APPENDIX A TO PART 233—SCHEDULE OF CIVIL PENALTIES[1]

Section	Violation	Willful violation
233.5 Accidents resulting from signal failure	$2,500	$5,000
233.7 Signal failure reports	5,000	7,500
233.9 Annual reports	1,000	2,000

[1] A penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to $105,000 for any violation where circumstances warrant. See 49 CFR part 209, appendix A.

[53 FR 52936, Dec. 29, 1988, as amended at 63 FR 11623, Mar. 10, 1998; 69 FR 30595, May 28, 2004; 73 FR 79704, Dec. 30, 2008; 77 FR 24422, Apr. 24, 2012]

PART 234—GRADE CROSSING SAFETY, INCLUDING SIGNAL SYSTEMS, STATE ACTION PLANS, AND EMERGENCY NOTIFICATION SYSTEMS

Subpart A—General

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Subpart E—Emergency Notification Systems for Telephonic Reporting of Unsafe Conditions at Highway-Rail and Pathway Grade Crossings

AUTHORITY: 49 U.S.C. 20103, 20107, 20152, 21301, 21304, 21311, 22501 note; Pub. L. 110–432, Div. A, Secs. 202, 205; 28 U.S.C. 2461, note; and 49 CFR 1.49.

SOURCE: 61 FR 31806, June 20, 1996, unless otherwise noted.

Subpart A—General

§ 234.1 Scope.

(a) This part prescribes minimum—

(1) Maintenance, inspection, and testing standards for highway-rail grade crossing warning systems;

(2) Standards for the reporting of failures of highway-rail grade crossing warning systems and for the actions that railroads must take when such systems malfunction;

(3) Requirements for particular identified States to develop State highway-rail grade crossing action plans; and

(4) Requirements that certain railroads establish systems for receiving toll-free telephone calls reporting various unsafe conditions at highway-rail grade crossings and pathway grade crossings, and for taking certain actions in response to those calls.

(b) This part does not restrict a railroad from adopting and enforcing additional or more stringent requirements not inconsistent with this part.

[77 FR 35190, June 12, 2012]

§ 234.3 Application and responsibility for compliance.

(a) With the exception of § 234.11, this part applies to all railroads except the following:

(1) Operations of a plant railroad as defined in § 234.5;

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

(3) Tourist, scenic, historic, or excursion operations conducted only on track used exclusively for that purpose (*i.e.,* there is no freight, intercity passenger, or commuter passenger railroad operation on the track) and only on track inside an installation that is insular; *i.e.,* the operations are limited to a separate enclave in such a way that there is no reasonable expectation that the safety of the public—except a business guest, a licensee of the railroad or an affiliated entity, or a trespasser—would be affected by the operation. An operation will not be considered insular if one or more of the following exists on its line:

(i) A public highway-rail crossing that is in use;

(ii) An at-grade rail crossing that is in use;

(iii) A bridge over a public road or waters used for commercial navigation; or

(iv) A common corridor with a railroad, *i.e.,* its operations are within 30 feet of those of any railroad.

(b) Although the duties imposed by this part are generally stated in terms of the duty of a railroad, each person, including a contractor or subcontractor for a railroad, who performs any task covered by this part, shall perform that task in accordance with this part.

[77 FR 35190, June 12, 2012]

§ 234.5 Definitions.

As used in this part:

Activation failure means the failure of an active highway-rail grade crossing warning system to indicate the approach of a train at least 20 seconds prior to the train's arrival at the crossing, or to indicate the presence of a train occupying the crossing, unless

the crossing is provided with an alternative means of active warning to highway users of approaching trains. (This failure indicates to the motorist that it is safe to proceed across the railroad tracks when, in fact, it is not safe to do so.) A grade crossing signal system does not indicate the approach of a train within the meaning of this paragraph if—more than 50% of the flashing lights (not gate arm lights) on any approach lane to the crossing are not functioning as intended, or in the case of an approach lane for which two or more pairs of flashing lights are provided, there is not at least one flashing light pair operating as intended. Back lights on the far side of the crossing are not considered in making these determinations.

