



4910-06-P

## DEPARTMENT OF TRANSPORTATION

### Federal Railroad Administration

#### 49 CFR Parts 234, 235, and 236

[Docket No. FRA-2011-0061, Notice No. 1]

RIN 2130-AC32

#### Positive Train Control Systems (RRR)

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

**ACTION:** Notice of proposed rulemaking.

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**SUMMARY:** FRA proposes amendments to regulations implementing a requirement of the Rail Safety Improvement Act of 2008 that certain passenger and freight railroads install positive train control (PTC) systems. The proposal would revise the regulatory provisions related to the de minimis exception to the installation of PTC systems generally, and more specifically, its application to yard-related movements. The proposal would also revise the existing regulations related to en route failures of a PTC system and discontinuances of signal systems once a PTC system is installed and make additional technical amendments to regulations governing grade crossing warning systems and signal systems, including PTC systems.

**DATES:** *Comments:* Written comments must be received by [INSERT DATE 60 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Comments received after that date will be considered to the extent possible without incurring additional expenses or delays.

*Hearing:* FRA anticipates being able to resolve this rulemaking without a public hearing.

However, if prior to [INSERT DATE 30 DAYS FROM DATE OF PUBLICATION IN THE FEDERAL REGISTER], FRA receives a specific request for a public hearing, a hearing will be

scheduled and FRA will publish a supplemental notice in the Federal Register to inform interested parties of the date, time, and location of such hearing.

**ADDRESSES:** Comments: Comments related to Docket No. FRA-2011-0061, may be submitted by any of the following methods:

- Web Site: Comments should be filed at the Federal eRulemaking Portal, <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE, W12-140, Washington, DC 20590.
- Hand Delivery: Room W12-140 on the Ground level of the West Building, 1200 New Jersey Avenue SE, Washington, DC between 9 a.m. and 5 p.m. Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name and docket number or Regulatory Identification Number (RIN) for this rulemaking. Note that all comments received will be posted without change to <http://www.regulations.gov> including any personal information. Please see the Privacy Act heading in the “Supplementary Information” section of this document for Privacy Act information related to any submitted comments or materials.

Docket: For access to the docket to read background documents or comments received, go to <http://www.regulations.gov> at any time or to Room W12-140 on the Ground level of the West Building, 1200 New Jersey Avenue SE, Washington, DC between 9 a.m. and 5 p.m. Monday through Friday, except Federal Holidays.

**FOR FURTHER INFORMATION CONTACT:**

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**SUPPLEMENTARY INFORMATION:**

FRA is issuing this proposed rule to provide additional regulatory guidance and flexibility for the implementation of Positive Train Control (PTC) systems by railroads as mandated by the Railroad Safety Improvement Act of 2008 § 104, Pub. L. 110-432, 122 Stat. 4854, (Oct. 16, 2008) (codified at 49 U.S.C. 20157) (hereinafter “RSIA”).

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**I. Executive Summary**

For years, FRA has supported the nationwide proliferation and implementation of positive train control (PTC) systems, forecasting substantial benefits of advanced train control technology in supporting a variety of business and safety purposes. As such, in 2005, FRA promulgated regulations providing for the voluntary implementation of processor-based train control systems. See 70 FR 11,052 (Mar. 7, 2005) (codified at 49 CFR part 236, subpart H). However, implementation was not mandated by FRA due to the fact that the costs for the systems far outweighed the possible benefits at that time.

Partially as a consequence of certain very severe railroad accidents, coupled with a series of other less serious accidents, Congress passed the Rail Safety Improvement Act of 2008 § 104, Public Law 110–432, 122 Stat. 4854 (Oct. 16, 2008) (codified at 9 U.S.C. 20157) (hereinafter “RSIA”) mandating the implementation of PTC systems by December 31, 2015, on lines meeting certain thresholds. RSIA requires PTC system implementation on all Class I railroad lines that carry poison- or toxic-by-inhalation hazardous (PIH or TIH) materials and 5 million gross tons or more of annual traffic, and on any railroad’s main line tracks over which intercity or commuter rail passenger train service is regularly provided. In addition, RSIA provided FRA with the authority to require PTC system implementation on any other line.

In accordance with the statutory mandate, FRA issued a final rule on January 15, 2010, and clarifying amendments on September 27, 2010. The final rule included various exceptions

from mandatory PTC system implementation. For instance, the de minimis exception was developed to provide railroads an opportunity to avoid PTC system implementation where the burdens of the regulation would yield a gain of trivial or no value. In accordance with its statutory authority, the final rule also included a limited operations exception for passenger operations or segments over which limited or no freight railroad operations occur.

In a petition for rulemaking dated April 22, 2011 (“Petition”), the Association of American Railroads (AAR) requested that FRA initiate a rulemaking to propose expanding the de minimis exception and otherwise amending the rules concerning the limited operations exception, en route failures of trains operating within PTC systems, and the discontinuance of signal systems once PTC systems were installed. AAR also requested that FRA develop a new exception that would allow unequipped trains associated with certain yard operations to operate within PTC systems.

In response to the Petition, FRA proposes here to make several changes to part 236, subpart I. With respect to the specific de minimis exception at 49 CFR § 236.1005(b)(4)(iii), FRA is proposing to modify the specific exception to raise the number of freight cars containing PIH materials from 100 cars to 200 cars and revise the grade limitation to be more consistent with the definition of “heavy grade” present in part 232. FRA is also proposing to remove the traffic limitation of 15 million gross tons from the general de minimis exception in paragraph (b)(4)(iii)(C), but not the categorical exception in paragraph (b)(4)(iii)(B). In response to AAR’s suggestions for a yard move exception, FRA proposes to add a yard movement de minimis exception that would authorize movements by unequipped locomotives over PTC-equipped main line track segments for the purpose of switching service or transfer train movements. FRA does not propose to create an additional limited operations exemption, nor does FRA propose to

remove oversight from signal system discontinuances or modify the default rules for resolving en route failures of a PTC system. However, FRA does propose to clarify that PTC equipment of non-controlling locomotives may be used to restore full PTC functionality to the consist. Finally, FRA proposes a number of technical amendments to the signal and grade crossing regulations of parts 234, 235, and 236.

For the first 20-years of the proposed rule, the estimated quantified benefits to society, due to the proposed regulatory changes, total approximately \$156 million discounted at 7 percent and \$211 million discounted at 3 percent. The largest components of the benefits come from reduced costs of PTC system wayside components because of proposed extensions of the de minimis risk exception under 49 CFR § 236.1005(b)(4)(iii)(B), and reduced costs of onboard PTC systems on locomotives operating in yard areas. A smaller benefit, independent of the other two benefits, comes from changes to the application process for a discontinuation or material modification of a signal system under 49 CFR part 235 where the application would have been filed as part of a PTC system installation. The following table presents the quantified benefits:

	Discount Factor	
	7 percent	3 percent
Applications Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$100,587,630	\$136,123,559
Onboard Installation Benefit	\$55,323,197	\$74,867,958
Total Benefit	\$156,308,146	\$211,438,443

For the same 20-year period, the estimated quantified cost totals \$360 thousand discounted at 7 percent and \$531 thousand discounted at 3 percent. The costs associated with the proposed regulatory relief result from a slight increase in accident avoidance risk. FRA was able to estimate the monetized costs affected by changes in the general de minimis provisions, but

was not able to estimate the costs of changes to the provision affecting locomotives in yard areas.

The following table presents the total quantified costs of the proposed rule:

	Discount Factor	
	7 percent	3 percent
Base Case	\$360,055	\$531,272
High Case	\$446,883	\$659,390
Low Case	\$273,227	\$403,155

FRA has also performed a sensitivity analysis for a high case (1,900 miles, 800 locomotives), base case (1,000 miles, 500 locomotives), and low case (100 miles, 200 locomotives).

The net benefit amounts for each case, subtracting the costs from the benefits, provide the following results:

	Discount Factor	
	7 percent	3 percent
Base Case	\$155,948,091	\$210,907,171
High Case	\$279,584,048	\$378,211,032
Low Case	\$32,312,133	\$43,603,310

The analysis indicates that the savings of the proposed action far outweigh the cost.

## **II. Background**

### **A. Regulatory History**

Congress passed RSIA into law on October 16, 2008, mandating PTC system implementation by December 31, 2015. To effectuate this goal, RSIA required the railroads to submit for FRA approval a PTC Implementation Plan (PTCIP) within 18 months (*i.e.*, by April 16, 2010).

On July 27, 2009, FRA published a notice of proposed rulemaking (NPRM) regarding the mandatory implementation and operation of PTC systems in accordance with RSIA. During the

comment period for that proceeding, CSX Transportation, Inc. (CSX) suggested that FRA create a de minimis exception to the requirement that lines carrying PIH materials traffic (but not applicable passenger traffic) be equipped with PTC systems.

The final rule, published on January 15, 2010, included a de minimis exception, since FRA believed that it contained significant merit and that it fell within the scope of the issues set forth in the proposed rule. However, since none of the parties had an opportunity to comment on this specific exception as provided in the final rule, FRA sought further comments on the extent of the de minimis exception. The further comments responsive to this issue were largely favorable, although AAR sought some further modification and clarification. In publishing its second PTC final rule on September 27, 2010, FRA decided to not further amend the de minimis exception based on the comments submitted.

In its Petition dated April 22, 2011, AAR requested that FRA initiate a rulemaking to propose expanding the de minimis exception and otherwise amending the rules concerning the limited operations exception, en route failures of trains operating with PTC systems, and the discontinuance of signal systems once PTC systems were installed. AAR also requested that FRA develop a new exception for allowing unequipped trains to operate on PTC lines during certain yard operations.

#### B. RSAC

On October 21, 2011, FRA held a meeting in Washington, DC with the PTC Working Group (PTC WG) to the Railroad Safety Advisory Committee (RSAC) to seek input and guidance concerning the issues raised in AAR's Petition and other technical amendments reflected herein. FRA facilitated and received valuable group discussion relating to each of the proposed amendments. The following analysis intends to present and address the principles

raised through that process, and FRA's resultant proposed rule amendments. While not specifically addressed herein, FRA is also considering a reorganization of the rule so that exceptions to PTC system implementation are no longer interspersed throughout, but are rather commingled together in their own section or sections.

### **III. Section-by-Section Analysis**

Unless otherwise noted, all section references below refer to sections in title 49 of the Code of Federal Regulations (CFR). FRA seeks comments on all proposals made in this NPRM.

