Federal Railroad Administration, DOT

§ 229.309 Safety-critical changes and failures.

(a) Whenever a planned safety-critical design change is made to a product that is in use by a railroad and subject to this subpart, the railroad shall:

(1) Notify FRA’s Associate Administrator for Safety of the design changes made by the product supplier;

(2) Ensure that the SA is updated as required;

(3) Conduct all safety-critical changes in a manner that allows the change to be audited;

(4) Specify all contractual arrangements with suppliers and private equipment owners for notification of any and all electronic safety-critical changes as well as safety-critical failures in the suppliers and private equipment owners’ system, subsystem, or component, and the reasons for that change or failure from the suppliers or equipment owners, whether or not the railroad has experienced a failure of that safety critical system, sub-system, or component;

(5) Specify the railroad’s procedures for action upon receipt of notification of a safety-critical change or failure of an electronic system, sub-system, or component, and until the upgrade or revision has been installed; and

(6) Identify all configuration/revision control measures designed to ensure that safety-functional requirements and safety-critical hazard mitigation are maintained.

§ 229.307 Safety analysis.

(a) A railroad shall develop a Safety Analysis (SA) for each product subject to this subpart prior to the initial use of such product on their railroad.

(b) The SA shall:

1. Establish and document the minimum requirements that will govern the development and implementation of all products subject to this subpart, and be based on good engineering practice and should be consistent with the guidance contained in appendix F of this part in order to establish that a product’s safety-critical functions will operate with a high degree of confidence in a fail-safe manner;

2. Include procedures for immediate repair of safety-critical functions; and

3. Be made available to FRA upon request.

(c) Each railroad shall comply with the SA requirements and procedures related to the development, implementation, and repair of a product subject to this subpart.

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