Appropriately equipped flagger means a person other than a train crewmember who is equipped with a vest, shirt, or jacket of a color appropriate for daytime flagging such as orange, yellow, strong yellow green or fluorescent versions of these colors or other generally accepted high visibility colors. For nighttime flagging, similar outside garments shall be retro reflective. Acceptable hand signal devices for daytime flagging include '' STOP/SLOW'' paddles or red flags. For nighttime flagging, a flashlight, lantern, or other lighted signal shall be used. Inasmuch as Part VI of the Federal Highway Administration's Manual on Uniform Traffic Control Devices addresses standards and guides for flaggers and flagging equipment for highway traffic control, FRA recommends that railroads be aware of the standards and follow them to the greatest extent possible. Copies of the latest MUTCD provisions regarding flagging will be available from FRA, as well as FMCSA, as changes are made in this area.

Credible report of warning system malfunction or *credible report of warning system malfunction at a highway-rail grade crossing* means a report that contains specific information regarding a malfunction of a highway-rail grade crossing warning system at an identified highway-rail grade crossing, supplied by a railroad employee, law enforcement officer, highway traffic official, or other employee of a public agency acting in an official capacity.

False activation means the activation of a highway-rail grade crossing warning system caused by a condition that requires correction or repair of the grade crossing warning system. (This failure indicates to the motorist that it is not safe to cross the railroad tracks when, in fact, it is safe to do so.)

FRA means the Office of Railroad Safety, Federal Railroad Administration, 1200 New Jersey Avenue SE., Washington, DC 20590.

Highway-rail grade crossing means a location where a public highway, road, street, or private roadway, including associated sidewalks and pathways, crosses one or more railroad tracks at grade.

Partial activation means activation of a highway-rail grade crossing warning system indicating the approach of a train, however, the full intended warning is not provided due to one of the following conditions:

(1) At non-gated crossings equipped with one pair of lights designed to flash alternately, one of the two lights does not operate properly (and approaching motorists can not clearly see flashing back lights from the warning lights on the other side of the crossing);

(2) At gated crossings, the gate arm is not in a horizontal position; or

(3) At gated crossings, any portion of a gate arm is missing if that portion normally had a gate arm flashing light attached.

Plant railroad means a plant or installation that owns or leases a locomotive, uses that locomotive to switch cars throughout the plant or installation, and is moving goods solely for use in the facility's own industrial processes. The plant or installation could include track immediately adjacent to the plant or installation if the plant railroad leases the track from the general system railroad and the lease provides for (and actual practice entails) the exclusive use of that trackage by the plant railroad and the general system railroad for purposes of moving only cars shipped to or from the plant. A plant or installation that operates a locomotive to switch or move cars for other entities, even if solely within the confines of the plant or installation,

rather than for its own purposes or industrial processes, will not be considered a plant railroad because the performance of such activity makes the operation part of the general railroad system of transportation.

Train means one or more locomotives, with or without cars.

Warning system malfunction or *warning system malfunction at a highway-rail grade crossing* means an activation failure, a partial activation, or a false activation of a highway-rail grade crossing warning system.

[61 FR 31806, June 20, 1996, as amended at 77 FR 35191, June 12, 2012]

§ 234.6 Penalties.

(a) *Civil penalty*. Any person (an entity of any type covered under 1 U.S.C. 1, including but not limited to the following: A railroad; a manager, supervisor, official, or other employee or agent of a railroad; any owner, manufacturer, lessor, or lessee of railroad equipment, track, or facilities; any independent contractor providing goods or services to a railroad; and any employee of such owner, manufacturer, lessor, lessee, or independent contractor) who violates any requirement of this part, except for any violation of § 234.11 of this part, or causes the violation of any such requirement is subject to a civil penalty of at least $650, but not more than $25,000 per violation, except that: Penalties may be assessed against individuals only for willful violations, and where a grossly negligent violation or a pattern of repeated violations has created an imminent hazard of death or injury to persons, or has caused death or injury, a penalty not to exceed $105,000 per violation may be assessed. Each day a violation continues shall constitute a separate offense. Appendix A to this part contains a schedule of civil penalty amounts used in connection with this rule. The railroad is not responsible for compliance with respect to any condition inconsistent with the technical standards set forth in this part where such variance arises as a result of actions beyond the control of the railroad and the railroad could not have prevented the variance through the exercise of due diligence. The foregoing sentence does not excuse any instance of noncompliance resulting from the actions of the railroad's employees, agents, or contractors.

