

EVENT RECORDER REGULATIONS

1. There shall be an event recorder on all trains operating faster than 30 mph. The event recorder is not required to be located on the lead locomotive, so long as it monitors and records the required data as though it were located in the lead locomotive.
2. A new locomotive shall have a crashworthy event recorder with a “hardened” memory module, proven by a requirement that the memory module preserve stored data throughout a sequence of prescribed tests by simplifying standards for inspecting, testing, and maintaining all event recorders;
3. A locomotive that uses magnetic tape as a data storage medium shall be replaced with event recorders with a certified survivable version of its previous event recorder.
 - The event recorder on an existing locomotive is required to record data and monitor data on train speed, direction of motion, time, distance, throttle position, brake applications and operations, and cab signals (if the locomotive is so equipped) over the most recent 48 hours of operation. This requirement is satisfied if, so long as each aspect of the operations can be derived from some other recorded data by calculations. Within a four-year period, an event recorder on a new locomotive is required to collect certain additional types of information, including the following data elements:
 - a. Emergency brake applications initiated by the engineer or by an on-board computer;
 - b. A loss of communications from the EOT (end of train) device;
 - c. Messages related to the ECP (electronic controlled pneumatic) braking system;
 - d. EOT messages relating to “ready status,” an emergency brake command, and an emergency brake application, valve failure indication, end-of-train brake pipe pressure, the “in motion” signal, the marker light status, and low battery status;
 - e. The position of the switches for headlights and for the auxiliary lights on the lead locomotive;
 - f. Activation of the horn control;
 - g. The locomotive number;
 - h. The automatic brake valve cut in;
 - i. The locomotive position (lead or trail);
 - j. Tractive effort;
 - k. The activation of the cruise control; and
 - l. Safety-critical train control display elements with which the engineer is required to comply.
4. Event recorders on existing locomotives shall be phased out, over a four-year period.
5. The recorders shall be maintained in accordance with the standard set by the manufacturer, the supplier or the owner of the unit. A written copy of the maintenance

instruction shall be kept at the location where the work is being done. A performance standard requires that 90% of the recorders be fully functional when they are given periodic inspections. If the “ready rate” drops below this, the railroads are required to adjust maintenance intervals or operations so that this performance level is achieved.

6. Railroads shall have an in-service event recorder on the lead locomotive.
7. When an event recorder is taken out of service, the locomotive cannot remain as the lead locomotive beyond the next calendar day inspection.
8. A railroad is required to remove an event recorder which it knows is not monitoring or recording accurately, and this shall be noted on the cab card form. The recorder may not remain out-of-service beyond the completion of the next periodic inspection.
9. A railroad whose locomotive is involved in an accident that is required to be reported to FRA shall preserve the recorded data for analysis by FRA or NTSB. That is, the original or a first order accurate copy is retained in secure custody and shall not be utilized for analysis or any other purpose except by direction of FRA or NTSB. This requirement shall expire 30 days after the accident, unless FRA or NTSB notifies the railroad otherwise.

49 U.S.C. §20137

49 C.F.R. §§ 229.5, 229.25 & 229.135