Additional operational requirements for hand-operated main track switches.

(a) Each railroad shall adopt and comply with an operating rule which complies with the requirements of this section. When any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section.

(b) *Designating switch position.* The normal position of a hand-operated main track switch shall be designated by the railroad in writing and the switch shall be lined and locked in that position when not in use except when:

(1) The train dispatcher directs otherwise with respect to the position of a hand-operated main track switch and the necessary protection is provided; or

(2) The hand-operated switch is left in the charge of a crewmember of another train, a switchtender, or a roadway worker in charge.

(c) *Additional job briefing requirements for hand-operated main track switches.*

(1) Before a train or a train crew leaves the location where any hand-operated main track switch was operated, all crewmembers shall have verbal communication to confirm the position of the switch.

(2) In the case of exclusive track occupancy authority established under § 214.321, foul time under § 214.323, or train coordination under § 214.325, when a roadway worker qualified to operate hand-operated main track switches is granted permission by the roadway worker in charge to occupy or otherwise use the limits of the exclusive track occupancy, such employee receiving permission to occupy the working limits shall report the position of any such switches operated upon expiration of the authority limits to the roadway worker in charge or to a designated intermediary employee who shall convey the switch position to the roadway worker in charge.

(d) *Releasing Authority Limits.* In non-signaled territory, before an employee releases the limits of a main track authority and a hand-operated switch is

used to clear the main track, and, prior to departing the switch's location, the following conditions are required:

(1) The employee releasing the limits, after conducting a job briefing in accordance with this subpart, shall report to the train dispatcher that the hand-operated main track switch has been restored to its normal position and locked, unless the train dispatcher directs that the hand-operated main track switch be left lined and locked in the reverse position and the necessary protection is provided;

(2) If the report of the switch position is correct, the train dispatcher shall repeat the reported switch position information to the employee releasing the limits and ask whether that is correct; and

(3) The employee releasing the limits shall then confirm to the train dispatcher that this information is correct.

§ 218.107 Additional operational requirements for hand-operated crossover switches.

(a) Each railroad shall adopt and comply with an operating rule which complies with the requirements of this section. When any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section.

(b) *Hand-operated crossover switches, generally.* Both hand-operated switches of a crossover shall be properly lined before rolling and on-track maintenance-of-way equipment begins a crossover movement. A crossover movement shall be completed before either hand-operated crossover switch is restored to normal position.

(c) *Correspondence of hand-operated crossover switches.* Hand-operated crossover switches shall be left in corresponding position except when:

(1) Used to provide blue signal protection under § 218.27 of this part; or

(2) Used for inaccessible track protection under § 214.327 of this chapter; or

(3) Performing maintenance, testing or inspection of crossover switches in traffic control system (TCS) territory; or

(4) One crew is using both tracks connected by the crossover during continuous switching operations.

§ 218.109 Hand-operated fixed derails.

(a)(1) Each railroad shall adopt and comply with an operating rule which complies with the requirements of this section. When any person including, but not limited to, each railroad, railroad officer, supervisor, and employee violates any requirement of an operating rule which complies with the requirements of this section, that person shall be considered to have violated the requirements of this section.

(2) Each railroad shall specify minimum requirements necessary for an adequate job briefing.

(b) *General.* (1) The normal position of fixed derails is in the derailing position except as provided in part 218, subpart B of this chapter, or the railroad's operating rules or special instructions.

(2) Fixed derails shall be kept in the derailing position whether or not any rolling and on-track maintenance-of-way equipment is on the tracks they protect, except as provided in paragraph (b)(1) of this section or when changed to permit movement.

(3) Movement must not be made over a fixed derail in the derailing position.

(c) Employees operating or verifying the position of a fixed derail shall:

(1) Conduct job briefings, before work is begun, each time a work plan is changed, and at completion of the work;

(2) Be qualified on the railroad's operating rules relating to the operation of the derail;

(3) Be individually responsible for the position of the derail in use;

(4) Determine that the target, if so equipped, corresponds with the derail's position;

(5) Determine that the derail is secured by:

(i) Placing the throw lever in the latch stand, if so equipped;

(ii) Placing the lock or hook in the hasp, if so equipped; and

(iii) Testing such latches, locks or hooks; and

(6) Ensure that when not in use, derails are locked, hooked, or latched in the normal position if so equipped.