(b) *Criminal penalty*. Whoever knowingly and willfully makes, causes to be made, or participates in the making of a false entry in reports required to be filed by this part, or files a false report or other document required to be filed by this part, except for any document filed pursuant to § 234.11 of this part, is subject to a $5,000 fine and 2 years imprisonment as prescribed by 49 U.S.C. 522(a) and 21311(a).

[74 FR 36558, June 28, 2010, as amended at 77 FR 24422, Apr. 24, 2012]

Subpart B—Reports and Plans

§ 234.7 Accidents involving grade crossing signal failure.

(a) Each railroad shall report to FRA every impact between on-track railroad equipment and an automobile, bus, truck, motorcycle, bicycle, farm vehicle, or pedestrian at a highway-rail grade crossing involving an activation failure. Notification shall be provided to the National Response Center within 24 hours of occurrence at (800) 424–0201. Complete reports shall thereafter be filed with FRA pursuant to § 234.9 of this part (activation failure report) and 49 CFR 225.11 (accident/ incident report).

(b) Each telephone report must state the:

(1) Name of the railroad;

(2) Name, title, and telephone number of the individual making the report;

(3) Time, date, and location of accident;

(4) U. S. DOT-AAR Grade Crossing Identification Number;

(5) Circumstances of the accident, including operating details of the grade crossing warning device;

(6) Number of persons killed or injured, if any;

(7) Maximum authorized train speed; and

(8) Posted highway speed limit, if known.

§ 234.9 Grade crossing signal system failure reports.

Each railroad shall report to FRA within 15 days each activation failure

of a highway-rail grade crossing warning system. FRA Form No. 6180–83, ''Highway-Rail Grade Crossing Warning System Failure Report,'' shall be used for this purpose and completed in accordance with instructions printed on the form.

§ 234.11 State highway-rail grade crossing action plans.

(a) *Purpose.* The purpose of this section is to reduce collisions at highway-rail grade crossings in the ten States that have had the most highway-rail grade crossing collisions, on average, during the calendar years 2006, 2007, and 2008. This section does not restrict any other State, or other entity, from adopting a highway-rail grade crossing action plan. This section also does not restrict any of the States required to develop action plans under this section from adopting a highway-rail grade crossing action plan with additional or more stringent requirements not inconsistent with this section.

(b) *Application.* This section applies to the ten States that have had the most highway-rail grade crossing collisions, on average, during the calendar years 2006, 2007, and 2008.

(c) *Action plans.* (1) The ten identified States shall each develop a State highway-rail grade crossing action plan and submit such a plan to FRA for review and approval not later than August 27, 2011.

(2) A State highway-rail grade crossing action plan shall:

(i) Identify specific solutions for improving safety at crossings, including highway-rail grade crossing closures or grade separations;

(ii) Focus on crossings that have experienced multiple accidents or are at high risk for such accidents; and

(iii) Cover a five-year time period.

(d) *Review and approval.* (1) State highway-rail grade crossing action plans required under paragraph (c) of this section shall be submitted for FRA review and approval using at least one of the following methods: Mail to the Associate Administrator for Railroad Safety/Chief Safety Officer, U.S. Department of Transportation, Federal Railroad Administration, 1200 New Jersey Ave., SE., Washington, DC 20590; or e-mail to *rrs.correspondence@fra.dot.gov*.

(2) FRA will review and approve or disapprove a State highway-rail grade crossing action plan submitted pursuant to paragraph (d) of this section within 60 days of receipt.

(3) If the proposed State highway-rail grade crossing action plan is disapproved, FRA will notify the affected State as to the specific areas in which the proposed plan is deficient. A State shall correct all deficiencies within 30 days following receipt of written notice from FRA.

(4) FRA may condition the awarding of any grants under 49 U.S.C. 20158, 20167, or 22501 to an identified State on the development of an FRA approved State highway-rail grade crossing action plan.