#### **Proposed Amendments to 49 CFR Part 234**

##### Section 234.207      Adjustment, repair, or replacement of component.

Paragraph (b) of § 234.207 currently states: "Until repair of an essential component is completed, a railroad shall take appropriate action under § 234.105, Activation failure, § 234.106, Partial activation, or § 234.107, False activation, of this part." During training and enforcement actions, FRA has found the regulated entities to have misconceptions and misunderstandings regarding the response required under § 234.207. FRA believes that various regulated entities have misread paragraph (b) to indicate that the necessary response to any essential component of a highway-rail grade crossing warning system failing to perform its intended function is only applicable where the result of such failure is one of the three types of warning system malfunctions listed.

Accordingly, FRA is proposing language to clarify that defective conditions not resulting in a highway-rail grade crossing active warning system malfunction (i.e., an activation failure, partial activation, or false activation) need also be corrected without undue delay when the conditions and circumstances of the defective component negatively affects the system's proper functioning. The proposed language intends to make clear that the regulated entity must respond

in accordance with this section to any “essential component” failing to perform its intended function. The PTC WG did not express any specific concerns with this proposal.

Section 234.213      Grounds.

Section 234.213 currently indicates that each circuit that affects the proper functioning of a highway-rail grade crossing warning system shall be kept free of any ground or combination of grounds that will permit a current flow of 75 percent or more of the release value of any relay or electromagnetic device in the circuit.

With the migration of many warning systems, subsystems, and components from relay-based to microprocessor-based technologies, FRA believes that a more comprehensive indicator of prohibited current flow grounds is required. While the current threshold of 75 percent of the release value works well for relays and electromagnetic devices, it is apparent that the threshold needs to be refined to reflect the smaller current values associated with microprocessor-based technology. Therefore, FRA proposes to prohibit any ground or combination of grounds having a current flow of any amount which could adversely affect the proper safety-critical functioning of the warning system in order to better reflect the reality of microprocessor-based technology. There were no objections in the PTC WG to this proposal.

**Proposed Amendments to 49 CFR Part 235**

Section 235.7      Changes not requiring filing of application.

FRA proposes amending § 235.7, which currently allows specified changes within existing signal or train control systems to be made without the necessity of filing an application with FRA’s Associate Administrator for Safety. The amendment would provide each railroad a simplified process to obtain approval for modifications of existing signal systems in association with PTC system implementation.

Under § 235.7, a railroad may avoid filing an application for a broad variety of modifications to a signal system, so long as the resultant arrangement is in compliance with part 236. FRA recognizes that, during the process of installing the wayside PTC equipment, the railroads may have the resources and time available to implement needed or desired wayside signal system upgrades. Such modifications generally require FRA approval in accordance with § 235.5 and compliance with part 236. Given that the outcome of such modifications must be in compliance with part 236, FRA proposes to create an expedited approval process for modifications of the signal system by the installation, relocation, or removal of signals, interlocked switches, derails, movable-point frogs, or electronic locks in an existing system where the modification is directly associated with the implementation of PTC systems. Instead of filing an application for approval to FRA's Associate Administrator for Safety, a railroad would be permitted to instead submit its request to the FRA regional office that has jurisdiction over the affected territory, with a copy provided to representatives of signal employees, similar to the information provided under the provisions for pole line circuit elimination, § 235.7(c)(24)(vi). If the Regional Administrator for the appropriate regional office denies approval of the requested modification, the request would then be forwarded to the FRA Railroad Safety Board as an application for signal system modification. However, express approval from the Regional Administrator is necessary before the modifications may begin. The PTC WG expressed no concerns to this proposal.

### **Proposed Amendments to 49 CFR Part 236**

#### Section 236.0            Applicability, minimum requirements, and penalties.

FRA proposes removing paragraph (i), Preemptive effect. FRA believes that this section is unnecessary because 49 U.S.C. 20106 sufficiently addresses the preemptive effect of FRA's

regulations. Providing a separate Federal regulatory provision concerning the regulation's preemptive effect is duplicative and unnecessary.

Section 236.2            Grounds.

Mirroring § 234.213, § 236.2 currently provides that each circuit that affects the safety of train operations shall be kept free of any ground, or combination of grounds, that will permit a current flow of 75 percent or more of the release value of any relay or electromagnetic device in the circuit. For the same reasons provided in the discussion of § 234.213 above, FRA proposes to revise § 236.2 to prohibit any ground or combination of grounds having a current flow of any amount which could adversely affect the proper functioning of any safety-critical microprocessor-based equipment relied on for the proper functioning of a signal or train control system in order to better reflect the reality of microprocessor-based technology. There were no objections in the PTC WG to this amendment.

Section 236.15            Timetable instructions.

Section 236.15 presently requires that automatic block, traffic control, train stop, train control, and cab signal territory be designated in the timetable instructions. FRA believes that, since PTC technology is a form of train control, its designation is already required under this section. However, in the interest of providing more clarity, FRA proposes modifying § 236.15 to explicitly require the designation of PTC territory equally to other types of signal and train control systems in a railroad's timetable instructions. This addition would ensure that the identified specific types of signal and train control systems in operation on a railroad would be designated in its timetable. There were no objections to this proposal from the PTC WG.

Section 236.567            Restrictions imposed when device fails and/or is cut out en route.

Section 236.567, which applies to territories where “an automatic train stop, train control, or cab signal device fails and/or is cut out en route,” presently requires trains to proceed in a specified restrictive manner until the next available point of communication where a report must be made to a designated officer, and an absolute block can be and is established in advance of the train on which the device is inoperative. Upon an absolute block being established, a train is currently permitted to proceed at a speed not exceeding 79 miles per hour. The premise of this provision was the similarity between a manual block system and a train operating with an absolute block in advance of the train; § 236.0 previously allowed for train speeds up to 79 miles per hour within a manual block system. However, on January 17, 2012, manual block systems were no longer approved as a method of operation for freight trains operating at greater than 49 miles per hour or passenger trains operating at greater than 59 miles per hour under § 236.0(c)(2). See 75 FR 2598 at 2607. This change resulted in an inconsistency between § 236.0 and § 236.567, which was not contemporaneously revised. To rectify this inconsistency, FRA proposes to amend § 236.567 to properly reflect the amendment previously made to § 236.0 regarding allowable train speeds related to the use of an absolute block in advance of the train as a method of operation, by reducing the maximum allowable speed from 79 miles per hour to 59 miles per hour for passenger trains and 49 miles per hour for freight trains, as is the case for trains operating without a block signal system installed and operated in compliance with part 236. Where a block signal system is operational, the maximum allowable speed remains at 79 mph. The PTC WG had no objections to this change.

Because the harmonizing changes made the existing paragraph structure too complicated, FRA has reorganized the section with discrete paragraphs for each of the three operating phases: prior to the report to a designated officer, after the report but prior to the establishment of an

absolute block in advance of the train, and after the establishment of the absolute block. This reorganization does not change the meaning of § 236.567, except as discussed above.

Section 236.1005      Requirements for Positive Train Control systems.

Section 236.1005 specifies PTC system functionality and implementation requirements, and provides for certain exclusions and the temporary rerouting of unequipped trains on PTC equipped lines. The allowable exclusions of § 236.1005(b)(4)(iii) address lines with de minimis PIH materials risk based upon specified criteria that can be expected to result in a risk of release of PIH materials being negligible on the subject track segment. The current categorical criteria under paragraph (b)(4)(iii)(B) are:

- A minimal amount of PIH materials cars transported (less than 100 cars per year, either loads or residue);
- A train speed limitation of either Class 1 or 2 track as described in part 213;
- An annual 15 million gross tonnage traffic limit;
- A ruling grade of less than 1 percent; and
- A spacing requirement where any train transporting a car containing PIH materials (including a residue car) shall be operated under conditions of temporal separation from other trains.

A general de minimis exception under paragraph (b)(4)(iii)(C) may also be available for additional line segments carrying less than 15 million gross tons annually and where it is established to the satisfaction of the Associate Administrator that risk mitigations will be applied that will ensure that risk of a release of PIH materials is negligible.

In its Petition, AAR made certain proposals to modify these criteria, which are further discussed below. While FRA remains open to such modifications, any de minimis exception

must apply in a way where Congress' intent is met. In other words, such exceptions must only cover situations where "the burdens of regulation yield a gain of trivial or no value" and should apply not "to depart from the statute, but rather [as] a tool to be used in implementing the legislative design." Environmental Defense Fund, Inc. v. EPA, 82 F.3d 451, 466 (D.C. Cir. 1996) (inner quotations omitted); Alabama Power Co. v. Costle, 636 F.2d 323, 360-61 (D.C. Cir. 1979).

FRA continues to believe that de minimis exceptions may be available on low density main lines with minimal safety hazards that carry a truly minimal quantity of PIH materials. The preamble discussion to the final rule published January 15, 2010, focused primarily on the risks associated with PIH materials exposure. However, any de minimis exception must also consider the risks associated with the events that Congress intended PTC systems must be designed to prevent. In other words, when a de minimis exception applies, there must be de minimis risk that a train-to-train collision, overspeed derailment, incursion into a roadway worker zone, or movement over a switch in the wrong position may occur. See the definition of a PTC system in the RSIA, 49 U.S.C. 20157(i)(3).

After reviewing AAR's request internally and with the PTC WG, FRA hereby proposes to amend § 236.1005(b)(4)(iii) in accordance with the restrictions discussed below. FRA seeks comments on the following.

First, AAR proposes that the 100-car limit be only applicable to loaded, not residue, cars. While FRA is not opposed to some relaxation of this limit, the result must not introduce a situation where the risks associated with PIH materials exposure or the events PTC systems must be designed to prevent exceed a de minimis threshold. "Residue" is defined by the Pipeline and Hazardous Materials Safety Administration (PHMSA) to be "the hazardous material remaining

in a packaging, including a tank car, after its contents have been unloaded to the maximum extent practicable and before the packaging is either refilled or cleaned of hazardous material and purged to remove any hazardous vapors.” As a result, the amount of hazardous material in a residue car can vary significantly, and is generally non-trivial. Accordingly, such cars are still considered to contain hazardous materials for the purposes of PHMSA regulations. See generally 49 CFR parts 172-174. Given the wide range of what may be considered “residue” (including tank cars containing many thousands of gallons of material), and the potential for equally serious consequence should a PTC-preventable accident (PPA) result in the release of a PIH material that may be contained in such a car, FRA is instead proposing to amend this criteria so that the total number of cars transporting PIH materials annually on a track segment be limited to 200, to include both loaded and residue, with no more than two trains transporting PIH materials per day. The current rule text does not provide a daily train limitation. However, with the potential increase in PIH materials cars moving over a line under this proposal, FRA finds more pressing reasons to maintain an acceptable level of daily and annual PIH materials traffic density. Discussions in the PTC WG indicated that residue cars are generally transported along the same lines as the loaded cars, such that doubling the allowable number of cars will have a similar impact as excluding residue cars from the number, but will prevent the unusual occurrences that might result from ignoring residue cars altogether. FRA seeks comment on this assumption, the proposed daily limitation on trains transporting PIH materials, and the proposal that the car limit be increased to 200 cars containing PIH, both loaded and residue.

