



U.S. Department
of Transportation

**Federal Railroad
Administration**

Memorandum

Subject: Software Management Control Plan - Defect Codes

Date: 08-08-2007

From: 
Edward W. Fitchard
Director, Office of Safety Assurance and Compliance

Reply to
Attn. of: S-07-01

To: Regional Administrators, Deputy Regional Administrators, S&TC Supervisory Specialists, Chief Inspectors, Rail Safety Oversight Managers, State Program Managers, and all Federal and State S&TC Personnel

The purpose of this Technical Bulletin is to advise that the defect codes associated with Title 49 CFR § 236.18 - Software Management Control Plan (SMCP) have been completed and are now available for use by FRA field personnel in the Railroad Inspection System for the PC (RISPC).

Title 49 CFR § 236.18 requires that railroads currently in operation on the effective date of the rule (June 6, 2005) develop and adopt an SMCP within 6 months of that effective date (by December 5, 2005), and fully implement their SMCP 30 months later (by June 5, 2008). It further requires railroads commencing operation after June 6, 2005, to adopt an SMCP prior to commencing operations. An SMCP is required for any and all of their processor-based signal and train control systems covered under Title 49 CFR Part 236, Subparts A through G, and highway-rail grade crossing active warning systems covered under Title 49 CFR § 234.275(f). Software configuration management of processor-based signal and train control systems covered under Title 49 CFR Part 236, Subpart H must be addressed within a Product Safety Plan (PSP).

An SMCP is a plan designed to ensure that the proper and intended version of software for each specific site and location on the railroad is documented and maintained throughout the life-cycle of the system. The plan further describes how the proper software configuration is to be identified and confirmed in the event of replacement, modification, or disarrangement of any part of the system.

Developing, adopting, and implementing an SMCP is the responsibility of the railroad. However, either the railroad, or a vendor for the railroad, may actually prepare it. FRA will not mandate any particular format nor will FRA actually approve the plan. FRA will, however, monitor the railroad's development, adoption, and implementation of the SMCP, and will determine whether the railroad's plan fulfills the requirements of § 236.18(c). FRA will also monitor the railroad's ongoing compliance with their plan. Since the necessary processes and procedures contained in their SMCP are specified by the railroads themselves in order to best support their business model, while meeting the objectives specified by § 236.18(c), the FRA expects to find that the railroads will achieve and maintain compliance with these processes and procedures. Situations of railroad noncompliance with their SMCP should be addressed as possible violations of Title 49 CFR § 236.18 and handled for citation by using the defect codes introduced by this bulletin.

These defect codes will provide FRA field personnel a consistent method with which to record and

enforce deficiencies and violation recommendations. They will also provide FRA regional or headquarters personnel the ability to recognize concerns or possible patterns of railroad noncompliance and give feedback to the railroads, as well as FRA's inspection forces, to help the railroads meet the requirements of the rule. The defect codes are enclosed with this bulletin for ready reference. There will be further explanation and application guidance regarding these defect codes forthcoming within the next revision of the S&TC Enforcement Manual. Use of these defect codes for citation of deficiencies will necessitate an activity code in the upper section of an inspection report of "XXXO" (i.e., ABSO, ACSO, ATCO, ATSO, HGCO, INTO, OTHO, TCSO, or SIGO). The most appropriate activity code to select will be determined by the particular scope of the inspection and the specific circumstances associated with the citation.

Note: In order for FRA to evaluate specific issues or areas of concern associated with SMCPs, inspectors should include an additional brief comment or explanation regarding the particular circumstances surrounding each noncompliant condition when these defect codes are used to cite instances of railroad's noncompliance.

Please feel free to contact Mr. Tom McFarlin, Staff Director, Signal and Train Control Division at (202) 493-6203 or at thomas.mcfarlin@dot.gov, or Mr. Sean Crain, Electronics Engineer, at (202) 493-6257 or at sean.crain@dot.gov, if you have any questions.

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CFR	Rule	Subrule	Description
236	0018	A1	Software management control plan not developed within prescribed time frame.
		A2	Software management control plan not adopted within prescribed time frame.
		B1	Software management control plan not fully implemented within prescribed time frame.
		B2	Software management control plan process or procedure not complied with.
		C1	Software management control plan process or procedure incomplete or inadequate.
		C2	Software management control plan equipment inventory incomplete or inadequate in process or procedure.
		C3	Software version or configuration in service that is unauthorized, incorrect, or inappropriate.
		C4	Software management control plan does not include necessary signal or train control processor-based equipment.
		C5	Software version or configuration in service within a signal or train control system, subsystem, or component not included, or inaccurate, in the software management control plan equipment inventory.
		C6	Software management control plan does not include processor-based equipment of a highway-rail grade crossing warning system, subsystem, or component which provides safety-critical data to a signal or train control system (see § 234.275(f)).
		C7	Software version or configuration in service within a highway-rail grade crossing warning system, subsystem, or component which provides safety-critical data to a signal or train control system not included, or inaccurate, in the software management control plan equipment inventory (see § 234.275(f)).
		C8	Software management control plan does not include processor-based equipment of other similar systems or protective devices.
		C9	Software version or configuration in service within an other similar system or protective device not included, or inaccurate, in the software management control plan equipment inventory.