[75 FR 36559, June 28, 2010]

Subpart C—Response to Credible Reports of Warning System Malfunction at Highway-Rail Grade Crossings

§ 234.101 Employee notification rules.

Each railroad shall issue rules requiring its employees to report to persons designated by that railroad, by the quickest means available, any warning system malfunction.

§ 234.103 Timely response to report of malfunction.

(a) Upon receipt of a credible report of a warning system malfunction, a railroad having maintenance responsibility for the warning system shall promptly investigate the report and determine the nature of the malfunction. The railroad shall take appropriate action as required by § 234.207.

(b) Until repair or correction of the warning system is completed, the railroad shall provide alternative means of warning highway traffic and railroad employees in accordance with §§ 234.105, 234.106 or 234.107 of this part.

(c) Nothing in this subpart requires repair of a warning system, if, acting in accordance with applicable State law, the railroad proceeds to discontinue or dismantle the warning system. However, until repair, correction, discontinuance, or dismantling of the warning system is completed, the railroad shall comply with this subpart to

ensure the safety of the traveling public and railroad employees.

§ 234.105 Activation failure.

Upon receipt of a credible report of warning system malfunction involving an activation failure, a railroad having maintenance responsibility for the warning system shall promptly initiate efforts to warn highway users and railroad employees at the subject crossing by taking the following actions:

(a) Prior to any train's arrival at the crossing, notify the train crew of the report of activation failure and notify any other railroads operating over the crossing;

(b) Notify the law enforcement agency having jurisdiction over the crossing, or railroad police capable of responding and controlling vehicular traffic; and

(c) Provide for alternative means of actively warning highway users of approaching trains, consistent with the following requirements (see appendix B for a summary chart of alternative means of warning):

(1)(i) If an appropriately equipped flagger provides warning for each direction of highway traffic, trains may proceed through the crossing at normal speed.

(ii) If at least one uniformed law enforcement officer (including a railroad police officer) provides warning to highway traffic at the crossing, trains may proceed through the crossing at normal speed.

(2) If an appropriately equipped flagger provides warning for highway traffic, but there is not at least one flagger providing warning for each direction of highway traffic, trains may proceed with caution through the crossing at a speed not exceeding 15 miles per hour. Normal speed may be resumed after the locomotive has passed through the crossing.

(3) If there is not an appropriately equipped flagger or uniformed law enforcement officer providing warning to highway traffic at the crossing, each train must stop before entering the crossing and permit a crewmember to dismount to flag highway traffic to a stop. The locomotive may then proceed through the crossing, and the flagging crewmember may reboard the locomotive before the remainder of the train proceeds through the crossing.

(d) A locomotive's audible warning device shall be activated in accordance with railroad rules regarding the approach to a grade crossing.

§ 234.106 Partial activation.

Upon receipt of a credible report of a partial activation, a railroad having maintenance responsibility for the warning system shall promptly initiate efforts to warn highway users and railroad employees at the subject crossing in the same manner as required for false activations (§ 234.107).

§ 234.107 False activation.

Upon receipt of a credible report of a false activation, a railroad having maintenance responsibility for the highway-rail grade crossing warning system shall promptly initiate efforts to warn highway users and railroad employees at the crossing by taking the following actions:

(a) Prior to a train's arrival at the crossing, notify the train crew of the report of false activation and notify any other railroads operating over the crossing;

(b) Notify the law enforcement agency having jurisdiction over the crossing, or railroad police capable of responding and controlling vehicular traffic; and

(c) Provide for alternative means of actively warning highway users of approaching trains, consistent with the following requirements (see Appendix B for a summary chart of alternative means of warning).

(1)(i) If an appropriately equipped flagger is providing warning for each direction of highway traffic, trains may proceed through the crossing at normal speed.

(ii) If at least one uniformed law enforcement officer (including a railroad police officer) provides warning to highway traffic at the crossing, trains may proceed through the crossing at normal speed.

(2) If there is not an appropriately equipped flagger providing warning for each direction of highway traffic, or if there is not at least one uniformed law enforcement officer providing warning, trains with the locomotive or cab car

leading, may proceed with caution through the crossing at a speed not exceeding 15 miles per hour. Normal speed may be resumed after the locomotive has passed through the crossing. In the case of a shoving move, a crewmember shall be on the ground to flag the train through the crossing.

