

49 CFR 232

§232.5 Definitions.

The definitions in this section are intended to clarify the meaning of terms used in this part as it becomes applicable pursuant to §232.1(b) and (c).

AAR means the Association of American Railroads.

Air brake means a combination of devices operated by compressed air, arranged in a system, and controlled manually, electrically, electronically, or pneumatically, by means of which the motion of a railroad car or locomotive is retarded or arrested.

Air Flow Indicator, AFM means a specific air flow indicator required by the air flow method of qualifying train air brakes (AFM). The AFM Air Flow Indicator is a calibrated air flow measuring device which is clearly visible and legible in daylight and darkness from the engineer's normal operating position. The indicator face displays:

- (1) Markings from 10 cubic feet per minute (CFM) to 80 CFM, in increments of 10 CFM or less; and
- (2) Numerals indicating 20, 40, 60, and 80 CFM for continuous monitoring of air flow.

Bind means restrict the intended movement of one or more brake system components by reduced clearance, by obstruction, or by increased friction.

Brake, dynamic means a train braking system whereby the kinetic energy of a moving train is used to generate electric current at the locomotive traction motors, which is then dissipated through resistor grids or into the catenary or third rail system.

Brake, effective means a brake that is capable of producing its nominally designed retarding force on the train. A car's air brake is not considered effective if it is not capable of producing its nominally designed retarding force or if its piston travel exceeds:

- (1) 10½ inches for cars equipped with nominal 12-inch stroke brake cylinders; or
- (2) The piston travel limit indicated on the stencil, sticker, or badge plate for that brake cylinder.

Brake, hand means a brake that can be applied and released by hand to prevent or retard the movement of a locomotive.

Brake indicator means a device which indicates the brake application range and indicates whether brakes are applied and released.

Brake, inoperative means a primary brake that, for any reason, no longer applies or releases as intended.

Brake, inoperative dynamic means a dynamic brake that, for any reason, no longer provides its designed retarding force on the train.

Brake, parking means a brake that can be applied by means other than by hand, such as spring, hydraulic, or air pressure when the brake pipe air is depleted, or by an electrical motor.

Brake pipe means the system of piping (including branch pipes, angle cocks, cutout cocks, dirt collectors, hoses, and hose couplings) used for connecting locomotives and all railroad cars for the passage of compressed air.

Brake, primary means those components of the train brake system necessary to stop the train within the signal spacing distance without thermal damage to friction braking surfaces.

Brake, secondary means those components of the train brake system which develop supplemental brake retarding force that is not needed to stop the train within signal spacing distances or to prevent thermal damage to wheels.

Car control device (CCD) means an electronic control device that replaces the function of the conventional pneumatic service and emergency portions of a car's air brake control valve during electronic braking and provides for electronically controlled service and emergency brake applications.

Dual mode ECP brake system means an ECP brake system that is equipped with either an emulator CCD or an overlay ECP brake system on each car which can be operated in either ECP brake mode or conventional pneumatic brake mode.

ECP means “electronically controlled pneumatic” when applied to a brake or brakes.

ECP brake mode means operating a car or an entire train using an ECP brake system.

ECP brake system means a train power braking system actuated by compressed air and controlled by electronic signals from the locomotive or an ECP-EOT to the cars in the consist for service and emergency applications in which the brake pipe is used to provide a constant supply of compressed air to the reservoirs on each car but does not convey braking signals to the car. ECP brake systems include dual mode and stand-alone ECP brake systems.

ECP-EOT device means an end-of-train device for an ECP brake system that is physically the last network node in the train, pneumatically and electrically connected at the end of the train to the train line cable operating with an ECP brake system.

Emergency application means an irretrievable brake application resulting in the maximum retarding force available from the train brake system.

Emulator CCD means a CCD that is capable of optionally emulating the function of the pneumatic control valve while in a conventionally braked train.

End-of-train device, one-way means two pieces of equipment linked by radio that meet the requirements of §232.403.

End-of-train device, two-way means two pieces of equipment linked by radio that meet the requirements of §§232.403 and 232.405.

Foul means any condition which restricts the intended movement of one or more brake system components because the component is snagged, entangled, or twisted.

Freight car means a vehicle designed to carry freight, or railroad personnel, by rail and a vehicle designed for use in a work or wreck train or other non-passenger train.

Initial terminal means the location where a train is originally assembled.

Locomotive means a piece of railroad on-track equipment, other than hi-rail, specialized maintenance, or other similar equipment, which may consist of one or more units operated from a single control stand—

- (1) With one or more propelling motors designed for moving other railroad equipment;
- (2) With one or more propelling motors designed to transport freight or passenger traffic or both;
or
- (3) Without propelling motors but with one or more control stands.

Locomotive cab means that portion of the superstructure designed to be occupied by the crew operating the locomotive.