The de minimis exception, under 49 CFR § 236.1005(b)(4)(iii)(B)(1), currently limits maximum authorized train speed to that afforded for Class 1 (10 mph) or Class 2 (25 mph) tracks in order to reduce the kinetic energy available in any accident and to ensure that the forces

impinging on any involved PIH materials tank car be sustainable. AAR proposes that the regulation provide a speed limitation only for those trains transporting any PIH materials. More specifically, AAR proposes a speed restriction of 40 miles per hour (i.e., the same maximum authorized speed provided for certain rail-to-rail at-grade crossings under § 236.1005(a)(1)(i)), to be enforced by an “operational technique,” and only for trains carrying any PIH materials.

FRA is concerned that adherence to this 40 miles per hour restriction on such trains operating in higher-speed PTC territories will be dependent upon train handling by the train operator and that no onboard equipment would be utilized to provide the necessary warnings or enforcement. FRA has concerns regarding reliance on crew adherence to such a speed restriction, and other potential errors such as misunderstanding or miscommunication regarding the need for the restriction. Further, FRA is concerned that the risk of PIH materials release resulting from a collision or derailment at 40 miles per hour could be unacceptably higher than that at 25 miles per hour.

It should be noted that the current limitation on train speeds is not intended to totally eliminate the potential for collision or derailment, but rather is intended to significantly reduce the potential consequences by reducing the kinetic energy involved should such an event occur. Kinetic energy is the energy an object possesses when it is moving. During a normal stop that does not include a collision or derailment, most of the energy is absorbed in the brake system. But in a crash or derailment, that energy is suddenly, cataclysmically dissipated not by heating the brakes, but by the effects of crushing, tearing, and twisting of the vehicles involved. AAR

offers a research study from the University of Illinois at Urbana-Campaign<sup>1</sup> showing that the probability of a hazardous material release from a rail car decreases as a track's class increases. However, FRA would like to point out that, as the maximum authorized speed on a track segment increases, the potential severity of any accident increases quadratically, such that an increase in speed from 25 miles per hour to 40 miles per hour would increase the kinetic energy in a crash by a factor of over 2.5. For example, a 2,000-pound object traveling 25 miles per hour has approximately 42,000 foot-pounds of energy; that same object traveling at 40 miles per hour has approximately 107,000 foot-pounds of energy. Ultimately, while the study suggests that an increase in track class may reduce the probability of an accident, any accident that occurs with increased speed would likely result in more severe consequences. Accordingly, FRA is not proposing to modify the speed limitation. However, FRA welcomes comments further analyzing the feasibility of considering the application of a maximum authorized speed, rather than a track class, for all trains as an element of applying this regulatory exception.

The existing requirement in § 236.1005(a)(1)(i) for rail-to-rail at-grade crossings involving a PTC route intersecting with a non-PTC route imposes a maximum authorized speed of 40 miles per hour through the crossing. However, a maximum authorized speed exceeding 40 miles per hour is acceptable if the opposing non-PTC route maintains, among other things, a 20 miles per hour maximum authorized speed. For such instances, the categorical de minimis exception actually provides a higher maximum authorized speed.

Nevertheless, FRA does not view the provisions as directly comparable. If a side collision was to occur in the case of a rail-to-rail at-grade crossing, the force of the side-impacted

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<sup>1</sup> Athaphon Kawprasert and Christopher P. L. Barkan, *Effect of Train Speed on Risk Analysis of Transporting Hazardous Materials by Rail*, 2159 Transportation Research Record 59 (Dec. 2010), available at <http://trb.metapress.com/content/7682666175324228>.

train is not opposing the force of the impacted train, and as such the cars of the impacted train are not subject to the same degree of immediate deceleration as occurs in a head-to-head collision. As a result, the kinetic energy of both the impacting train and the side-impacted train has a longer time period to be absorbed, significantly reducing the potential severity of the collision. By contrast, in a head-on collision, the force of one train is met by an opposing force from the other train. As a result, both trains are subject to immediate deceleration with energy dissipating in large part through damage to both trains. Such collisions have a much greater potential severity than side collisions. Accordingly, FRA is not willing to accept AAR's comparison of the speed restrictions at rail-to-rail at-grade crossings to speed restrictions necessary to qualify for the categorical de minimis risk exception.

AAR proposes that lines eligible for the de minimis risk exception be restricted to grades that are not "heavy grades" as defined by FRA in part 232. According to § 232.407(a)(1), heavy grade means:

- (i) for a train operating with 4,000 trailing tons or less, a section of track with an average grade of two percent or greater over a distance of two continuous miles; and
- (ii) for a train operating with greater than 4,000 trailing tons, a section of track with an average grade of one percent or greater over a distance of three continuous miles.

The steeper the grade, the more susceptible an operation becomes to concerns relating to train handling, overspeed, and other factors that may contribute to a PPA. FRA believes that placing a limit on ruling grade helps to avoid any situation in which an engineer may lose control of a train as a result of a failure to invoke a timely and sufficiently strong brake application.

While FRA views the allowance for heavy grade as proposed by AAR as potentially acceptable, the criteria in § 232.407 depends on the trailing tonnage of trains, which makes it

difficult to apply to track segments independent of specific train movements. Accordingly, FRA proposes using a definition of heavy grade applicable to all trains: an average grade of one percent or greater over a distance of three miles. The alternative criteria of heavy grade in § 232.407, a section of track with an average grade of two percent or greater over a distance of two continuous miles, applies only to trains operating with 4,000 trailing tons or less. While the train-specific nature of this criteria precludes its use as part of the categorical de minimis exception, a railroad may instead seek a de minimis exception for a track segment meeting this less-restrictive criteria under the general de minimis exception in paragraph (b)(4)(iii)(C).

As an additional risk mitigation, AAR recommends strengthening operating practices protecting against unauthorized incursions into roadway work zones on track segments that have received approval to avoid PTC system implementation under the de minimis risk provision. AAR proposes that—in the case of a train approaching working limits on a line subject to the de minimis exception—the train crew be required to call the roadway worker in charge at a minimum distance of two miles in advance of the working limits to advise of the train's approach. If the train crew does not have knowledge of the working limits prior to approaching within two miles of the working limits or if it is impracticable to provide notification two miles in advance, such as if the working limits are less than two miles from the initial terminal, AAR proposes that the train crew would be required to call the roadway worker in charge as soon as practicable.

FRA appreciates AAR's proposal to add this criteria. However, FRA believes that it is not significantly different from existing railroad operating rules, upon which FRA already expects compliance. Any differences between the existing operating rules and AAR's proposal

are minimal and may only cause confusion. FRA believes that AAR's proposal does not warrant adoption within the federal requirements and is therefore not proposing it in this NPRM.

AAR recommends that FRA modify the temporal separation provision contained in § 236.1005(b)(4)(iii)(B)(4). The de minimis provision in the rule requires that trains transporting PIH materials be "operated under conditions of temporal separation from other trains."

Temporal separation has long been defined as meaning that trains do not operate on any segment of shared track during the same period. FRA continues to believe that the use of exclusive authorities under mandatory directives is an insufficient alternative to positive train control operation. AAR recommends modification of the temporal separation provision to permit an alternative means of achieving the same or greater risk reduction. AAR suggests that such alternative means should include clarification that emptying the block ahead of and behind a PIH materials train constitutes temporal separation and that it does not mean that when such trains are operating, no other train can be operated on the line. This procedure does not constitute "temporal separation" as FRA has previously defined the term, such as in 49 CFR part 211, appendix A, stating FRA's policy concerning waivers related to shared use of trackage by light rail and conventional operations. To avoid conflicting definitions, FRA is not in favor of establishing a different meaning of "temporal separation" in the context of this regulation. However, FRA does seek comment from all interested parties on the underlying method of operation, using absolute blocks ahead of and behind a PIH materials train as a means of providing the necessary protection against PPAs, especially with respect to the potential for human error. FRA points out that § 236.1005(b)(4)(iii)(C) already provides railroads with the opportunity to submit such alternative means (for line segments of less than 15 million gross tons) for approval by the Associate Administrator. FRA believes that this provision sufficiently

addresses AAR's concern and does not propose amendment of the rule in accordance with AAR's suggestion.

FRA further believes that beyond the categorical exception provided in paragraph (b)(4)(iii)(B), a railroad may alternatively seek a de minimis exception under existing paragraph (b)(4)(iii)(C) for track segments that annually carry less than 15 million gross tons. With this regulatory option, railroads may offer, and FRA may consider, mitigations tailored to particular circumstances to ensure a negligible risk. FRA would evaluate the submittal and, if satisfied that the proffered mitigations would be successful, approve the exception of the line segment. FRA notes that various elements of PTC technology may in some cases provide the means for accomplishing this goal; for instance, a railroad may choose to submit a plan using intermittent data radios and PTC-equipped locomotives in order to enforce track warrants and temporary speed restrictions.

AAR recommends that if the other criteria for de minimis exceptions are met, the amount of traffic on the line should not disqualify it from eligibility from the exemption. AAR points to existing § 236.1005(b)(4)(iii)(C), which provides that FRA will "consider" relief from the obligation to install PTC systems on line segments with annual traffic levels under 15 million gross tons where the risk of a release of PIH materials is "negligible." AAR suggests eliminating the 15 million gross tons limit contained in this provision. Moreover, AAR contends that it is unclear what constitutes a "negligible" risk and what discretion FRA would exercise should there be a showing of negligible risk. AAR further requests that FRA set a quantitative threshold for negligible risk, and suggests "one-in-a-million" as the criterion. AAR references standard MIL-STD-882C as the basis for such criterion.

With respect to paragraph (b)(4)(iii)(B), FRA has endeavored to address AAR's concerns with a provision that is broad enough to permit considerations of actual circumstances, limit this exception to railroads that would not otherwise need to install PTC systems, and make explicit reference to the requirement for potential safety mitigations. FRA has chosen 15 million gross tons as a threshold where mitigations are in place or could be put in place to establish a high sense of confidence that operations will continue to be conducted safely. In the context of the default provisions under paragraph (b)(4)(iii)(B), FRA has concern that eliminating the traffic density criteria would result in an exception being outside the scope of the de minimis risk. The derailment data cited by AAR is only a portion of the data that needs to be considered. FRA also recognizes the potential for a higher density line not being eligible for this exemption even though it may have fewer than 200 PIH materials cars on the line in a year. Consequently, FRA is not proposing to amend this limitation but is open to the possibility of considering some risk evaluation factors in lieu of a prescriptive train density limitation. FRA seeks comment from all interested parties on the existing 15 million gross tons density threshold and the suggested alternative of risk evaluation factors; FRA would expect full development and discussion of the risk evaluation factors and their application by any party suggesting such an alternative.

