

Federal Railroad Administration, DOT

§ 229.301

(b) The information required in paragraph (a) of this section must be located permanently in the locomotive cab or be provided within two business days upon request of FRA or an FRA-certified State inspector.

[71 FR 36914, June 28, 2006]

§ 229.215 Retention and inspection of designs.

(a) *Retention of records—original designs.* Each manufacturer or remanufacturer of a locomotive subject to this subpart shall retain all records of the original locomotive designs, including supporting calculations and drawings, pertaining to crashworthiness features required by this subpart. These records must be retained for the lesser period of:

(1) The life of such locomotive, except that records for a locomotive destroyed in a rail equipment accident/incident shall be retained for at least 12 months following the accident/incident; or

(2) Twenty years after the date of manufacture or, if remanufactured, twenty years after the date of remanufacture.

(b) *Retention of records—repairs and modifications.* Each owner or lessee of a locomotive subject to this subpart shall retain all records of repair or modification to crashworthiness features required by this subpart. These records must be retained for the lesser period of:

(1) The life of such locomotive, except that records for a locomotive destroyed in a rail equipment accident/incident shall be retained for at least 12 months following the accident/incident, or

(2) Twenty years after the date on which the repair or modification was performed.

(c) *Inspection of records.* Each custodian of records referred to in paragraphs (a) and (b) shall, upon request by FRA or an FRA-certified State inspector, make available for inspection and duplication within 7 days, any records referred to in paragraphs (a) and (b) of this section.

(d) *Third party storage of records.* Each custodian of records referred to in paragraphs (a) and (b) of this section may delegate storage duties to a third

party; however, the custodian retains all responsibility for compliance with this section.

[71 FR 36914, June 28, 2006]

§ 229.217 Fuel tank.

(a) *External fuel tanks.* Locomotives equipped with external fuel tanks shall, at a minimum, comply with the requirements of AAR S-5506, “Performance Requirements for Diesel Electric Locomotive Fuel Tanks” (October 1, 2001), except for section 4.4. This paragraph does not apply to locomotives subject to the fuel tank safety requirements of § 238.223 or § 238.423 of this chapter. The Director of the Federal Register approves incorporation by reference of the AAR S-5506, “Performance Requirements for Diesel Electric Locomotive Fuel Tanks” (October 1, 2001) in this section in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of the incorporated standard from the Association of American Railroads, 50 F Street NW., Washington, DC 20001. You may inspect a copy of the incorporated standard at the Federal Railroad Administration, Docket Clerk, 1200 New Jersey Avenue, SE., Washington, DC 20590 or at the National Archives and Records Administration (NARA). For more information on the availability of this material at NARA, call 202-741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) *Internal fuel tanks.* Locomotives equipped with internal fuel tanks shall, at a minimum, comply with the requirements of § 238.223(b) of this chapter.

[71 FR 36914, June 28, 2006, as amended at 74 FR 25173, May 27, 2009]

Subpart E—Locomotive Electronics

SOURCE: 77 FR 21348, Apr. 9, 2012, unless otherwise noted.

§ 229.301 Purpose and scope.

(a) The purpose of this subpart is to promote the safe design, operation, and maintenance of safety-critical, as defined in § 229.305, electronic locomotive

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control systems, subsystems, and components.

(b) Locomotive control systems or their functions that comingle with safety critical processor based signal and train control systems are regulated under part 236 subparts H and I of this chapter.

§ 229.303 Applicability.

(a) The requirements of this subpart apply to all safety-critical electronic locomotive control systems, subsystems, and components (i.e., “products” as defined in § 229.305), except for the following:

(1) Products that are fully developed prior to June 8, 2012.

(2) Products that are under development as of October 9, 2012, and are fully developed prior to October 9, 2017.

(3) Products that comingle locomotive control systems with safety critical processor based signal and train control systems;

(4) Products that are used during on-track testing within a test facility; and

(5) Products that are used during on-track testing outside a test facility, if approved by FRA. To obtain FRA approval of on-track testing outside of a test facility, a railroad shall submit a request to FRA that provides:

(i) Adequate information regarding the function and history of the product that it intends to use;

(ii) The proposed tests;

(iii) The date, time and location of the tests; and

(iv) The potential safety consequences that will result from operating the product for purposes of testing.

(b) Railroads and vendors shall identify all products identified in paragraph (a)(2) of this section to FRA by February 9, 2013.

(c) The exceptions provided in paragraph (a) of this section do not apply to products or product changes that result in degradation of safety, or a material increase in safety-critical functionality.

[77 FR 21348, Apr. 9, 2012, as amended at 77 FR 75057, Dec. 19, 2012]

§ 229.305 Definitions.

As used in this subpart—

Cohesion is a measure of how strongly-related or focused the responsibilities of a system, subsystem, or component are.

Comingle refers to the act of creating systems, subsystems, or components where the systems, subsystems, or components are tightly coupled and with low cohesion.

Component means an electronic element, device, or appliance (including hardware or software) that is part of a system or subsystem.

Configuration management control plan means a plan designed to ensure that the proper and intended product configuration, including the electronic hardware components and software version, is documented and maintained through the life-cycle of the products in use.

Executive software means software common to all installations of a given electronic product. It generally is used to schedule the execution of the site-specific application programs, run timers, read inputs, drive outputs, perform self-diagnostics, access and check memory, and monitor the execution of the application software to detect unsolicited changes in outputs.

Initialization refers to the startup process when it is determined that a product has all required data input and the product is prepared to function as intended.

Loosely coupled means an attribute of systems, referring to an approach to designing interfaces across systems, subsystems, or components to reduce the interdependencies between them—in particular, reducing the risk that changes within one system, subsystem, or component will create unanticipated changes within other system, subsystem, or component.

Materials handling refers to explicit instructions for handling safety-critical components established to comply with procedures specified by the railroad.

Product means any safety critical electronic locomotive control system, subsystem, or component, not including safety critical processor based signal and train control systems, whose functions are directly related to safe movement and stopping of the train as well as the associated man-machine