

## § 229.301

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](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 control systems, subsystems, and components.

(b) Locomotive control systems or their functions that comeingle 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

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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 comeingle 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.

*Comeingle* 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.