FRA also recognizes that under paragraph (b)(4)(iii)(C), the train density limit could conceivably be replaced by equivalent safety mitigations. In the interest in providing flexibility, without reducing safety, FRA is proposing to eliminate the 15 million gross tons limitation currently contained in this paragraph. FRA distinguishes the application of this train density limit in this paragraph from that in paragraph (b)(4)(iii)(B) because in (b)(4)(iii)(C) FRA would be considering the totality of circumstances and the mitigations proffered by the railroad. If a railroad submits a request under proposed paragraph (b)(4)(iii)(C), where the train density limit

is not a categorical requirement, FRA would likely require some other train density limit—presumably more liberal—coupled with additional safety mitigations to achieve an equivalent level of safety.

FRA is not agreeable to setting a quantitative threshold for negligible risk in paragraph (b)(4)(iii)(C) as suggested by AAR. FRA notes that standard MIL-STD-882C is recognized in Appendix C to 49 CFR part 236 as an available standard for evaluating the safety of train control systems; however, the difficulties with using this type of criterion as a decisional criterion, as opposed to a convention in hazard analysis, are manifold. First, the actual metric is always unclear. FRA will assume that AAR may refer to release of a reportable quantity of a PIH material. The apparent suggestion is probability per route mile. However, it is unclear what should be the level of chance and the measurable time period (e.g., calendar hours, operating hours, PTC system life-cycle, etc.). Given that PIH materials releases are already infrequent events, and the potential for catastrophe from a single release is significant, it is also unclear how this criterion would relate to the judgments that Congress has already made with respect to PIH materials transportation. AAR does not provide any reasoning or evidence sufficient to prove that the criterion is satisfied. AAR should be aware that the industry and FRA have experienced significant difficulty in developing tools for comparative risk assessment related to train control, which is the easier task in contrast with use of absolute risk criteria. FRA will, of course, welcome well-presented, simple, and direct hazard analyses. FRA will be looking to achieve confidence that the chance of an unintended release of PIH material is negligible, given the chances for severe mishaps on the particular line segment in question.

In addition, AAR suggests that within paragraph (b)(4)(iii)(C), the obligation of the railroad to establish that the risk of a PIH materials release is negligible should be limited to

releases caused by PPAs. Proposed paragraph (b)(4)(iii)(C) provides that FRA will consider a de minimis risk exemption from the PTC mandate for certain line segments where it is established that the risk of a PIH materials release is negligible. AAR argues that the request to install PTC systems on line segments being candidates for such an exception should not be driven by the possibility of accidents that PTC systems cannot prevent. AAR states that other criteria of the de minimis risk exception such as temporal separation and reduced speed, if satisfied, already reduce the probability of accidents that the four core PTC system functions aim to prevent: train-to-train collision, overspeed derailment, incursion into established work zone limits, and movement through a main line switch in an improper position (i.e., the four statutory PPAs). In the original final rule, FRA repeatedly referenced the exception as relating to de minimis PIH materials risk exception. We believe that this may have been confusing and would like to take this opportunity to provide further clarification. FRA originally used this term since the exception would only apply to freight traffic on lines where PIH materials traverse. FRA did not intend to exclude the four statutory PPAs as risk elements requiring consideration in order to qualify for the exception. Accordingly, FRA proposes to change the regulatory language to comport with this perspective by modifying the heading of paragraph (b)(4)(iii) to eliminate the potential for confusion.

The proposed rule modifies paragraph (b)(4)(iii)(A) to increase the car limit to 200 cars annually, as discussed above. As noted above, FRA proposes revising the heading of paragraph (b)(4)(iii) to read “freight lines with de minimis risk.” FRA also proposes to revise (b)(4)(iii)(B)(3) to specify the distance over which the ruling grade is measured, mirroring the definition of “heavy grade” in § 232.407 for trains operating with greater than 4,000 trailing tons. FRA proposes to amend paragraph (b)(4)(iii)(C) is amended by striking the limitation that only

track segments with traffic less than 15 million gross tons is eligible for relief as posing only de minimis risk. A typographical error is also corrected in the table in paragraph (a). FRA seeks comment from all interested parties on these proposals.

Section 236.1006      Equipping locomotives operating in PTC territory

AAR recommends that yard switching service and transfer train movements without operational onboard PTC equipment should be allowed to operate over PTC-equipped track segments. AAR argues that this exception is necessary in light of the constantly-changing consists that characterize yard operations that would render a PTC system ineffective. AAR's suggested exceptions for switching service and transfer train movements are discussed in turn.

In this context, FRA uses the term "switching service" to refer to switching service under 49 CFR § 232.5:

the classification of freight cars according to commodity or destination; assembling of cars for train movements; changing the position of cars for purposes of loading, unloading, or weighing; placing of locomotives and cars for repair or storage; or moving of rail equipment in connection with work service that does not constitute a train movement.

This distinction is drawn from longstanding judicial interpretations of what constitutes a "train movement." See, e.g., United States v. Seaboard Air Line R. R. Co., 361 U.S. 78 (1959); Louisville Jeffersonville Bridge Co. v. United States, 249 U.S. 543 (1919); see also 66 FR 4104, 4148 (Jan 17, 2001) (defining "switching service"). FRA has previously recognized that the nature of switching service precludes the application of some safety technologies or operational practices that are applicable to train movements. See, e.g., 49 CFR part 232, subpart C (not requiring air brake tests as part of switching service, but requiring such tests for train movements

of short distances). FRA has also previously recognized that Congress did not intend to sweep in yard tracks in the mandate for PTC system implementation. In the first PTC rulemaking, FRA defined main line to exclude “where all trains are limited to restricted speed within a yard or terminal area or an auxiliary or industry tracks.” 49 CFR § 236.1003. In the final rule, FRA stated that “any track within a yard used exclusively by freight operations moving at restricted speed is excepted from the definition of main line.” 75 FR 2598, 2657 (Jan 15, 2010). Such tracks are generally considered to be other-than-main line track, and Congress’s limitation of the PTC mandate to “main line” suggests that these tracks were not intended to be included. See also S. Rep. 110-270 (taking notice of the limited value PTC offers in preventing accidents in yards or terminals). The result of this exclusion is that many switching operations are excluded from the scope of the PTC mandate, where these operations do not extend on to the main line track that connects to the yard.

However, as AAR explains in its Petition, switching operations frequently require some movement along main track adjacent to or within a yard, for purposes of reaching other yard tracks or obtaining necessary distance, or “headroom”, from yard tracks to make switching movements. Despite the exclusion of these other-than-main line tracks, switching service could therefore require PTC-equipped locomotives in order to make these movements on main line track. Given the statutory language suggesting that switching service was not subject to the PTC mandate and the potential to apply operation restrictions to reduce risk to an acceptable level, FRA agrees that it would be appropriate to provide an exception for locomotives performing switching service from the requirements to be equipped with a PTC system if appropriate safeguards are implemented.

AAR's Petition recommends that adequate safety can be provided by a concept AAR refers to as "absolute protection." Such protection would be established by a dispatcher, who would withhold movement authority by signal or directive. PTC-equipped trains would be prevented from entering the zone by an enforced positive stop outside of the zone where operations with non-operational PTC-equipped trains were underway. FRA solicits comments on the practicality and safety potential of this approach. FRA also notes that such a system is very similar to the protection required for roadway workers by 49 CFR § 236.1005(a)(1)(iii), and also solicits comments on the application of similar measures to zones where switching operations are taking place on the main line track without operational PTC systems. These forms of protection of PTC-equipped trains are proposed as defaults; as with other exceptions and exclusions, the rule proposes to allow each railroad to provide alternative measures in its PTCS.

AAR's Petition also suggests that such an exemption should also apply to transfer train movements. As such, the distance the unequipped locomotives could travel from a yard or terminal would be up to 20 miles. As previously noted, FRA recognizes that Congress specifically used the term "main line" and seeks comments on whether that linguistic choice would indicate an intention not to include certain train movements—including short train movements in and around railroad yards—within the statutory mandate. Many transfer train movements share older locomotives with switching operations, making PTC system implementation more costly and any switching service exception that is provided would be inapplicable if associated transfer trains utilizing the same locomotive would require PTC system implementation. Moreover, transfer trains in yard areas generally operate for short distances at lower speeds, and many only operate within yard limits. FRA seeks comments from interested

parties on its interpretation and application of the statutory mandate as it relates to short train movements in and around yard areas.

In accordance with this potentially acceptable perspective, FRA is proposing a de minimis exception applicable specifically to certain transfer train movements, at least for a period of time until the older locomotives used in yard service may be replaced. Such locomotives will presumably be gradually replaced with newer locomotives, which would then allow for the implementation of PTC systems on locomotives used in transfer train service. However, such locomotives could also be replaced by existing long haul locomotives not equipped with PTC systems or with non-functioning PTC systems. Thus, while FRA is not proposing a specific provision regarding the potential duration of such an exception, FRA seeks comments relating to how long the duration of this exception should apply. FRA also seeks comment on any mitigations that could be employed to bring the PPA risk down to a negligible level in these situations.

The existing PTC regulations already provide the parameters for a general de minimis exception. Thus, while any exception provided must still fall within the legal understanding of what is considered de minimis, FRA seeks suggestions on how to tailor such an exception specifically for certain transfer train movements in and around yard areas. FRA recognizes that not all transfer train movements will qualify for an exception.

FRA also recognizes that, in its Petition, AAR already suggests one such mitigation in the form of what it calls “absolute protection.” AAR states that absolute protection requires that the dispatcher withhold movement authority between two points of control by signal indication or mandatory directive. According to AAR, the dispatcher would also hold other trains clear by providing blocking protection within the traffic control system. Under AAR’s proposal, the

movement of non-PTC equipped locomotives would be limited to 30 miles per hour and the distance the locomotives could travel from a yard or terminal would be limited to 20 miles.

FRA seeks comments from interested parties on AAR's suggested mitigation, particularly as to whether it will reduce the PPA risk to a negligible level. FRA requests that such comments include an analysis of how this, or any other proposal, applies to each statutory PPA and to the general prevention of PIH materials release. FRA also seeks comments on what other safety mitigations, including temporal separation and those used in the event of an en route failure, would be adequate to ensure a proper level of safety for switching service and transfer train movements in and around yard areas that would operate without the benefit of a PTC system.