■ 12. Appendix A to part 218 is amended by adding entries for subpart F, consisting of §§ 218.95, 218.97, 218.99, 218.101, 218.103, 218.105, 218.107 and 218.109, to read as follows:

APPENDIX A TO PART 218—SCHEDULE OF CIVIL PENALTIES

Section	Violation	Willful violation
Subpart F—Handling Equipment, Switches and Derails: 218.95 Instruction, Training, and Examination:		
(a) Program	9,500–12,500	13,000–16,000
(b) Records	7,500	11,000
(c) Failure to timely or appropriately amend program after disapproval	9,500–12,500	13,000–16,000
218.97 Good Faith Challenge Procedures:		
(a) Employee Responsibility Failure		5,000
(b) through (d) Failure to adopt or implement procedures	7,500	
218.99 Shoving or Pushing Movements:		
(a) Failure to implement required operating rule	9,500	
(b) Failure to conduct job briefing, use a qualified employee, or establish proper protection	7,500–9,500	11,000–13,000
(c) Failure to observe equipment direction	9,500	13,000
(d) Failure to properly establish point protection within a remote control zone	9,500	13,000
(e) Failure to abide by operational exception requirements	9,500	13,000
218.101 Leaving Equipment in the Clear:		
(a) Failure to implement required operating rule	9,500	
(b) Equipment left improperly fouling	9,500	13,000
(c) Failure to implement procedures for identifying clearance points	9,500	13,000
218.103 Hand-operated switches, including crossover switches:		
(a) Failure to implement required operating rule	9,500	
(b) through (d) Railroad and employee failures	7,500	
218.105 Additional operational requirements for hand-operated main track switches:		
(a) Failure to implement required operating rule	9,500	
(b) and (c) Railroad and employee failures	7,500	11,000
(d) Failure to properly release authority limits	12,500	
218.107 Additional operational requirements for hand-operated crossover switches:		
(a) Failure to implement required operating rule	9,500	
(b) and (c) Railroad and employee failures	7,500	11,000
218.109 Hand-operated fixed derails:		
(a) Failure to implement required operating rule	9,500	13,000
(b) and (c) Railroad and employee failures	7,500	11,000

■ 13. Appendix D to Part 218 is added to read as follows:

Appendix D to Part 218—Requirements and Considerations for Implementing Technology Aided Point Protection

Introduction

This appendix provides further explanation and requirements for exercising the option to provide point protection with the aid of technology as permitted in § 218.99(b)(3)(i). The regulation permits the visual determination necessary to provide point protection, i.e., a determination that the track is clear, for a shoving or pushing movement to “be made with the aid of monitored cameras or other technological means, provided that it and the procedures for use provide an equivalent level of protection to that of a direct visual determination by a crewmember or other qualified employee properly positioned to make the observation as prescribed in this section and appendix D to this part.” This appendix addresses the general requirements and considerations for all technology aided point protection as well as specific additional requirements for those operations involving remote control operations at public highway-rail grade crossings, private highway-rail grade crossings outside the physical confines of a railroad yard, pedestrian crossings outside the physical confines of a railroad yard, and yard Access Crossings.

I. General Requirements and Considerations

A. Although railroading is now one of the nation's older forms of mechanized transportation, equipment, components and operations all have evolved through new and improved technologies. Installing cameras in yards so that a location could be remotely monitored from somewhere else has become a railroading reality as cameras have become smaller, less expensive, and have increased resolution. It is possible to set up these cameras and monitors so that they provide at least an equivalent level of safety to that of an employee protecting the point. Part 218, subpart F permits such an operation to substitute for an employee's direct visual determination where the technology provides an equivalent level of protection to that of a direct visual determination. *See* § 218.99(b)(3)(i). Of course, to provide an equivalent level of protection, an employee needs to be properly qualified (*see* § 218.95(a)(2)) and the technology must work as intended. Most malfunctions of the technology should be detectable, and result in abandoning the use of the technology for determining point protection until the malfunction can be corrected.