(3) In lieu of complying with paragraphs (c) (1) or (2) of this section, a railroad may temporarily take the warning system out of service if the railroad complies with all requirements of § 234.105, ''Activation failure.''

(d) A locomotive's audible warning device shall be activated in accordance with railroad rules regarding the approach to a grade crossing.

§ 234.109 Recordkeeping.

(a) Each railroad shall keep records pertaining to compliance with this subpart. Records may be kept on forms provided by the railroad or by electronic means. Each railroad shall keep the following information for each credible report of warning system malfunction:

(1) Location of crossing (by highway name and DOT/AAR Crossing Inventory Number);

(2) Time and date of receipt by railroad of report of malfunction;

(3) Actions taken by railroad prior to repair and reactivation of repaired system; and

(4) Time and date of repair.

(b) Each railroad shall retain for at least one year (from the latest date of railroad activity in response to a credible report of malfunction) all records referred to in paragraph (a) of this section. Records required to be kept shall be made available to FRA as provided by 49 U.S.C. 20107 (formerly 208 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 437)).

Subpart D—Maintenance, Inspection, and Testing

MAINTENANCE STANDARDS

§ 234.201 Location of plans.

Plans required for proper maintenance and testing shall be kept at each highway-rail grade crossing warning system location. Plans shall be legible and correct.

§ 234.203 Control circuits.

All control circuits that affect the safe operation of a highway-rail grade crossing warning system shall operate on the fail-safe principle.

§ 234.205 Operating characteristics of warning system apparatus.

Operating characteristics of electromagnetic, electronic, or electrical apparatus of each highway-rail crossing warning system shall be maintained in accordance with the limits within which the system is designed to operate.

§ 234.207 Adjustment, repair, or replacement of component.

(a) When any essential component of a highway-rail grade crossing warning system fails to perform its intended function, the cause shall be determined and the faulty component adjusted, repaired, or replaced without undue delay.

(b) Until repair of an essential component is completed, a railroad shall take appropriate action under § 234.105, Activation failure, § 234.106, Partial activation, or § 234.107, False activation, of this part.

§ 234.209 Interference with normal functioning of system.

(a) The normal functioning of any system shall not be interfered with in testing or otherwise without first taking measures to provide for safety of highway traffic that depends on normal functioning of such system.

(b) Interference includes, but is not limited to:

(1) Trains, locomotives or other railroad equipment standing within the system's approach circuit, other than normal train movements or switching operations, where the warning system is not designed to accommodate those activities.

(2) Not providing alternative methods of maintaining safety for the highway user while testing or performing work on the warning systems or on track and other railroad systems or structures which may affect the integrity of the warning system.

§ 234.211 Security of warning system apparatus.

Highway-rail grade crossing warning system apparatus shall be secured against unauthorized entry.

§ 234.213 Grounds.

Each circuit that affects the proper functioning of a highway-rail grade crossing warning system shall be kept free of any ground or combination of grounds that will permit a current flow of 75 percent or more of the release value of any relay or electromagnetic device in the circuit. This requirement does not apply to: circuits that include track rail; alternating current power distribution circuits that are grounded in the interest of safety; and common return wires of grounded common return single break circuits.

§ 234.215 Standby power system.

A standby source of power shall be provided with sufficient capacity to operate the warning system for a reasonable length of time during a period of primary power interruption. The designated capacity shall be specified on the plans required by §234.201 of this part.

[66 FR 49560, Sept. 28, 2001]

§ 234.217 Flashing light units.

(a) Each flashing light unit shall be properly positioned and aligned and shall be visible to a highway user approaching the crossing.

(b) Each flashing light unit shall be maintained to prevent dust and moisture from entering the interior of the unit. Roundels and reflectors shall be clean and in good condition.

(c) All light units shall flash alternately. The number of flashes per minute for each light unit shall be 35 minimum and 65 maximum.

§ 234.219 Gate arm lights and light cable.

Each gate arm light shall be maintained in such condition to be properly visible to approaching highway users. Lights and light wire shall be secured to the gate arm.