FRA also seeks comments regarding any concerns relating the application of any transfer train de minimis exception to track segments that share freight and passenger traffic and how such an exception would interrelate to any main line track exception already provided for passenger service under § 236.1019. FRA recognizes that, if a passenger train is required to have an operational PTC system, the operational restrictions and enforced positive stop outside of the yard zone may serve to protect against an incursion by an equipped passenger train into a yard area with potentially active train movements without operative onboard PTC systems. If the passenger train is unequipped as the result of a main line track exclusion, a necessary component of that exclusion is either temporal separation between the freight and passenger service, operations limited to restricted speed, an alternate risk mitigation plan which would provide an equivalent level of safety, or a requirement that the passenger trains not be carrying passengers within the limits of the exclusion. As a result, the only times where unequipped freight switching operations subject to the switching exclusion and a passenger train carrying passengers subject to a main line track exclusion may occupy the same zone will be when both

are operating at restricted speed and therefore should be prepared to stop within half of their range of vision, or where the railroads have provided alternative risk mitigations that result in an equivalent level of safety.

AAR's Petition recommended FRA limit the speed of unequipped locomotives and trains to 30 miles per hour, or restricted speed if multiple unequipped movements take place within the same area at the same time. This speed restriction matches that of the en route failure provision in § 236.1029, which is referenced by the temporary rerouting provision at § 236.1005(j) and the Class II and III locomotive exception at § 236.1006(c). Because FRA views this yard move exception as a de minimis risk exception, FRA proposes to limit the speed of movements to 25 miles per hour, the relevant speed restriction for the general de minimis exception at § 236.1005(b)(4)(iii). FRA seeks comment on this proposal and AAR's alternative suggestion.

FRA proposes to add a new paragraph (b)(5) to this section to allow railroads to request a yard move de minimis risk exception for switching service or transfer train service in and around yard areas. The proposed exception would allow locomotives engaged in these types of activities to operate on PTC-equipped main line track without the requirement to install an onboard PTC apparatus. The proposed exception provides ample flexibility, with paragraph (b)(5)(i) allowing railroads to tailor their risk mitigations to particular yard operations to ensure that the risk of a PPA or the release of PIH materials is negligible. Paragraph (b)(5)(ii) defines the distance a transfer train may operate under this exception as 10 miles from its entry onto PTC-equipped main line track, allowing for 20-mile round-trip train movements. FRA seeks comments on this proposal. FRA specifically seeks comments on the feasibility of using the train's point of entry onto a main line as a means to begin measuring the mileage limit under this exception. FRA also seeks comments on whether the train's point of origin, where the train is

assembled and receives its required inspections, should be the location where such measurements should begin. FRA recognizes that some transfer trains may travel 20 miles to an outlying point from a yard. However, allowing such movements in both directions from a transfer train's point of entry onto a PTC-equipped track segment would effectively create a 40-mile zone outside of yards within which the PTC system would not be fully effective due to the presence of unequipped trains. Limiting the distance of transfer train movements to an area 10 miles from the initiation of service will limit the size of this zone to 20 miles, is consistent with the existing 20 mile movement restriction related to transfer trains, and would permit round trip movements of up to 20 miles. FRA seeks comment on this limitation and potential alternative distance limitations. Paragraph (b)(5)(iii) limits the speed of locomotives and trains operating under this exception to a maximum of 25 miles per hour.

FRA also proposes to move the PTCIP reporting requirement from paragraph (b)(2) of this section to a new paragraph (a)(5) in § 236.1009.

Section 236.1009      Procedural requirements.

FRA proposes to move the PTCIP reporting requirement from paragraph (b)(2) of § 236.1006 to a new paragraph (a)(5) of this section. The purpose of this proposal is not merely for organizational purposes. FRA also intends to require the submission of additional information so that it may better fulfill its congressional reporting obligations and to otherwise fully and accurately monitor the progress of PTC system implementation. The current language of § 236.1006(b)(2) requires railroads to report the status of achieving its goals with respect to equipping locomotives with fully-operative onboard PTC apparatuses on PTC-equipped track segments. However, for FRA to fulfill its statutory obligations and regulatory objectives, it would also require additional implementation information. Accordingly, under the proposed

rule, FRA expects submission of implementation data relating to wayside interface units, communication technologies, back-end computer systems, transponders, and any other PTC system components.

The PTC WG expressed no concerns with this proposal.

Section 236.1019      Main line track exceptions.

In its Petition, AAR suggests that FRA should exempt certain limited freight operations in a similar manner as provided for limited passenger operations under § 236.1019(c). AAR suggests exempting track segments over which not more than two trains containing PIH materials carloads are transported daily, where the annual freight traffic over the line is less than 15 million gross tons.

RSIA provided FRA with the authority to redefine main line for intercity or commuter rail passenger transportation routes or segments where there is limited or no freight operations. See 49 U.S.C. 20157(i)(2)(B). Under this authority, FRA, in § 236.1019(c), provided an exception from PTC system implementation on line segments where there is limited or no freight operations and where either all trains are limited to restricted speed, temporal separation is provided between passenger trains and other trains, or passenger service is operated under a risk mitigation plan. The purpose of 49 CFR § 236.1019(c) is to eliminate the requirement for PTC system installation in the case of low-risk passenger operations. For these reasons, FRA does not believe it is prudent at this time to extend a “limited or no freight” exception to track segments where there is more than “limited or no freight.”

Nevertheless, FRA recognizes that the exception sought by AAR already exists, albeit in a different form. The general de minimis risk exception of § 236.1005(b)(4)(iii)(C) allows railroads to apply for an exception from the requirement to implement PTC systems on track

segments where the railroad can demonstrate that there is negligible risk of PTC-preventable accidents or a release of PIH materials. Because the statutory authority for the existing limited operations exception applies only to intercity or commuter rail passenger transportation, creating a new limited operations exception for freight track segments would depend upon FRA's authority to create a de minimis exception to the regulation. Creating such an exception but referring to it as a "limited operations exclusion" would only serve to create confusion.

Section 236.1021      Discontinuances, material modifications, and amendments.

Under ordinary circumstances, a railroad seeking to discontinue a signal system must file an application pursuant to 49 CFR part 235. However, to simplify the process of making changes to a signal system related to PTC systems implementation, § 236.1021 currently allows railroads to request approval of a discontinuance or material modification of a signal system in an RFA to its PTCIP, PTC development plan (PTCDP) or PTC safety plan (PTCSP), as appropriate. In its Petition, AAR recommends that FRA allow automatic approval (i.e., without the need to file an RFA) for the removal of cab signal systems from PTC-equipped lines or the removal of any signal system where stand-alone PTC systems are used. However, the Petition did not provide adequate justification to support the categorical approval of such changes without any FRA oversight. Even in its Petition, AAR argued that new PTC systems are likely to suffer en route failures. Such failures would be mitigated by the presence of an underlying signal system. Accordingly, FRA is not willing at this time to change the text of § 236.1021 in accordance with AAR's request. However, FRA does seek comment from interested parties on how to further simplify the procedures currently contained in this section.

Section 236.1029      PTC system use and en route failures

Section 236.1029 currently provides a means of safely reacting to the en route failure of a PTC system. When the onboard apparatus of a controlling locomotive within a PTC system fails en route, § 236.1029 requires that the train proceed at restricted speed, or where a block signal system is in operation according to signal indication at medium speed, until an absolute block is established ahead of the train; after the absolute block is established, the train may proceed at speeds between 30 miles per hour and 79 miles per hour, depending on the nature of the signal system in place, if any, and the nature of the train. AAR, in its petition, assents to this procedure for each location where a PTC systems is the exclusive means of delivering mandatory directives, but suggests substantial revisions to this procedure where a PTC system is not the exclusive means of delivering mandatory directives (e.g., where mandatory directives are also delivered by radio). The AAR proposal would allow trains to continue to a designated repair or exchange location indentified in a railroad's PTCSP. While travelling to one of these locations, the AAR proposal would allow freight trains to continue at track speed in signaled territory, up to 40 miles per hour for freight trains in non-signaled territory, and up to 30 miles per hour for trains carrying PIH materials. The proposal also recommends a 30-miles-per-hour limitation for passenger trains; Amtrak suggests that the appropriate limitation for passenger trains is 40 miles per hour.

FRA is sensitive to the concerns expressed regarding PTC system reliability and the railroads' desire to avoid restrictions where a PTC system fails. However, the mandate to implement PTC systems reflects a congressional determination that present methods for train operation are inadequate. Accordingly, FRA must ensure that procedures for train operation during the failure of a PTC system provide the additional degree of safety required by Congress. FRA is therefore rejecting AAR's petition to amend the rule language on this issue. In the

original final rule, FRA provided flexibility for railroads in establishing alternative procedures for operations following an en route failure. While FRA does not view allowing trains to continue at track speed after a PTC system is rendered inoperable as a generally acceptable procedure, there may be circumstances under which such operations are appropriate. If such circumstances exist, the railroads may provide in its PTCSP, which would then be subject to FRA review and approval, an alternative en route failure procedure pursuant to paragraph (c) of this section. While FRA is not willing to grant AAR's request at this time, FRA seeks comment on this issue and suggestions for other reasonable default provisions.

AAR also requests clarification concerning the failure of an onboard PTC apparatus of the train's controlling locomotive, where a second PTC-equipped locomotive exists capable of providing PTC system functionality. FRA proposes to amend § 236.1029 to specifically indicate that, when a trailing locomotive is used to maintain full PTC system functionality, the system is considered operable and therefore is not considered to have failed en route. Paragraph (g) provides that if full functionality of the onboard PTC apparatus in the controlling locomotive is restored by use of a secondary apparatus, such as the onboard equipment of a trailing locomotive, the train can continue operations as provided for in the railroad's PTCSP. Paragraph (g) also requires railroads to provide procedures for how this change-over of the PTC system onboard functions will take place.

#### **IV. Regulatory Impact and Notices**

##### **A. Executive Orders 12866 and 13563 and DOT Regulatory Policies and Procedures**

This NPRM has been evaluated in accordance with existing policies and procedures, and determined to be significant under Executive Order 12866, Executive Order 13563 and DOT

policies and procedures. 44 FR 11,034 (Feb. 26, 1979). We have prepared and placed in the docket a regulatory impact analysis (RIA) addressing the economic impact of this NPRM.

The Federal Railroad Administration (FRA) proposes amendments to regulations implementing a requirement of the Rail Safety Improvement Act of 2008 (RSIA) that certain passenger and freight railroads implement PTC systems. The proposal includes revising the regulatory language defining the de minimis exception, as it applies generally and more specifically to yard-related movements. The proposal also includes revising the rules regarding en route failures and discontinuances of signal systems.

The proposed provisions regarding applications to modify signal and train control systems would streamline and simplify the application process for a discontinuation or material modification of a signal system under 49 CFR part 235 where the application would have been filed as part of a PTC system implementation.