B. The substitution of such technology for a direct visual determination is dependent on many factors. Each situation will have its own particular factual circumstances that shall require consideration in determining whether an equivalent level of safety can be achieved. For instance, with regard to the basic camera setup, a railroad shall consider whether an operator must see in color

(largely a necessity if viewing signals), the width of the angle of view, the size and location of the monitor, whether the technology is for day-time use only, and whether its use should be limited to fair weather conditions. However, under all circumstances, the monitor shall display sufficient information to enable the viewer to make a determination that the track ahead of the shoving or pushing move is clear pursuant to the definition of “track is clear” in § 218.93.

C. Each railroad that chooses to implement such camera/monitor setups shall implement attendant procedures and qualify each employee who will be utilizing the technology. Railroads shall ensure that any monitored camera has sufficient resolution and real time coverage to provide protection equal to a direct visual determination. *See* § 218.99(b)(3)(i). Concerning attendant procedures, one such procedure may be for an employee viewing a monitor to communicate updates to the locomotive engineer or controlling crewmember at appropriate intervals. FRA equates the employee monitoring the camera to the employee controlling the movement who must not engage in any task unrelated to the oversight of the movement; thus, each railroad utilizing such cameras shall implement attendant procedures limiting any of the monitoring employee's ancillary duties that might distract from the employee's ability to visually determine that the track is clear and provide continuous communication to the employee controlling the movement.

D. There is also the consideration of whether the person viewing the monitor is

the locomotive engineer, remote control operator, other crewmember or other qualified person, such as a yardmaster. If the monitor is not being viewed by the operator who is controlling the movement, then, there shall be a clear understanding and channel of communication between the operator and the employee who is viewing the monitor—as the latter would be protecting the movement. Providing an equivalent level of protection to that of a direct visual determination requires a thorough job briefing in which there is an understanding of who is observing the movement, what is the observer's range of vision, at what locomotive speed can the observation be made and how information will be conveyed to the operator/engineer, if that person is not the one viewing the monitor.

E. There may be occasions when a railroad finds it advantageous to use a non-crewmember, e.g., a yardmaster, to provide point protection, line switches, or check the status of a derail for a remote control crew; however, several potential problems may result when non-crewmembers are used to carry out some crewmember functions. Of foremost concern is the great potential for an error in communication or a misunderstanding between the non-crewmember and the crewmembers regarding the activity or status of equipment. A yardmaster who is occupied with his or her other responsibilities might not give the task the attention it deserves, or could be distracted and give an incorrect answer to a question by a crewmember (e.g., “is the move lined?”). The result could be that the task does not get completed or there is an error in task execution. Further, the crewmembers might not have any alternative way of determining that there is a problem with the point protection provided by the non-crewmember until it is too late. Consequently, to the extent they will be called upon to perform these duties, each railroad shall include yardmasters and other non-crewmembers in any operating rule promulgated in accordance with § 218.99(b)(2).

II. Additional Requirements for Remote Control Locomotive Operations at Highway-Rail Grade Crossings, Pedestrian Crossings, and Yard Access Crossings

A. In addition to the general requirements and considerations for all technology aided point protection in lieu of direct visual determinations, additional requirements are necessary to address concerns specific to the use of camera/monitor setups for remote control locomotive operations to protect the point at highway-rail grade crossings, pedestrian crossings, and yard access crossings. Railroad operating rules currently permit a movement to travel over a crossing without the physical presence of a crewmember if a crossing is equipped with gates, if it can be determined that the gates are in the fully lowered position, and if the crossing is clear of vehicles and pedestrians. Remote control movements at highway-rail grade crossings, pedestrian crossings, and yard access crossings that utilize camera/monitor setups pose a greater direct risk to members of the general public than yard

movements utilizing camera/monitor setups to check whether a track is clear. In addition, such setups can rapidly develop problems with motor vehicles and pedestrians unaccustomed to railroad operating rules and procedures. For these reasons, additional safeguards are necessary.

