

and without delaying implementation of PTC systems.

(f) The PTCIP shall be maintained to reflect the railroad's most recent PTC deployment plans until all PTC system deployments required under this subpart are complete.

EFFECTIVE DATE NOTE: At 75 FR 59117, Sept. 27, 2010, §236.1011 was amended by revising paragraph (a)(6)(iv)(B), effective November 26, 2010. For the convenience of the user, the revised text is set forth as follows:

§ 236.1011 PTC Implementation Plan content requirements.

- (a) * * *
- (6) * * *
- (iv) * * *

(B) Include each tenant railroad's response to the host railroad's written request made in accordance with paragraph (a)(6)(iv)(A) of this section;

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§ 236.1013 PTC Development Plan and Notice of Product Intent content requirements and Type Approval.

(a) For a PTC system to obtain a Type Approval from FRA, the PTCDP shall be filed in accordance with §236.1009 and shall include:

- (1) A complete description of the PTC system, including a list of all PTC system components and their physical relationships in the subsystem or system;
- (2) A description of the railroad operation or categories of operations on which the PTC system is designed to be used, including train movement density (passenger, freight), operating speeds (including a thorough explanation of intended compliance with §236.1007), track characteristics, and railroad operating rules;
- (3) An operational concepts document, including a list with complete descriptions of all functions which the PTC system will perform to enhance or preserve safety;
- (4) A document describing the manner in which the PTC system architecture satisfies safety requirements;
- (5) A preliminary human factors analysis, including a complete description of all human-machine interfaces and the impact of interoperability requirements on the same;

(6) An analysis of the applicability to the PTC system of the requirements of subparts A through G of this part that may no longer apply or are satisfied by the PTC system using an alternative method, and a complete explanation of the manner in which those requirements are otherwise fulfilled;

(7) A prioritized service restoration and mitigation plan and a description of the necessary security measures for the system;

(8) A description of target safety levels (e.g., MTTHE for major subsystems as defined in subpart H of this part), including requirements for system availability and a description of all backup methods of operation and any critical assumptions associated with the target levels;

(9) A complete description of how the PTC system will enforce authorities and signal indications;

(10) A description of the deviation which may be proposed under §236.1029(c), if applicable; and

(11) A complete description of how the PTC system will appropriately and timely enforce all integrated hazard detectors in accordance with §236.1005(c)(3), if applicable.

(b) If the Associate Administrator finds that the system described in the PTCDP would satisfy the requirements for PTC systems under this subpart and that the applicant has made a reasonable showing that a system built to the stated requirements would achieve the level of safety mandated for such a system under §236.1015, the Associate Administrator may grant a numbered Type Approval for the system.

(c) Each Type Approval shall be valid for a period of 5 years, subject to automatic and indefinite extension provided that at least one PTC System Certification using the subject PTC system has been issued within that period and not revoked.

(d) The Associate Administrator may prescribe special conditions, amendments, and restrictions to any Type Approval as necessary for safety.

(e) If submitted, an NPI must contain the following information:

- (1) A description of the railroad operation or categories of operations on which the proposed PTC system is designed to be used, including train

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movement density (passenger, freight), operating speeds (including a thorough explanation of intended compliance with § 236.1007), track characteristics, and railroad operating rules;

(2) An operational concepts document, including a list with complete descriptions of all functions that the proposed PTC system will perform to enhance or preserve safety;

(3) A description of target safety levels (e.g., MTTHE for major subsystems as defined in subpart H of this part), including requirements for system availability and a description of all backup methods of operation and any critical assumptions associated with the target levels;

(4) A complete description of how the proposed PTC system will enforce authorities and signal indications; and

(5) A complete description of how the proposed PTC system will appropriately and timely enforce all integrated hazard detectors in accordance with § 236.1005(c)(3), if applicable.

§ 236.1015 PTC Safety Plan content requirements and PTC System Certification.

(a) Before placing a PTC system required under this part in service, the host railroad must submit to FRA a PTCSP and receive a PTC System Certification. If the Associate Administrator finds that the PTCSP and supporting documentation support a finding that the system complies with this part, the Associate Administrator approves the PTCSP and issues a PTC System Certification. Receipt of a PTC System Certification affirms that the PTC system has been reviewed and approved by FRA in accordance with, and meets the requirements of, this part.

(b) A PTCSP submitted under this subpart may reference and utilize in accordance with this subpart any Type Approval previously issued by the Associate Administrator to any railroad, provided that the railroad:

(1) Maintains a continually updated PTCPVL pursuant to § 236.1023;

(2) Shows that the supplier from which they are procuring the PTC system has established and can maintain a quality control system for PTC system design and manufacturing acceptable to the Associate Administrator. The

quality control system must include the process for the product supplier or vendor to promptly and thoroughly report any safety-relevant failure and previously unidentified hazards to each railroad using the product; and

(3) Provides the applicable licensing information.

(c) A PTCSP submitted in accordance with this subpart shall:

(1) Include the FRA approved PTCDP or, if applicable, the FRA issued Type Approval;

(2)(i) Specifically and rigorously document each variance, including the significance of each variance between the PTC system and its applicable operating conditions as described in the applicable PTCDP from that as described in the PTCSP, and attest that there are no other such variances; or

(ii) Attest that there are no variances between the PTC system and its applicable operating conditions as described in the applicable PTCDP from that as described in the PTCSP; and

(3) Attest that the system was otherwise built in accordance with the applicable PTCDP and PTCSP and achieves the level of safety represented therein.

(d) A PTCSP shall include the same information required for a PTCDP under § 236.1013(a). If a PTCDP has been filed and approved prior to filing of the PTCSP, the PTCSP may incorporate the PTCDP by reference, with the exception that a final human factors analysis shall be provided. The PTCSP shall contain the following additional elements:

(1) A hazard log consisting of a comprehensive description of all safety-relevant hazards not previously addressed by the vendor or supplier to be addressed during the life-cycle of the PTC system, including maximum threshold limits for each hazard (for unidentified hazards, the threshold shall be exceeded at one occurrence);

(2) A description of the safety assurance concepts that are to be used for system development, including an explanation of the design principles and assumptions;

(3) A risk assessment of the as-built PTC system described;

(4) A hazard mitigation analysis, including a complete and comprehensive