The proposed revisions to the existing de minimis risk exception under 49 CFR § 236.1005(b)(4)(iii) will allow railroads to avoid installing PTC systems' wayside equipment on affected segments. FRA is unsure of the mileage of wayside that will be affected, in part because the railroads have indicated that they intend to reroute PIH materials traffic from many miles of their systems. FRA analyzed the impact of extending the de minimis risk exception to cover an additional 1,000 miles of wayside, as well as two sensitivity cases—one where the mileage affected was higher (1,900 miles) and one where the mileage affected was lower (100 miles). The estimated savings per mile was \$50,000 per mile. All values in the analysis are measured in 2009 dollars.

FRA also analyzed the benefits of extending the de minimis risk exception as it would apply to equipping locomotives involved in yard operations with onboard PTC apparatuses.

Again, FRA faced uncertainty in estimating the number of locomotives that will be affected. For the base case, FRA estimated that 500 locomotives will be affected. FRA also analyzed two cases for sensitivity—a high case where 800 locomotives will be affected and a low case where 200 locomotives will be affected. Applying the extended de minimis risk exception to yard operations will allow the railroads to avoid equipping locomotives with onboard PTC systems apparatuses, at a unit savings of \$55,000 per locomotive.

For both wayside and onboard portions of the benefit, FRA included the maintenance costs saved by avoiding installation. FRA estimated the maintenance costs as 15 percent of the value of the installed base.

**Table 1. Total Discounted Benefits**

	Discount Factor	
<b>Base case</b>	7 percent	3 percent
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$100,587,630	\$136,123,559
Onboard Installation Benefit	\$55,323,197	\$74,867,958
Total Benefit	\$156,308,146	\$211,438,443
<b>High case</b>		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$191,116,498	\$258,634,763
Onboard Installation Benefit	\$88,517,115	\$119,788,732
Total Benefit	\$280,030,931	\$378,870,421
<b>Low case</b>		
Applications Avoided Benefit	\$397,319	\$446,926
Wayside Installation Benefit	\$10,058,763	\$13,612,356
Onboard Installation Benefit	\$22,129,279	\$29,947,183
Total Benefit	\$32,585,361	\$44,006,465

In general, the costs of allowing railroads the ability to avoid PTC implementation costs will be foregone safety benefits coupled with some reporting costs. The proposal to extend the de minimis risk exception affects track segments that are likely to have a risk of PTC preventable

accidents that is only slightly greater than similar segments equipped with PTC wayside units. FRA analyzed those incremental costs, the only costs analyzed below.

**Table 2. Discounted 20-Year Total Costs**

	Discount Factor	
	7 percent	3 percent
Base Case	\$360,055	\$531,272
High Case	\$446,883	\$659,390
Low Case	\$273,227	\$403,155

A second proposed de minimis risk exception, currently proposed to be codified under 49 CFR § 236.1006(b)(5), affects whether locomotives used in switching operations need to be equipped with onboard PTC apparatuses in order to cross or travel along main track in yards. This newly created proposal requires the railroads to maintain a negligible risk of PTC preventable accidents. FRA does not specify how railroads are to achieve that negligible risk, so FRA cannot estimate whether the residual risk generated by the unequipped locomotives is greater or less than the risk if the railroad were required to install on board PTC systems equipment. In any event, negligible risk means the residual risk is of a very low order of magnitude. In this analysis, FRA has no way to monetize those costs and does not estimate those costs, but requests comments on those costs.

The costs of the changes to procedural requirements are very low, and only consist of forwarding to FRA data likely already compiled for railroad management purposes.

FRA calculated the net societal benefits as 20-year discounted totals.

**Table 3. Discounted 20-Year Total Net Benefits**

	Discount Factor	
	7 percent	3 percent
Base Case	\$155,948,091	\$210,907,171
High Case	\$279,584,048	\$378,211,032
Low Case	\$32,312,133	\$43,603,310

In short, the rulemaking will create net benefits in all scenarios, with the only uncertainty being the magnitude of those benefits.

FRA requests comments on all aspects of the RIA.

B. Regulatory Flexibility Act and Executive Order 13272

To ensure that the potential impact of this rulemaking on small entities is properly considered, FRA developed this proposed rule in accordance with Executive Order 13272 (“Proper Consideration of Small Entities in Agency Rulemaking”) and DOT’s policies and procedures to promote compliance with the Regulatory Flexibility Act (5 U.S.C. 601 et seq.).

The Regulatory Flexibility Act requires an agency to review regulations to assess their impact on small entities. An agency must conduct a regulatory flexibility analysis unless it determines and certifies that a rule is not expected to have a significant economic impact on a substantial number of small entities.

As discussed in the preamble above, FRA is proposing amendments to regulations implementing a requirement of the Rail Safety Improvement Act of 2008 that certain passenger and freight railroads install positive train control systems. The proposal includes revising the regulatory language defining the de minimis exception, as it applies generally and more specifically to yard-related movements. The proposal also includes revising the rules regarding en route failures and discontinuances of signal systems. FRA is certifying that this proposed rule will result in “no significant economic impact on a substantial number of small entities.” The following section explains the reasons for this certification.

1. Description of Regulated Entities and Impacts

The “universe” of the entities under consideration includes only those small entities that can reasonably be expected to be directly affected by the provisions of this rule. In this case, the

“universe” would be Class III freight railroads that operate on rail lines that are currently required to have PTC systems installed. Such lines are owned by railroads not considered to be small.

The U.S. Small Business Administration (SBA) stipulates in its “Size Standards” that the largest a railroad business firm that is “for-profit” may be, and still be classified as a “small entity,” is 1,500 employees for “Line Haul Operating Railroads” and 500 employees for “Switching and Terminal Establishments.” “Small entity” is defined in the Act as a small business that is independently owned and operated, and is not dominant in its field of operation. Additionally, section 601(5) defines “small entities” as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations less than 50,000.

Federal agencies may adopt their own size standards for small entities in consultation with SBA and in conjunction with public comment. Pursuant to that authority, FRA has published a final policy that formally establishes “small entities” as railroads which meet the line haulage revenue requirements of a Class III railroad.<sup>2</sup> The revenue requirements are currently \$20 million or less in annual operating revenue. The \$20 million limit (which is adjusted by applying the railroad revenue deflator adjustment)<sup>3</sup> is based on the Surface Transportation Board’s (STB) threshold for a Class III railroad carrier. FRA is using the STB’s threshold in its definition of “small entities” for this rule.

FRA believes that portions of the proposal revising the rules regarding en route failures and discontinuances of signal systems are technical in nature, and have small economic impacts on any regulated entities, large or small.

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<sup>2</sup> See 68 FR 24891 (May 9, 2003); 49 CFR part 209, app. C.

<sup>3</sup> For further information on the calculation of the specific dollar limit, please see 49 CFR part 1201.

The changes to the *de minimis* provisions in the proposed regulation would impact Class III railroads that operate on lines of other railroads currently required to have PTC systems installed. To the extent that such host railroads receive relief from such a requirement along certain lines as proposed in this NPRM, Class III railroads that operate over those lines would not have to equip their locomotives with PTC system components. FRA believes that small railroads operating over the affected lines are already allowed to avoid equipping locomotives under §236.1006(b)(4), or are otherwise equipping their locomotives to operate over other track segments equipped with PTC systems. Further, some Class III railroads host passenger operations, but FRA does not believe any of those Class III railroads have any switching operations that would be affected by the proposed rule. To the extent that any Class III railroads are affected in circumstances of which FRA is unaware, the effect would be a benefit, in that the Class III railroads would be able to avoid installing PTC systems on some locomotives. FRA requests comment on whether any other small entities would be affected, and if such small entities would be affected what the impacts on them would be, whether those impacts would be significant and whether the number of small railroads affected is substantial. FRA believes that no small entities would be affected by changes to the *de minimis* provisions, and that therefore the number of small entities affected is not substantial, and that the impact on them is not significant.

One small railroad is required to file a PTCIP and would be affected by the changes in the reporting requirements in § 236.1009. The reporting requirements will require the railroad to report its progress in installing PTC, in April 2013, 2014 and 2015, in order to comply with the statutory deadlines. FRA believes that all railroads implementing PTC will track this information and compile it as part of internal management activities at least as frequently for

what is likely to be a relatively large capital project on every affected railroad. FRA believes the incremental reporting regulatory burden is negligible, on the order of forwarding to FRA an e-mail already generated within a railroad. FRA believes this is not a significant burden upon the one railroad affected. Thus FRA believes the reporting requirements will not have a significant impact on a substantial number of small entities.

2. Certification

Pursuant to the Regulatory Flexibility Act, 5 U.S.C. 605(b), the FRA Administrator certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities. FRA requests comment on both this analysis and this certification, and its estimates of the impacts on small railroads.

C. Paperwork Reduction Act

The information collection requirements in this proposed rule are being 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 current information collection requirements and the estimated time to fulfill each proposed requirement are summarized as follows:

CFR Section	Respondent Universe	Total Annual Responses	Average Time per Response	Total Annual Burden Hours
234.275 - Processor-Based Systems - Deviations from Product Safety Plan (PSP) - Letters	20 Railroads	25 letters	4 hours	100 hours

