

components or systems have little or no effect on their overall failure rates.

(g) When planning the maintenance of a component or system to protect the safety and operating capability of the equipment, a number of items must be considered in the reliability assessment process:

- (1) The consequences of each type of functional failure;
- (2) The visibility of a functional failure to the operating crew (evidence that a failure has occurred);
- (3) The visibility of reduced resistance to failure (evidence that a failure is imminent);
- (4) The age-reliability characteristics of each item;
- (5) The economic tradeoff between the cost of scheduled maintenance and the benefits to be derived from it;
- (6) A multiple failure, resulting from a sequence of independent failures, may have consequences that would not be caused by any one of the individual failures alone. These consequences are taken into account in the definition of the failure consequences for the first failure; and
- (7) A default strategy governs decision making in the absence of full information or agreement. This strategy provides for conservative initial decisions, to be revised on the basis of information derived from operating experience.

(h) A successful reliability-based maintenance program must be dynamic. Any prior-to-service program is based on limited information. As such, the operating organization must be prepared to collect and respond to real data throughout the operating life of the equipment. Management of the ongoing maintenance program requires an organized information system for surveillance and analysis of the performance of each item under actual operating conditions. This information is needed to determine the refinements and modifications to be made in the initial maintenance program (including the adjustment of task intervals) and to determine the need for product improvement. The information derived from operating experience may be considered to have the following hierarchy of importance in the reliability-based maintenance program:

- (1) Failures that could affect operating safety;
 - (2) Failures that have operational consequences;
 - (3) The failure modes of units removed as a result of failures;
 - (4) The general condition of unfailed parts in units that have failed; and
 - (5) The general condition of serviceable units inspected as samples.
- (i) At the time an initial maintenance program is developed, information is usually available to determine the tasks necessary to protect safety and operating capability. However, the information required to deter-

mine optimum task intervals and the applicability of age or life limits can be obtained only from age or life exploration after the equipment enters service. With any new equipment there is always the possibility of unanticipated failure modes. The first occurrence of any serious unanticipated failure should immediately set into motion the following improvement cycle:

- (1) An inspection task is developed to prevent recurrences while the item is being redesigned;
 - (2) The operating fleet is modified to incorporate the redesigned part; and
 - (3) After the modification has proved successful, the special inspection task is eliminated from the maintenance program.
- (j) Component improvements based on identification of the actual reliability characteristics of each item through age or life exploration, is part of the normal development cycle of all complex equipment.

PART 239—PASSENGER TRAIN EMERGENCY PREPAREDNESS

Subpart A—General

- Sec.
- 239.1 Purpose and scope.
 - 239.3 Application.
 - 239.5 Preemptive effect.
 - 239.7 Definitions.
 - 239.9 Responsibility for compliance.
 - 239.11 Penalties.
 - 239.13 Waivers.
 - 239.15 Information collection.

Subpart B—Specific Requirements

- 239.101 Emergency preparedness plan.
- 239.103 Passenger train emergency simulations.
- 239.105 Debriefing and critique.
- 239.107 Emergency exits.

Subpart C—Review, Approval, and Retention of Emergency Preparedness Plans

- 239.201 Emergency preparedness plan; filing and approval.
- 239.203 Retention of emergency preparedness plan.

Subpart D—Operational (Efficiency) Tests; Inspection of Records and Recordkeeping

- 239.301 Operational (efficiency) tests.
- 239.303 Electronic recordkeeping.

APPENDIX A TO PART 239—SCHEDULE OF CIVIL PENALTIES

AUTHORITY: 49 U.S.C. 20102–20103, 20105–20114, 20133, 21301, 21304, and 21311; 28 U.S.C. 2461, note; and 49 CFR 1.49(c), (g), (m).

§ 239.1

SOURCE: 63 FR 24676, May 4, 1998, unless otherwise noted.

Subpart A—General

§ 239.1 Purpose and scope.

(a) The purpose of this part is to reduce the magnitude and severity of casualties in railroad operations by ensuring that railroads involved in passenger train operations can effectively and efficiently manage passenger train emergencies.

(b) This part prescribes minimum Federal safety standards for the preparation, adoption, and implementation of emergency preparedness plans by railroads connected with the operation of passenger trains, and requires each affected railroad to instruct its employees on the provisions of its plan. This part does not restrict railroads from adopting and enforcing additional or more stringent requirements not inconsistent with this part.

§ 239.3 Application.

(a) Except as provided in paragraph (b) of this section, this part applies to all:

(1) Railroads that operate intercity or commuter passenger train service on standard gage track which is part of the general railroad system of transportation;

(2) Railroads that provide commuter or other short-haul rail passenger train service in a metropolitan or suburban area (as described by 49 U.S.C. 20102(1)), including public authorities operating passenger train service; and

(3) Passenger or freight railroads hosting the operation of passenger train service described in paragraph (a)(1) or (a)(2) of this section.

(b) This part does *not* apply to:

(1) Rapid transit operations in an urban area that are not connected with the general railroad system of transportation;

(2) Operation of private cars, including business/office cars and circus trains; or

(3) Tourist, scenic, historic, or excursion operations, whether on or off the general railroad system.

49 CFR Ch. II (10–1–05 Edition)

§ 239.5 Preemptive effect.

Under 49 U.S.C. 20106 (formerly section 205 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 434)), issuance of this part preempts any State law, rule, regulation, order, or standard covering the same subject matter, except a provision necessary to eliminate or reduce an essentially local safety hazard, that is not incompatible with Federal law or regulation and does not unreasonably burden interstate commerce.

§ 239.7 Definitions.

As used in this part—

Adjacent rail modes of transportation means other railroads, trolleys, light rail, heavy transit, and other vehicles operating on rails or electromagnetic guideways which are expressly identified in a railroad's emergency preparedness plan.

Administrator means the Administrator of the Federal Railroad Administration or the Administrator's delegate.

Control center means a central location on a railroad with responsibility for directing the safe movement of trains.

Crewmember means a person, other than a passenger, who is assigned to perform either:

(1) On-board functions connected with the movement of the train (i.e., an employee of a railroad, or of a contractor to a railroad, who is assigned to perform service subject to the Federal hours of service laws during a tour of duty) or

(2) On-board functions in a sleeping car or coach assigned to intercity service, other than food, beverage, or security service.

Division headquarters means the location designated by the railroad where a high-level operating manager (e.g., a superintendent, division manager, or equivalent), who has jurisdiction over a portion of the railroad, has an office.

Emergency or emergency situation means an unexpected event related to the operation of passenger train service involving a significant threat to the safety or health of one or more persons requiring immediate action, including:

(1) A derailment;

(2) A fatality at a grade crossing;