

Overview of FRA's Final Rule on Locomotive Event Recorders (49 CFR Part 229)

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Brief History/Background

- The impetus for this proceeding was several NTSB recommendations to develop and implement crashworthiness standards for event recorders in all new locomotives.
- This rulemaking task was presented to and accepted by the Railroad Safety Advisory Committee (RSAC) in 1997.
- In November 2003, the full RSAC unanimously voted to concur with the Working Group's recommendation (35 of 48 members voting) and submitted an NPRM recommendation to FRA.
- On June 30, 2004, the NPRM was published in the Federal Register.

Background -Continued

- FRA received comments from 22 parties in response to the NPRM
- On September 30, 2004, a public hearing was conducted in Washington D.C. and the comment period closed on October 11, 2004.
- On December 15 and 16, 2004, the Working Group held a meeting to discuss and address the comments received in response to the NPRM.
- On May 2, 2005, the Working Group reached consensus on the draft final rule proposal distributed to all members of the full RSAC on May 13, 2005.

Major Provisions of Final Rule:

- Modifies existing FRA regulations relating to locomotive event recorders (49 CFR 229.25, 229.27, and 229.135).
- Requires replacement, over a four-year period (from effective date of the rule), of each event recorder utilizing magnetic tape as a storage medium with a certified crashworthy event recorder memory module (ERMM) capable of recording at least the same data elements as the recorder it replaces.
- Requires all new lead locomotives, lead manned helper locomotives, and controlling distributive power locomotives (ordered one year after or placed in service four years after the effective date of the rule) to be equipped with a certified crashworthy ERMM capable of recording up to 25 data elements for traditional locomotives and 22 data elements for MU and DMU locomotives.

Major Provisions of Final Rule - continued:

- Requires all remanufactured locomotives (two years after effective date of rule) to be equipped with a certified crashworthy ERMM capable of recording at least the same data elements as the event recorder on that locomotive prior to remanufacture.
- Requires event recorders originally manufactured after January 1, 2010, and installed on a covered locomotive to be equipped with a certified crashworthy ERMM.
- Contains specific performance criteria for determining the crashworthiness of an ERMM. These include criteria for fire, impact shock, static crush, fluid immersion, and hydrostatic pressure and contains testing sequence requirements. The criteria are based on existing crashworthiness standards of the Institute of Electrical and Electronics Engineers, Inc. (IEEE), modified for the locomotive environment.

Major Provisions of Final Rule-Continued

- Requires preservation of event recorder data for a period of one year for any locomotive involved in an accident or incident required to be reported to FRA under part 225.
- Provides relief from the periodic inspection requirements for micro-processor based event recorders with self-monitoring features. Requires inspection of these types of event recorders annually.