B. In consideration of the dangers posed by the use of camera/monitor setups for remote control locomotive operations at highway-rail grade crossings, pedestrian crossings, and yard access crossings, the following procedures shall be complied with in order to establish an equivalent means of safety in accordance with § 218.99(b)(3)(i):

1. Before camera-assisted remote control locomotive operations are permitted at highway-rail grade crossings, pedestrian crossings, and yard access crossings, a Crossing Diagnostic Team shall evaluate the crossing. The diagnostic team shall have representatives from the railroad, FRA, the State department of transportation (or another State agency having jurisdiction over the highway-rail grade crossing, pedestrian crossing, or yard access crossing), and local government authorities. The diagnostic team shall evaluate the suitability of each crossing for remote camera operations. Among the factors it shall consider are the following: the average annual daily traffic counts; the number of highway lanes; highway speed limits; the presence of adjacent signalized highway intersections; the number of railroad tracks; the angle of the roadway intersection; the volume of school bus, transit bus, emergency vehicle, commercial motor vehicle, and hazardous materials traffic over the crossing; the minimum remote control locomotive operator sight distances of roadway approaches to the crossing; and other relevant factors that could affect the safety of the crossing. The diagnostic team shall also consider the appropriate number of cameras and appropriate camera angles needed to provide for the remote operation of remote control locomotives over the crossing. The diagnostic team shall agree to a written diagnostic evaluation summary of the factors considered and shall provide the railroad with agreed upon parameters by which the camera-assisted remote control operation may continue in operation if the factors required for suitability change; thus, any change in the factors considered by the diagnostic team outside of the acceptable parameters shall require the railroad to receive a revised evaluation approval from a diagnostic team before continuing any such operation. In addition, any of the Federal, State, or local governmental authorities may trigger review of a prior evaluation approval at any time there is a question of the suitability of the operation. It is possible that, of the requirements listed below, requirements numbered 2, 4, 5, and 6 would be unnecessary at highway-rail grade crossings or yard access crossings equipped with approved supplemental safety devices (see 49 CFR part 222, app. A) that prevent motorists from driving around lowered gates; under such circumstances, the diagnostic team shall make such determinations. If a Crossing Diagnostic Team, as described in this paragraph, evaluated a crossing for the factors described herein, prior to April 14,

2008, another diagnostic team evaluation is not required to comply with this rule; however, the requirements listed below shall still apply to any such remotely controlled movements over that crossing.

2. Camera-assisted remote control locomotive operations shall only be permitted at crossings equipped with flashing lights, gates, and constant warning time train detection systems where appropriate, based on train speeds.

3. A crewmember or other qualified employee shall not view the monitor in place of the remote control operator, as is permitted for other shoving or pushing movements. See § 218.99(b)(3). For purposes of remote control locomotive operations with camera/monitor setups to protect the point at highway-rail grade crossings, pedestrian crossings, and yard access crossings, the remote control operator controlling the movement shall view the monitor during such operations.

4. The cameras shall be arranged to give the remote control locomotive operator controlling the movement a view of the rail approaches to the crossing from each direction so that the operator can accurately judge the end of the movement's proximity to the crossing.

5. The cameras shall be arranged to give the remote control locomotive operator a clear view to determine the speed and driver behavior (e.g., driving erratically) of any approaching motor vehicles.

6. Either the camera resolution shall be sufficient to determine whether the flashing lights and gates are working as intended or the crossing shall be equipped with a remote health monitoring system that is capable of notifying the remote control locomotive operator immediately if the flashing lights and gates are not working as intended.

7. The railroad shall notify the Associate Administrator for Safety in writing when this type of protection has been installed and activated at a crossing.

III. Conclusion

The technology used to aid point protection will undoubtedly develop and improve over time. FRA encourages the use and development of this technology as is evidenced by the option in this rule to utilize such technology. Meanwhile, as a regulating body, FRA cannot determine whether a new technology to aid point protection provides an equivalent level of protection to that of a direct visual determination unless we are made aware of the new technology. Consequently, aside from the camera/monitor setups described in this appendix, each railroad that intends to implement a technology used to aid point protection shall notify the Associate Administrator for Safety in writing of the technology to be used prior to implementation.

Issued in Washington, DC, on January 29, 2008.

Joseph H. Boardman,
Administrator.

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