§ 234.221 Lamp voltage.

The voltage at each lamp shall be maintained at not less than 85 percent of the prescribed rating for the lamp.

§ 234.223 Gate arm.

Each gate arm, when in the downward position, shall extend across each lane of approaching highway traffic and shall be maintained in a condition sufficient to be clearly viewed by approaching highway users. Each gate arm shall start its downward motion not less than three seconds after flashing lights begin to operate and shall assume the horizontal position at least five seconds before the arrival of any normal train movement through the crossing. At those crossings equipped with four quadrant gates, the timing requirements of this section apply to entrance gates only.

§ 234.225 Activation of warning system.

A highway-rail grade crossing warning system shall be maintained to activate in accordance with the design of the warning system, but in no event shall it provide less than 20 seconds warning time for the normal operation of through trains before the grade crossing is occupied by rail traffic.

§ 234.227 Train detection apparatus.

(a) Train detection apparatus shall be maintained to detect a train or railcar in any part of a train detection circuit, in accordance with the design of the warning system.

(b) If the presence of sand, rust, dirt, grease, or other foreign matter is known to prevent effective shunting, a railroad shall take appropriate action under §234.105, ''Activation failure,'' to safeguard highway users.

§ 234.229 Shunting sensitivity.

Each highway-rail grade crossing train detection circuit shall detect the application of a shunt of 0.06 ohm resistance when the shunt is connected across the track rails of any part of the circuit.

§ 234.231 Fouling wires.

Each set of fouling wires in a highway-rail grade crossing train detection

circuit shall consist of at least two discrete conductors. Each conductor shall be of sufficient conductivity and shall be maintained in such condition to ensure proper operation of the train detection apparatus when the train detection circuit is shunted. Installation of a single duplex wire with single plug acting as fouling wires is prohibited. Existing installations having single duplex wires with a single plug for fouling wires may be continued in use until they require repair or replacement.

§ 234.233 Rail joints.

Each non-insulated rail joint located within the limits of a highway-rail grade crossing train detection circuit shall be bonded by means other than joint bars and the bonds shall be maintained in such condition to ensure electrical conductivity.

§ 234.235 Insulated rail joints.

Each insulated rail joint used to separate train detection circuits of a highway-rail grade crossing shall be maintained to prevent current from flowing between rails separated by the insulation in an amount sufficient to cause a failure of the train detection circuit.

§ 234.237 Reverse switch cut-out circuit.

A switch, when equipped with a switch circuit controller connected to the point and interconnected with warning system circuitry, shall be maintained so that the warning system can only be cut out when the switch point is within one-half inch of full reverse position.

§ 234.239 Tagging of wires and interference of wires or tags with signal apparatus.

Each wire shall be tagged or otherwise so marked that it can be identified at each terminal. Tags and other marks of identification shall be made of insulating material and so arranged that tags and wires do not interfere with moving parts of the apparatus. This requirement applies to each wire at each terminal in all housings including switch circuit controllers and terminal or junction boxes. This requirement does not apply to flashing light units, gate arm light units and other auxiliary light units. The local wiring on a solid state crossing controller rack does not require tags if the wiring is an integral part of the solid state equipment.

§ 234.241 Protection of insulated wire; splice in underground wire.

Insulated wire shall be protected from mechanical injury. The insulation shall not be punctured for test purposes. A splice in underground wire shall have insulation resistance at least equal to that of the wire spliced.

§ 234.243 Wire on pole line and aerial cable.

Wire on a pole line shall be securely attached to an insulator that is properly fastened to a cross arm or bracket supported by a pole or other support. Wire shall not interfere with, or be interfered with by, other wires on the pole line. Aerial cable shall be supported by messenger wire. An open-wire transmission line operating at voltage of 750 volts or more shall be placed not less than 4 feet above the nearest cross arm carrying active warning system circuits.

§ 234.245 Signs.

Each sign mounted on a highway-rail grade crossing signal post shall be maintained in good condition and be visible to the highway user.

INSPECTIONS AND TESTS

§ 234.247 Purpose of inspections and tests; removal from service of relay or device failing to meet test requirements.