235.7 – Requests to FRA Regional Administrators for Modification of a Signal System Related to PTC Implementation <b>(New Requirement)</b> --PTC Related Modification Request Copies to Railroad Union(s) <b>(New Requirement)</b>	38 Railroads  38 Railroads	500 requests  500 request copies	5 hours  30 minutes	2,500 hours  250 hours
236.15 – Timetable Instructions -- Designation of Positive Train Control (PTC) Territory in Instructions <b>(Revised Requirement)</b>	38 Railroads	13 timetable Instructions	1 hour	13 hours
236.18 - Software Mgmt Control Plan - Updates to Software Mgmt. Control Plan	184 Railroads 90 Railroads	184 plans 20 updates	2,150 hours 1.50 hours	395,600 hours 30 hours
236.905 - Updates to RSPP - Response to Request For Additional Info. - Request for FRA Approval of RSPP Modification	78 Railroads 78 Railroads 78 Railroads	6 plans 1 updated doc. 1 request/ modified RSPP	135 hours 400 hours 400 hours	810 hours 400 hours 400 hours
236.907 - Product Safety Plan (PSP) – Dev.	5 Railroads	5 plans	6,400 hours	32,000 hours
236.909 - Minimum Performance Standard - Petitions For Review and Approval - Supporting Sensitivity Analysis	5 Railroads 5 Railroads	2 petitions/PSP 5 analyses	19,200 hours 160 hours	38,400 hours 800 hours
236.913 - Notification/Submission to FRA of Joint Product Safety Plan (PSP) - Petitions For Approval/Informational Filings - Responses to FRA Request For Further Info. After Informational Filing - Responses to FRA Request For Further Info. After Agency Receipt of Notice of Product Development - Consultations - Petitions for Final Approval - Comments to FRA by Interested Parties - Third Party Assessments of PSP - Amendments to PSP - Field Testing of Product – Info. Filings	6 Railroads 6 Railroads 6 Railroads 6 Railroads 6 Railroads 6 Railroads 6 Railroads 6 Railroads 6 Railroads 6 Railroads	1 joint plan 6 petitions 2 documents 6 documents 6 consults 6 petitions 7 comments 1 assessment 15 amendments 6 documents	25,600 hours 1,928 hours 800 hours 16 hours 120 hours 16 hours 240 hours 104,000 hours 160 hours 3,200 hours	25,600 hours 11,568 hours 1,600 hours 96 hours 720 hours 96 hours 1,680 hours 104,000 hours 2,400 hours 19,200 hours
236.917 - Retention of Records - Results of tests/inspections specified in PSP - Report to FRA of Inconsistencies with frequency of safety-relevant hazards in PSP	6 Railroads 6 Railroads	3 documents/ records 1 report	160,000 hrs.; 160,000 hrs.; 40,000 hrs. 104 hours	360,000 hours 104 hours
236.919 - Operations & Maintenance Man. - Updates to O & M Manual - Plans For Proper Maintenance, Repair, Inspection of Safety-Critical Products - Hardware/Software/Firmware Revisions	6 Railroads 6 Railroads 6 Railroads	6 updated docs. 6 plans 6 revisions	40 hours 53,335 hours 6,440 hours	240 hours 320,010 hours 38,640 hours
236.921 - Training Programs: Development - Training of Signalmen & Dispatchers	6 Railroads 6 Railroads	6 Tr. Programs 300 signalmen; 20 dispatchers	400 hours 40 hours; 20 hours	2,400 hours 12,400 hours

236.923 - Task Analysis/Basic Requirements: Necessary Documents - Records	6 railroads 6 railroads	6 documents 350 records	720 hours 10 minutes	4,320 hours 58 hours
<b>SUBPART I – NEW REQUIREMENTS</b> -236.1001 – RR Development of More Stringent Rules Re: PTC Performance Stds.	38 railroads	3 rules	80 hours	240 hours
- 236.1005 - Requirements for PTC Systems -- Request for Non-Temporal Alternative Risk Mitigation ) ( <b>New Requirement</b> ) - Temporary Rerouting: Emergency Requests - Written/Telephonic Notification to FRA Regional Administrator - Temporary Rerouting Requests Due to Track Maintenance - Temporary Rerouting Requests That Exceed 30 Days	38 railroads 38 railroads 38 railroads 38 railroads 38 railroads	27 requests 47 requests 47 notifications 720 requests 361 requests	64 hours 8 hours 2 hours 8 hours 8 hours	1,728 hours 376 hours 94 hours 5,760 hours 2,888 hours
- 236.1006 - Requirements for Equipping Locomotives Operating in PTC Territory -- PTC Progress Reports	38 railroads	35 reports	16 hours	560 hours
- 236.1007 - Additional Requirements for High Speed Service - Required HSR-125 Documents with approved PTCSP - Requests to Use Foreign Service Data - PTC Railroads Conducting Operations at More than 150 MPH with HSR-125 Documents - Requests for PTC Waiver	38 railroads 38 railroads 38 railroads 38 railroads	3 documents 2 requests 3 documents 1 request	3,200 hours 8,000 hours 3,200 hours 1,000 hours	9,600 hours 16,000 hours 9,600 hours 1,000 hours



236.1019 - Main Line Track Exceptions - Submission of Main Line Track Exclusion Addendums (MTEAs) - Passenger Terminal Exception – MTEAs - Limited Operation Exception – Risk Mit. - Ltd. Exception – Collision Hazard Anal. - Temporal Separation Procedures	38 Railroads 38 Railroads 38 Railroads 38 Railroads	36 MTEAs 19 MTEAs 19 plans 12 analyses 11 procedures	160 hours 160 hours 160 hours 1,600 hours 160 hours	5,760 hours 3,040 hours 3,040 hours 19,200 hours 1,760 hours
236.1021 - Discontinuances, Material Modifications, Amendments - Requests to Amend (RFA) PTCIP, PTCDP or PTCSP - Review and Public Comment on RFA	38 Railroads 7 Interested Groups	19 RFAs 7 reviews + 20 comments	160 hours 3 hours; 16 hours	3,040 hours 341 hours
236.1023 - PTC Product Vendor Lists - RR Procedures Upon Notification of PTC System Safety-Critical Upgrades, Rev., Etc -- RR Notifications of PTC Safety Hazards -- RR Notification Updates - Manufacturer's Report of Investigation of PTC Defect - PTC Supplier Reports of Safety Relevant Failures or Defective Conditions	38 Railroads 38 Railroads 38 Railroads 38 Railroads 5 System Suppliers 5 System Suppliers	38 lists 38 procedures 142 notification 142 updates 5 reports 142 reports + 142 rpt. copies	8 hours 16 hours 16 hours 16 hours 400 hours 16 hours + 8 hours	304 hours 608 hours 2,272 hours 2,272 hours 2,000 hours 3,408 hours
236.1029 – Report of On-Board Lead Locomotive PTC Device Failure	38 Railroads	836 reports	96 hours	80,256 hours
236.1031- Previously Approved PTC Systems - Request for Expedited Certification (REC) for PTC System - Requests for Grandfathering on PTCSPs	38 Railroads 38 Railroads	3 REC Letters 3 requests	160 hours 1,600 hours	480 hours 4,800 hours
236.1035- Field Testing Requirements - Relief Requests from Regulations Necessary to Support Field Testing	38 Railroads 38 Railroads	190 field test plans 38 requests	800 hours 320 hours	152,000 hours 12,160 hours
236.1037 - Records Retention - Results of Tests in PTCSP and PTCDP - PTC Service Contractors Training Records - Reports of Safety Relevant Hazards Exceeding Those in PTCSP and PTCDP - Final Report of Resolution of Inconsistency	38 Railroads 38 Railroads 38 Railroads 38 Railroads	836 records 18,240 records 4 reports 4 final reports	4 hours 30 minutes 8 hours 160 hours	3,344 hours 9,120 hours 32 hours 640 hours
- 236.1039 - Operations & Maintenance Manual (OMM): Development - Positive Identification of Safety-critical components - Designated RR Officers in OMM. regarding PTC issues	38 Railroads 38 Railroads 38 railroads	38 manuals 114,000 i.d. components 76 designations	250 hours 1 hour 2 hours	9,500 hours 114,000 hours 152 hours
-236.1041 – PTC Training Programs	38 Railroads	38 programs	400 hours	15,200 hours
- 236.1043 - Task Analysis/Basic Requirements: Training Evaluations - Training Records	38 Railroads 38 Railroads	38 evaluations 560 records	720 hours 10 minutes	27,360 hours 93 hours

- 236.1045 - Training Specific to Office Control Personnel	38 Railroads	32 trained employees	20 hours	640 hours
- 236.1047 - Training Specific to Loc. Engineers & Other Operating Personnel - PTC Conductor Training	38 Railroads	7,600 trained conductors	3 hours	22,800 hours

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information. Pursuant to 44 U.S.C. 3506(c)(2)(B), FRA solicits comments concerning: whether these information collection requirements are necessary for the proper performance of the functions of FRA, including whether the information has practical utility; the accuracy of FRA's estimates of the burden of the information collection requirements; the quality, utility, and clarity of the information to be collected; and whether the burden of collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology, may be minimized. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, Information Clearance Officer, at 202-493-6292, or Ms. Nakia Jackson at 202-493-6073.

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them to Mr. Robert Brogan or Ms. Kimberly Toone, Federal Railroad Administration, 1200 New Jersey Avenue, S.E., 3rd Floor, Washington, D.C. 20590. Comments may also be submitted via e-mail to Mr. Brogan or Ms. Toone at the following address: Robert.Brogan@dot.gov; Kimberly.Toone@dot.gov.

OMB is required to make a decision concerning the collection of information requirements contained in this proposed rule between 30 and 60 days after its publication 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. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

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

This proposed rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132, “Federalism.” See 64 FR 43,255 (Aug. 4, 1999). As discussed earlier in the preamble, this proposed rule would provide regulatory relief from the mandated implementation of PTC systems.

Executive Order 13132 requires FRA to develop a process to ensure “meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications.” Policies that have “federalism implications” are defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” Under Executive Order 13132, the agency may not issue a regulation with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or the agency consults with State and local government officials early in the process of developing

the regulation. Where a regulation has federalism implications and preempts state law, the agency seeks to consult with State and local officials in the process of developing the regulation.

FRA has determined that this proposed rule would not have substantial direct effects on the States, on the relationship between the national government and the States, nor on the distribution of power and responsibilities among the various levels of government. In addition, FRA has determined that this proposed rule would not impose any direct compliance costs on State and local governments. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

However, this proposed rule will have preemptive effect. Section 20106 of Title 49 of the United States Code provides that States may not adopt or continue in effect any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters) or the Secretary of Homeland Security (with respect to railroad security matters), except when the State law, regulation, or order qualifies under the local safety or security exception to § 20106. Furthermore, the Locomotive Boiler Inspection Act (49 U.S.C. 20701-20703) has been held by the U.S. Supreme Court to preempt the entire field of locomotive safety.

In sum, FRA has analyzed this proposed rule in accordance with the principles and criteria contained in Executive Order 13132. As explained above, FRA has determined that this proposed rule has no federalism implications, other than the possible preemption of State laws. Accordingly, FRA has determined that preparation of a federalism summary impact statement for this proposed rule is not required.

E. Environmental Impact

FRA has evaluated this proposed 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 proposed 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. 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 proposed rule is not a major Federal action significantly affecting the quality of the human environment.

F. Unfunded Mandates Reform Act of 1995

The Unfunded Mandates Reform Act of 1995 (Public Law 104-4, 2 U.S.C. 1531) (UMRA) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a federal mandate likely to result in the expenditures by state, local or tribal governments, in the aggregate, or by the private sector, of \$100 million (adjusted annually for inflation with base year of 1995) or more in any one year. The value equivalent of \$100 million in CY 1995, adjusted annual for inflation to CY 2008 levels by the Consumer Price Index for All Urban Consumers (CPI-U) is \$141.3 million. The assessment may be included in conjunction with other assessments, as it is in this rulemaking.