Locomotive, controlling means the locomotive from which the engineer exercises control over the train.

Off air means not connected to a continuous source of compressed air of at least 60 pounds per square inch (psi).

Ordered date or date ordered means the date on which notice to proceed is given by a procuring railroad to a contractor or supplier for new equipment.

Overlay ECP brake system means a brake system that has both conventional pneumatic brake valves and ECP brake components, making it capable of operating as either a conventional pneumatic brake system or an ECP brake system. This brake system can operate in either a conventionally braked train using the conventional pneumatic control valve or in an ECP braked train using the ECP brake system's CCD.

Piston travel means the amount of linear movement of the air brake hollow rod (or equivalent) or piston rod when forced outward by movement of the piston in the brake cylinder or actuator and limited by the brake shoes being forced against the wheel or disc.

Pre-revenue service acceptance testing plan means a document, as further specified in §232.505, prepared by a railroad that explains in detail how pre-revenue service tests of certain equipment demonstrate that the equipment meets Federal safety standards and the railroad's own safety design requirements.

Previously tested equipment means equipment that has received a Class I brake test pursuant to §232.205 and has not been off air for more than four hours.

Primary responsibility means the task that a person performs at least 50 percent of the time. The totality of the circumstances will be considered on a case-by-case basis in circumstances where an individual does not spend 50 percent of the day engaged in any one readily identifiable type of activity.

Qualified mechanical inspector means a qualified person who has received, as a part of the training, qualification, and designation program required under §232.203, instruction and training that includes “hands-on” experience (under appropriate supervision or apprenticeship) in one or more of the following functions: troubleshooting, inspection, testing, maintenance or repair of the specific train brake components and systems for which the person is assigned responsibility. This person shall also possess a current understanding of what is required to properly repair and maintain the safety-critical brake components for which the person is assigned responsibility. Further, the qualified mechanical inspector shall be a person whose primary responsibility includes work generally consistent with the functions listed in this definition.

Qualified person means a person who has received, as a part of the training, qualification, and designation program required under §232.203, instruction and training necessary to perform one or more functions required under this part. The railroad is responsible for determining that the person has the knowledge and skills necessary to perform the required function for which the person is assigned responsibility. The railroad determines the qualifications and competencies for employees designated to perform various functions in the manner set forth in this part. Although the rule uses the term “qualified person” to describe a person responsible for performing various functions required under this part, a person may be deemed qualified to perform some functions but not qualified to perform other functions. For example, although a person may be deemed qualified to perform the Class II/intermediate brake test required by this part, that same person may or may not be deemed qualified to perform the Class I/initial Terminal brake test or authorize the movement of defective equipment under this part. The railroad will determine the required functions for which an individual will be deemed a “qualified person” based upon the instruction and training the individual has received pursuant to §232.203 concerning a particular function.

Railroad means any form of non-highway ground transportation that runs on rails or electromagnetic guideways, including:

(1) Commuter or short-haul railroad passenger service in a metropolitan or suburban area and commuter railroad service that was operated by the Consolidated Rail Corporation on January 1, 1979; and

(2) High speed ground transportation systems that connect metropolitan areas, without regard to whether those systems use new technologies not associated with traditional railroads. The term “railroad” is also intended to mean a person that provides transportation by railroad, whether directly or by contracting out operation of the railroad to another person. The term does not include rapid transit operations in an urban area that are not connected to the general railroad system of transportation.

Rebuilt equipment means equipment that has undergone overhaul identified by the railroad as a capital expense under the Surface Transportation Board's accounting standards.

Refresher training means periodic retraining required for employees or contractors to remain qualified to perform specific equipment troubleshooting, inspection, testing, maintenance, or repair functions.

Respond as intended means to produce the result that a device or system is designed to produce.

“*Roll-by*” *inspection* means an inspection performed while equipment is moving.

Service application means a brake application that results from one or more service reductions or the equivalent.

Service reduction means a decrease in brake pipe pressure, usually from 5 to 25 psi at a rate sufficiently rapid to move the operating valve to service position, but at a rate not rapid enough to move the operating valve to emergency position.

Solid block of cars means two or more freight cars coupled together and added to or removed from a train as a single unit.

Stand-alone CCD means a CCD that can operate properly only in a train operating in ECP brake mode and cannot operate in a conventional pneumatically braked train.

Stand-alone ECP brake system means a brake system equipped with a CCD that can only operate the brakes on the car in ECP brake mode.

State inspector means an inspector of a participating State rail safety program under part 212 of this chapter.

Switch Mode means a mode of operation of the ECP brake system that allows operation of that train at 20 miles per hour or less when the train's ECP-EOT device is not communicating with the lead locomotive's HEU, the train is separated during road switching operations, or the ECP brake system has stopped the train because the percentage of operative brakes fell below 85%. Many of the ECP brake system's fault detection/response procedures are suspended during Switch Mode.