(a) The inspections and tests set forth in §§ 234.249 through 234.271 are required at highway-rail grade crossings located on in service railroad tracks and shall be made to determine if the warning system and its component parts are maintained in a condition to perform their intended function.

(b) If a railroad elects not to comply with the requirements of §§ 234.249 through 234.271 because all tracks over the grade crossing are out of service or the railroad suspends operations during a portion of the year, and the grade crossing warning system is also temporarily taken out of service, a full inspection and all required tests must be

successfully completed before railroad operations over the grade crossing resume.

(c) Any electronic device, relay, or other electromagnetic device that fails to meet the requirements of tests required by this part shall be removed from service and shall not be restored to service until its operating characteristics are in accordance with the limits within which such device or relay is designed to operate.

[61 FR 31806, June 20, 1996, as amended at 66 FR 49560, Sept. 28, 2001]

§ 234.249 Ground tests.

A test for grounds on each energy bus furnishing power to circuits that affect the safety of warning system operation shall be made when such energy bus is placed in service and at least once each month thereafter.

§ 234.251 Standby power.

Standby power shall be tested at least once each month.

§ 234.253 Flashing light units and lamp voltage.

(a) Each flashing light unit shall be inspected when installed and at least once every twelve months for proper alignment and frequency of flashes in accordance with installation specifications.

(b) Lamp voltage shall be tested when installed and at least once every 12 months thereafter.

(c) Each flashing light unit shall be inspected for proper visibility, dirt and damage to roundels and reflectors at least once each month.

§ 234.255 Gate arm and gate mechanism.

(a) Each gate arm and gate mechanism shall be inspected at least once each month.

(b) Gate arm movement shall be observed for proper operation at least once each month.

(c) Hold-clear devices shall be tested for proper operation at least once every 12 months.

§ 234.257 Warning system operation.

(a) Each highway-rail crossing warning system shall be tested to determine that it functions as intended when it is placed in service. Thereafter, it shall be tested at least once each month and whenever modified or disarranged.

(b) Warning bells or other stationary audible warning devices shall be tested when installed to determine that they function as intended. Thereafter, they shall be tested at least once each month and whenever modified or disarranged.

§ 234.259 Warning time.

Each crossing warning system shall be tested for the prescribed warning time at least once every 12 months and when the warning system is modified because of a change in train speeds. Electronic devices that accurately determine actual warning time may be used in performing such tests.

§ 234.261 Highway traffic signal preemption.

Highway traffic signal pre-emption interconnections, for which a railroad has maintenance responsibility, shall be tested at least once each month.

§ 234.263 Relays.

(a) Except as stated in paragraph (b) of this section, each relay that affects the proper functioning of a crossing warning system shall be tested at least once every four years.

(b)(1) Alternating current vane type relays, direct current polar type relays, and relays with soft iron magnetic structure shall be tested at least once every two years.

(2) Alternating current centrifugal type relays shall be tested at least once every 12 months.

(c) Testing of relays requiring testing on four year intervals shall be completed in accordance with the following schedule:

(1) Not less than 50% by the end of calendar year 1996;

(2) Not less than a total of 75% by the end of calendar year 1997; and

(3) One hundred percent by the end of calendar year 1998.

(d) Testing of relays requiring testing on two year intervals shall be completed by the end of calendar year 1996.

§ 234.265 Timing relays and timing devices.

Each timing relay and timing device shall be tested at least once every twelve months. The timing shall be maintained at not less than 90 percent nor more than 110 percent of the 41 predetermined time interval. The predetermined time interval shall be shown on the plans or marked on the timing relay or timing device. Timing devices which perform internal functions associated with motion detectors, motion sensors, and grade crossing predictors are not subject to the requirements of this section.

§ 234.267 Insulation resistance tests, wires in trunking and cables.

(a) Insulation resistance tests shall be made when wires or cables are installed and at least once every ten years thereafter.

(b) Insulation resistance tests shall be made between all conductors and ground, between conductors in each multiple conductor cable, and between conductors in trunking. Insulation resistance tests shall be performed when wires, cables, and insulation are dry.

