



# **49 CFR Part 236, Subpart H Standards for Processor-Based Signal and Train Control Systems**

## **Synopsis of the Rule, Major Changes from NPRM, Next Steps, and Points of Contact**

Tom McFarlin

Staff Director

Signal and Train Control Division

Federal Railroad Administration



## Effective date of the Rule – June 6, 2005

### Scope:

- Future Signal and Train Control systems (including conventional ones) with processor-based elements are subject to the rule.
- Some processor-based highway-rail grade crossing warning systems will also be subject to the rule.

### Exclusions (Section 236.911):

- Systems in revenue service before June 6, 2005, are exempt from the rule.
- Systems in design and development prior to March 7, 2005, that will be placed in service before March 7, 2008, are also exempt upon written notification to FRA by June 6, 2005.



## Primary Actions/Requirements (continued):

### Section 236.18 – Software management control plan.

- Develop and adopt a plan within six months (by Dec 6, 2005),
- Fully implement the plan within 30 more months (by June 6, 2008).

### Section 236.905 – Railroad Safety Program Plan (RSPP).

- RSPP is a formal document describing railroad's system wide strategy for addressing safety hazards associated with covered products,
- Any railroad with a system, subsystem, or product subject to the requirements of Subpart H shall develop an RSPP,
- An RSPP shall contain all subject areas prescribed in this section,
- RSPP shall be submitted to FRA for approval.



## Primary Actions/Requirements (continued):

### Section 236.907 – Product Safety Plan (PSP).

- Specific to a “product” governed by Subpart H,
- A PSP provides complete description of, and establishes the standards for, a product.

### Section 236.913 – Filing and Approval of PSPs.

- A PSP must be prepared for any product covered by Subpart H,
- A railroad shall submit either an informational filing or a petition for approval,
- A PSP shall contain all subject areas prescribed in this section



## Primary Actions/Requirements (continued):

### Section 236.919 – Operations and Maintenance Manual.

- Again, specific to a “product” governed by Subpart H,
- A manual that catalogs and maintains all documents as specified in the PSP for the installation, maintenance, repair, modification, inspection, and testing of a product.

### Section 236.921 – Training and Qualification Program, General.

- Contains general training criteria for products governed by Subpart H,
- Followed by specific training requirements of Sections 236.923, 236.925, 236.927, and 236.929.



## Highway-rail Grade Crossing Warning Systems

### Section 234.275 - Processor-Based Systems

All highway-rail grade crossing processor-based warning systems using new or novel technology or providing safety-critical data to any signal or train control system governed by subpart H, are subject to the rule.

“New or novel technology” is defined as “technology not previously recognized for use prior to March 7, 2005.”



## 49 CFR Section 236.18 - Software Management Control Plan

Time frame for creating and implementing the plan was changed from 24 months to 36 months in total.

## 49 CFR Sections 236.921 and 236.923 and the Product Safety Plan

Responsibility for training and qualification programs is changed to reflect any Employer rather than the railroad solely. The definition of Employer is added. It includes all involved in installation, maintenance, repair, modification, inspection, testing, and operation of the equipment built to Subpart H.



## 49 CFR Section 236.907(d) Software Hazard Reporting

Software hazard reporting is added. Railroads and their suppliers are to define the contractual agreement for the reporting process.

## 49 CFR Sections 236.909 (d) thru 236.923 and the Product Safety Plan. (Abbreviated Risk Assessment)

Conditions for abbreviated risk assessment are more flexible in the rule compared to NPRM. It is enough to show that new product's MTTHE is not less than that of the old product. Use of AREMA C&S Part 17 authorized.





## 49 CFR Section 236.909 Minimum Performance Standard (Modified Base Case)

Final Rule expressly addresses adjustment of the “Base Case” to be used in comparative risk assessment. The basis for base case is based on maximum train speed and volume of traffic. FRA regulatory decision.

## Commingling of Train Control and Locomotive Control Functions

Preamble to NPRM suggested prohibited commingling. The Final Rule does not preclude the integration of control functions **if** overall safety as shown in the PSP is not decreased.



## Reconvene PTC Working Group!

### Purposes:

- To develop and recommend cost effective technical guidelines for implementation and compliance with Part 236 Subpart H.

**RSAC Task No. 97-6** (“Procedures for introduction and validation of new systems.”)

- To monitor implementation of new systems and consider any further action that FRA should take to encourage deployment of PTC.

**RSAC Task No. 97-5** (“Technical readiness; steps required to deploy.

- Coordination of public and private sector transportation needs.
- Priorities and pace of development.
- Proposed migration strategies.”)



## Points of Contact

Tom McFarlin  
Staff Director, Signal & Train Control  
Office of Safety  
Federal Railroad Administration  
1120 Vermont Avenue NW  
Washington, DC 20590

(202) 493-6203  
tom.mcfarlin@fra.dot.gov

Melissa Porter  
Trial Attorney  
Office of Chief Counsel  
Federal Railroad Administration  
1120 Vermont Avenue NW  
Washington, DC 20590

(202) 493-6034  
Melissa.porter@fra.dot.gov

Mark Hartong  
Electronics Engineer  
Office of Safety  
Federal Railroad Administration  
1120 Vermont Avenue NW  
Washington, DC 20590

(202) 493-1332  
mark.hartong@fra.dot.gov

Olga Cataldi  
Electronics Engineer  
Office of Safety  
Federal Railroad Administration  
1120 Vermont Avenue NW  
Washington, DC 20590

(202) 493-6321  
olga.cataldi@fra.dot.gov