

(c) *Locomotive engineers.* A railroad operating a freight car or freight train equipped with an ECP brake system shall adopt and use in its training program under part 240 specific knowledge, skill, and ability criteria to ensure that its locomotive engineers are fully trained with the operating rules governing safe train handling procedures related to ECP brake systems and equipment under all operating conditions and tailored to the specific equipment and territory of the railroad.

**§ 232.607 Inspection and testing requirements.**

(a) *Trains at initial terminal.* A freight train operating in ECP brake mode shall receive the following inspections at its point of origin (initial terminal):

(1) A Class I brake test as described in § 232.205(c) by a qualified mechanical inspector (QMI); and

(2) A pre-departure inspection pursuant to part 215 of this chapter by an inspector designated under § 215.11 of this chapter.

(b) *Trains en route.* (1) Except for a unit or cycle train, a train operating in ECP brake mode shall not operate a distance that exceeds its destination or 3,500 miles, whichever is less, unless inspections meeting the requirements of paragraph (a) of this section are performed on the train.

(2) A unit or cycle train operating in ECP brake mode shall receive the inspections required in paragraph (a) of this section at least every 3,500 miles.

(3) The greatest distance that any car in a train has traveled since receiving a Class I brake test by a qualified mechanical inspector will determine the distance that the train has traveled.

(4) A freight train operating in ECP brake mode shall receive a Class I brake test as described in § 232.205(c) by a qualified person at a location where the train is off air for a period of more than:

(i) 24 hours, or

(ii) 80 hours, if the train remains inaccessible to the railroad and in an extended-off-air facility. For the purpose of this section, an extended-off-air facility means a location controlled by a sole shipper or consignee which re-

stricts access to the train and provides sufficient security to deter vandalism.

(c) *Cars added en route.* (1) Each freight car equipped with an ECP brake system that is added to a freight train operating in ECP brake mode shall receive a Class I brake test as described in § 232.205(c) by a qualified person, unless all of the following are met:

(i) The car has received a Class I brake test by a qualified mechanical inspector within the last 3,500 miles;

(ii) Information identified in § 232.205(e) relating to the performance of the previously received Class I brake test is provided to the train crew;

(iii) The car has not been off air for more than 24 hours or for more than 80 hours, if that train remains in an extended-off-air facility; and

(iv) A visual inspection of the car's brake systems is conducted to ensure that the brake equipment is intact and properly secured. This may be accomplished as part of the inspection required under § 215.13 of this chapter and may be conducted while the car is off air.

(2) Each car and each solid block of cars not equipped with an ECP brake system that is added to a train operating in ECP brake mode shall receive a visual inspection to ensure it is properly placed in the train and safe to operate and shall be moved and tagged in accordance with the provisions contained in § 232.15.

(d) *Class III brake test* (1) A Class III brake test shall be performed on a freight train operating in ECP brake mode by a qualified person, as defined in § 232.5, to test the train's brake system whenever the continuity of the brake pipe or electrical connection is broken or interrupted.

(2) In lieu of observing the brake pipe changes at the rear of a freight train with the end-of-train telemetry device referred to in §§ 232.211(c) and (d), the operator shall verify that the brakes applied and released on the rear car of the freight train by observing the ECP brake system's display in the locomotive cab.

(e) *Initialization.* (1) A freight train operating in ECP brake mode shall be initialized as described in paragraph (e)(2) whenever the following occurs:

(i) Class I brake test.

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(ii) Class III brake test.  
(iii) Whenever the ECP brake system is powered on.

(2) Initialization shall, at a minimum:

(i) initialize the ECP brake system pursuant to AAR Series Standard S-4200; and

(ii) be performed in the sequential order of the vehicles in the train.

(3) Whenever an ECP brake system is initialized pursuant to this paragraph, the train crew must ensure that the total number of cars indicated by the ECP brake system is the same as the total number of cars indicated on the train consist.

(f) *Modifications to existing brake inspections.* (1) In lieu of the specific brake pipe service reductions and increases required in this part, an electronic signal that provides an equivalent application and release of the brakes shall be utilized when conducting any required inspection or test on a freight car or freight train equipped with an ECP brake system and operating in ECP brake mode.

(2) In lieu of the specific piston travel ranges contained in this part, the piston travel on freight cars equipped with ECP brake systems shall be within the piston travel limits stenciled or marked on the car or badge plate consistent with the manufacturers recommended limits, if so stenciled or marked.

(g) *ECP brake system train line cable.* Each ECP brake system train line cable shall:

(1) Be located and guarded to provide sufficient vertical clearance;

(2) Not cause any tripping hazards;

(3) Not hang with one end free whenever the equipment is used in a train movement;

(4) Not be positioned to interfere with the use of any safety appliance; or

(5) Not have any of the following conditions:

(i) Badly chafed or broken insulation.

(ii) Broken plugs, receptacles or terminals.

(iii) Broken or protruding strands of wire.

(h) *Exceptions.* A freight car or a freight train shall be exempt from the requirements contained in §§ 232.205(a) and (b), 232.207, 232.209, and 232.211(a)

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when it is equipped with an ECP brake system and operating in ECP brake mode.

**§ 232.609 Handling of defective equipment with ECP brake systems.**

(a) Ninety-five percent of the cars in a train operating in ECP brake mode shall have effective and operative brakes prior to use or departure from the train's initial terminal or any location where a Class I brake test is required to be performed on the entire train by a qualified mechanical inspector pursuant to § 232.607.

(b) A freight car equipped with an ECP brake system that is known to have arrived with ineffective or inoperative brakes at initial terminal of the next train which the car is to be included or at a location where a Class I brake test is required under §§ 232.607(b)(1) through (b)(3) shall not depart that location with ineffective or inoperative brakes in a train operating in ECP brake mode unless:

(1) The location does not have the ability to conduct the necessary repairs;

(2) The car is hauled only for the purpose of repair to the nearest forward location where the necessary repairs can be performed consistent with the guidance contained in § 232.15(f);

(3) The car is not being placed for loading or unloading while being moved for repair unless unloading is necessary for the safe repair of the car; and

(4) The car is properly tagged in accordance with § 232.15(b).

(c) A freight car equipped with only conventional pneumatic brakes shall not move in a freight train operating in ECP brake mode unless it would otherwise have effective and operative brakes if it were part of a conventional pneumatic brake-equipped train or could be moved from the location in defective condition under the provisions contained in, and tagged in accordance with, § 232.15.

(d) A freight train operating in ECP brake mode shall not move if less than 85 percent of the cars in the train have operative and effective brakes. However, after experiencing a penalty stop for having less than 85 percent operative and effective brakes, a freight