FRA is publishing this NPRM to provide additional flexibility in standards for the development, testing, implementation, and use of PTC systems for railroads mandated by RSIA

to implement PTC systems. The RIA provides a detailed analysis of the costs and benefits of the NPRM. This analysis is the basis for determining that this rule will not result in total expenditures by State, local or tribal governments, in the aggregate, or by the private sector of \$141.3 million or more in any one year. The costs associated with this NPRM are reduced accident reduction from an existing rule. The aforementioned costs borne by all parties will not exceed \$3.3 million in any one year.

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 proposed rule in accordance with Executive Order 13211. FRA has determined that this proposed 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 regulatory action” within the meaning of Executive Order 13211.

H. Privacy Act

FRA wishes to inform all interested parties that anyone is able to search the electronic form of any written communications and comments received into any of our dockets by the name

of the individual submitting the document (or signing the document), if submitted on behalf of an association, business, labor union, etc.). Interested parties may also review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477) or visit <http://www.regulations.gov/#!privacyNotice>.

### **List of Subjects**

#### 49 CFR Part 234

Highway safety, Highway-rail grade crossings, Penalties, Railroad safety, Reporting and recordkeeping requirements.

#### 49 CFR Part 235

Administrative practice and procedure, Penalties, Railroad safety, Reporting and recordkeeping requirements.

#### 49 CFR Part 236

Penalties, Positive Train Control, Railroad safety, Reporting and recordkeeping requirements.

### **The Proposed Rule**

In consideration of the foregoing, FRA is proposing to amend chapter II, subtitle B of title 49, Code of Federal Regulations as follows:

#### **PART 234 – [AMENDED]**

1. The authority citation for part 234 continues to read as follows:

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

2. Amend § 234.207 by revising paragraph (b) to read as follows:

#### **§ 234.207      Adjustment, repair, or replacement of component.**

\*      \*      \*      \*      \*

(b) If the failure of an essential component results in an activation failure, partial activation, or false activation, as defined in § 234.5, a railroad shall take appropriate action under § 234.105, Activation failure, § 234.106, Partial activation, or § 234.107, False activation, of this part, until repair of the essential component is completed.

3. Revise § 234.213 to read as follows:

**§ 234.213**      **Grounds.**

Each circuit that affects the proper functioning of a highway-rail grade crossing warning system shall be kept free of any ground or combination of grounds having a current flow of any amount that could adversely affect the proper safety-critical functioning of the warning system, including any ground or combination of grounds that will permit a current flow of 75 percent or more of the release value of any relay or electromagnetic device in the circuit. This requirement does not apply to: circuits that include track rail; alternating current power distribution circuits that are grounded in the interest of safety; and common return wires of grounded common return single break circuits.

**PART 235 – [AMENDED]**

5. The authority citation for part 235 continues to read as follows:

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

6. Amend § 235.7 by adding paragraph (d) to read as follows:

**§ 235.7**      **Changes not requiring filing of application.**

\*      \*      \*      \*      \*

(d) In lieu of filing an application for approval to the Associate Administrator for Safety, modifications of a signal system where the resultant arrangement will comply with part 236 of this title consisting of the installation, relocation, or removal of signals, interlocked switches,

derails, movable-point frogs, or electric locks in an existing system, directly associated with the implementation of positive train control pursuant to subpart I of part 236, may instead be approved by the FRA Regional Administrator having jurisdiction over the affected territory. To seek such approval, the railroad shall provide notice and a profile plan of the change to the appropriate FRA regional office. The railroad shall also at the same time provide a copy of the notice and profile plan to representatives of employees responsible for maintenance, inspection, and testing of the signal system under part 236. The Regional Administrator shall in writing deny or approve, in full or in part, and with or without conditions, the request for signal system modification. For any portion of the request that is denied, the Regional Administrator will refer the issue to the Railroad Safety Board as an application to modify the signal system.

**PART 236 – [AMENDED]**

7. The authority citation for part 236 continues to read as follows:

**Authority:** 49 U.S.C. 20102-20103, 20107, 20133, 20141, 20157, 20301-20303, 20306, 21301-21302, 21304; 28 U.S.C. 2461, note; and 49 CFR 1.49.

**§ 236.0 [Amended]**

8. Amend § 236.0 by removing and reserving paragraph (i).

9. Revise § 236.2 to to read as follows:

**§ 236.2      Grounds.**

Each circuit, the functioning of which affects the safety of train operations, shall be kept free of any ground or combination of grounds having a current flow of any amount that could adversely affect the proper safety-critical functioning of a signal or train control system, including any ground or combination of grounds that will permit a flow of current equal to or in excess of 75 percent of the release value of any relay or other electromagnetic device in the

circuit, except circuits which include any track rail and except the common return wires of single-wire, single-break, signal control circuits using a grounded common, and alternating current power distribution circuits which are grounded in the interest of safety.

10. Revise § 236.15 to read as follows:

**§ 236.15**      **Timetable instructions.**

Automatic block, traffic control, train stop, train control, cab signal, and positive train control territory shall be designated in timetable instructions.

11. Revise § 236.567 to read as follows:

**§ 236.567**      **Restrictions imposed when device fails and/or is cut out en route.**

(a) Where an automatic train stop, train control, or cab signal device fails and/or is cut out en route, the train on which the device is inoperative may proceed to the next available point of communication where report must be made to a designated officer, at speeds not to exceed:

(1) If no block signal system is in operation, restricted speed; or

(2) If a block signal system is in operation, according to signal indication but not to exceed medium speed.

(b) Upon completion and communication of the report required in paragraph (a) of this section, a train may continue to a point where an absolute block can be established in advance of the train at speeds not to exceed:

(1) If no block signal system is in operation, restricted speed; or

(2) If a block signal system is in operation, according to signal indication but not to exceed medium speed.

(c) Upon reaching the location where an absolute block has been established in advance of the train, as referenced in paragraph (b) of this section, the train may proceed at speeds not to exceed:

- (1) If no block signal system is in operation:
  - (i) If the train is a passenger train, 59 miles per hour; or
  - (ii) If the train is a freight train, 49 miles per hour.
- (2) If a block signal system is in operation, 79 miles per hour.

12. Amend § 236.1005 by revising the heading of table in paragraph (a)(1)(i), and paragraphs (b)(4)(iii)(A), (b)(4)(iii)(B)(3), (b)(4)(iii)(B)(4), and (b)(4)(iii)(C) to read as follows:

**§ 236.1005 Requirements for Positive Train Control systems.**

- (a) \* \* \*
- (1) \* \* \*
- (i) \* \* \*

Crossing Type	Max Speed	Protection Required
---------------	-----------	---------------------

\* \* \*

- (b) \* \* \*
- (4) \* \* \*

(iii) *Freight lines with de minimis risk.* (A) In a PTCIP or RFA, a railroad may request review of the requirement to install PTC on a low density track segment where a PTC system is otherwise required by this section, but has not yet been installed, based upon the presence of a minimal quantity of PIH materials (less than 200 cars per year, loaded and residue, with no more than two trains carrying PIH materials over the track segment each calendar day). Any such request shall be accompanied by estimated traffic projections for the next 5 years (e.g., as a result

of planned rerouting, coordinations, or location of new business on the line). Where the request involves prior or planned rerouting of PIH materials traffic, the railroad must provide the information and analysis identified in paragraph (b)(4)(i) of this section. The submission shall also include a full description of potential safety hazards on the segment of track and fully describe train operations over the line. This provision is not applicable to lines segments used by intercity or commuter passenger service.

(B) \* \* \*

(3) That does not have any portion of the segment with an average grade of one percent or greater over a distance of three continuous miles; and

(4) On which any train transporting a car containing PIH materials (including a residue car) is operated under conditions of temporal separation from other trains using the line segment as documented by a temporal separation plan accompanying the request. As used in this paragraph, “temporal separation” has the same meaning given by § 236.1019(e), except that the separation addressed is the separation of a train carrying any number of cars containing PIH materials from other freight trains. In lieu of temporal separation, a railroad may employ, subject to FRA approval, an alternative means of similarly reducing the risk of PTC-preventable accidents and a release of PIH materials.

(C) FRA will also consider, and may approve, requests for relief under this paragraph for additional line segments where it is established to the satisfaction of the Associate Administrator that risk mitigations will be applied that will ensure that the risk of PTC-preventable accidents and a release of PIH materials is negligible.

\* \* \* \* \*

13. Amend § 236.1006 by revising paragraphs (a) and (b)(2) and adding paragraph (b)(5) to read as follows:

**§ 236.1006 Equipping locomotives operating in PTC territory.**

(a) Except as provided in paragraph (b) of this section, each operation on any track segment equipped with a PTC system shall be controlled by a locomotive equipped with an onboard PTC apparatus that is fully operative and functioning in accordance with the applicable PTCSP approved under this subpart.

(b) \* \* \*

(2) Each railroad shall adhere to its PTCIP.

\* \* \* \* \*

(5) Yard moves. In a PTCSP or an RFA, a railroad may request a yard move de minimis risk exception to operate a locomotive without an onboard PTC apparatus installed where an onboard PTC apparatus is otherwise required by this part. This exception only applies to a locomotive engaged in switching service or engaged in transfer train service that originates either in the yard or that originates within 10 miles of the yard with a final destination point being the yard.

(i) Each such operation must include sufficient risk mitigations to ensure that the risk of PTC-preventable accidents and a release of PIH materials is negligible;

(ii) The locomotive shall not travel to a point in excess of 10 miles from its point of entry onto the PTC-equipped main line track; and

(iii) The speed of the locomotive or train shall not exceed 25 miles per hour.

\* \* \* \* \*

14. Amend § 236.1009 by adding paragraph (a)(5) to read as follows:

**§ 236.1009 Procedural requirements.**

(a) \* \* \*

(5) Each railroad filing a PTCIP shall report annually, on the anniversary of its original PTCIP submission, and until its PTC system implementation is complete, its progress towards fulfilling the goals outlined in its PTCIP under this section, including progress towards PTC system installation pursuant to § 236.1005 and onboard PTC apparatus installation and use in PTC-equipped track segments pursuant to § 236.1006.

\* \* \* \* \*

15. Amend § 236.1029 by revising paragraph (b) introductory text and adding paragraph (g) to read as follows:

**§ 236.1029 PTC system use and en route failures.**

\* \* \* \* \*

(b) Where an onboard PTC apparatus on a lead locomotive that is operating in or is to be operated within a PTC system fails or is otherwise cut-out after the train has departed its initial terminal, the train may only continue in accordance with the following:

\* \* \* \* \*

(g) Where full functionality of an onboard PTC apparatus on a controlling locomotive that is operating within a PTC system is restored through use of a secondary apparatus, such as an onboard PTC apparatus in a trailing locomotive, the train may continue operations as

specified in the railroad's PTCSP. The process for such restoration of functionality shall be specified in a railroad's PTCSP.

Issued in Washington, DC, on November 29, 2012 .

Joseph C. Szabo

Administrator

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