Switching service means the classification of freight cars according to commodity or destination; assembling of cars for train movements; changing the position of cars for purposes of loading, unloading, or weighing; placing of locomotives and cars for repair or storage; or moving of rail equipment in connection with work service that does not constitute a train movement.

Tourist, scenic, historic, or excursion operations are railroad operations that carry passengers, often using antiquated equipment, with the conveyance of the passengers to a particular destination not being the principal purpose.

Train means one or more locomotives coupled with one or more freight cars, except during switching service.

Train line means the brake pipe or any non-pneumatic system used to transmit the signal that controls the locomotive and freight car brakes.

Train line cable is a two-conductor electric wire spanning the train and carrying both electrical power to operate all CCDs and ECP-EOT devices and communications network signals.

Train, unit or train, cycle means a train that, except for the changing of locomotive power or for the removal or replacement of defective equipment, remains coupled as a consist and operates in a continuous loop or continuous loops without destination.

Transfer train means a train that travels between a point of origin and a point of final destination not exceeding 20 miles. Such trains may pick up or deliver freight equipment while en route to destination.

Yard air means a source of compressed air other than from a locomotive.

Yard limits means a system of tracks, not including main tracks and sidings, used for classifying cars, making-up and inspecting trains, or storing cars and equipment.

[66 FR 4193, Jan. 17, 2001, as amended at 67 FR 17580, Apr. 10, 2002; 73 FR 61552, Oct. 16, 2008]

§232.213 Extended haul trains.

(a) A railroad may be permitted to move a train up to, but not exceeding, 1,500 miles between brake tests and inspections if the railroad designates a train as an extended haul train. In order for

a railroad to designate a train as an extended haul train, all of the following requirements must be met:

(1) The railroad must designate the train in writing to FRA's Associate Administrator for Safety. This designation must include the following:

(i) The train identification symbol or identification of the location where extended haul trains will originate and a description of the trains that will be operated as extended haul trains from those locations;

(ii) The origination and destination points for the train;

(iii) The type or types of equipment the train will haul; and

(iv) The locations where all train brake and mechanical inspections and tests will be performed.

(2) A Class I brake test pursuant to §232.205 shall be performed at the initial terminal for the train by a qualified mechanical inspector as defined in §232.5.

(3) A freight car inspection pursuant to part 215 of this chapter shall be performed at the initial terminal for the train and shall be performed by an inspector designated under §215.11 of this chapter.

(4) All cars having conditions not in compliance with part 215 of this chapter at the initial terminal for the train shall be either repaired or removed from the train. Except for a car developing such a condition en route, no car shall be moved pursuant to the provisions of §215.9 of this chapter in the train.

(5) The train shall have no more than one pick-up and one set-out en route, except for the set-out of defective equipment pursuant to the requirements of this chapter.

(i) Cars added to the train en route shall be inspected pursuant to the requirements contained in paragraphs (a)(2) through (a)(5) of this section at the location where they are added to the train.

(ii) Cars set out of the train en route shall be inspected pursuant to the requirements contained in paragraph (a)(6) of this section at the location where they are set out of the train.

(6) In order for an extended haul train to proceed beyond 1,500 miles, the following requirements shall be met:

(i) If the train will move 1,000 miles or less from that location before receiving a Class IA brake test or reaching destination, a Class I brake test shall be conducted pursuant to §232.205 to ensure 100 percent effective and operative brakes. The inbound inspection required by paragraph (a)(6) of this section may be used to meet this requirement provided it encompasses all the inspection elements contained in §232.205.

(ii) If the train will move greater than 1,000 miles from that location without another brake inspection, the train must be identified as an extended haul train for that movement and shall meet all the requirements contained in paragraphs (a)(1) through (a)(7) of this section. Such trains shall receive a Class I brake test pursuant to §232.205 by a qualified mechanical inspector to ensure 100 percent effective and operative brakes, a freight car inspection pursuant to part 215 of this chapter by an inspector designated under §215.11 of this chapter, and all cars containing non-complying conditions under part 215 of this chapter shall either be repaired or removed from the train. The inbound inspection required by paragraph (a)(6) of this section may be used to meet these inspection requirements provided it encompasses all the inspection elements contained paragraphs (a)(2) through (a)(4) of this section.

(7) FRA inspectors shall have physical access to visually observe all brake and freight car inspections and tests required by this section.

(b) Failure to comply with any of the requirements contained in paragraph (a) of this section will be considered an improper movement of a designated priority train for which appropriate civil penalties may be assessed as outlined in appendix A to this part. Furthermore, FRA's Associate Administrator for Safety may revoke a railroad's ability to designate any or all trains as extended haul trains for repeated or willful noncompliance with any of the requirements contained in this section. Such a determination will be made in writing and will state the basis for such action.

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