(c) Subject to paragraph (d) of this section, when insulation resistance of wire or cable is found to be less than 500,000 ohms, prompt action shall be taken to repair or replace the defective wire or cable. Until such defective wire or cable is replaced, insulation resistance tests shall be made annually.

(d) A circuit with a conductor having an insulation resistance of less than 200,000 ohms shall not be used.

(e) Required insulation resistance testing that does not conform to the required testing schedule of this section shall be completed in accordance with the following schedule:

(1) Not less than 50% by the end of calendar year 1996;

(2) Not less than a total of 75% by the end of calendar year 1997; and

(3) One hundred percent by the end of calendar year 1998.

§ 234.269 Cut-out circuits.

Each cut-out circuit shall be tested at least once every three months to determine that the circuit functions as intended. For purposes of this section, a cut-out circuit is any circuit which overrides the operation of automatic warning systems. This includes both switch cut-out circuits and devices which enable personnel to manually override the operation of automatic warning systems.

§ 234.271 Insulated rail joints, bond wires, and track connections.

Insulated rail joints, bond wires, and track connections shall be inspected at least once every three months.

§ 234.273 Results of inspections and tests.

(a) Results of inspections and tests made in compliance with this part shall be recorded on forms provided by the railroad, or by electronic means, subject to approval by the Associate Administrator for Safety. Each record shall show the name of the railroad, AAR/DOT inventory number, place and date, equipment tested, results of tests, repairs, replacements, adjustments made, and condition in which the apparatus was left.

(b) Each record shall be signed or electronically coded by the employee making the test and shall be filed in the office of a supervisory official having jurisdiction. Records required to be kept shall be made available to FRA as provided by 49 U.S.C. 20107 (formerly § 208 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 437)).

(c) Each record shall be retained until the next record for that test is filed but in no case for less than one year from the date of the test.

Requirements for Processor-Based Systems

§ 234.275 Processor-based systems.

(a) *Applicable definitions.* The definitions in § 236.903 of this chapter shall apply to this section, where applicable.

(b) *Use of performance standard authorized or required.* (1) In lieu of compliance with the requirements of this subpart, a railroad may elect to qualify an existing processor-based product under part 236, subparts H or I, of this chapter.

(2) Highway-rail grade crossing warning systems, subsystems, or components that are processor-based and that are first placed in service after June 6,

2005, which contain new or novel technology, or which provide safety-critical data to a railroad signal or train control system that is governed by part 236, subpart H or I, of this chapter, shall also comply with those requirements. New or novel technology refers to a technology not previously recognized for use as of March 7, 2005.

(3) Products designed in accordance with subparts A through D of this part, which are not in service but are in the developmental stage prior to December 5, 2005 (or for which a request for exclusion was submitted prior to June 6, 2005 pursuant to §236.911 of this chapter), may be excluded from the requirements of part 236, subpart H of this chapter upon notification to FRA by March 6, 2006, if placed in service by December 5, 2008 (or March 7, 2008 for those products for which a request for exclusion was submitted to FRA prior to June 6, 2005). Railroads may continue to implement and use these products and components from these existing products. A railroad may at any time elect to have products that are excluded made subject to 49 CFR part 236, subpart H, by submitting a Product Safety Plan as prescribed in §236.913 of this chapter and otherwise complying with part 236, subpart H of this chapter.

(c) *Plan justifications.* The Product Safety Plan in accordance with 49 CFR 236.907—or a PTC Development Plan and PTC Safety Plan required to be filed in accordance with 49 CFR 236.1013 and 236.1015—must explain how the performance objective sought to be addressed by each of the particular requirements of this subpart is met by the product, why the objective is not relevant to the product's design, or how the safety requirements are satisfied using alternative means. Deviation from those particular requirements is authorized if an adequate explanation is provided, making reference to relevant elements of the applicable plan, and if the product satisfies the performance standard set forth in §236.909 of this chapter. (See §236.907(a)(14) of this chapter.)

(d) *Specific requirements.* The following exclusions from the latitude provided by this section apply:

(1) Nothing in this section authorizes deviation from applicable design requirements for automated warning devices at highway-rail grade crossings in the Manual on Uniform Traffic Control Devices (MUTCD), 2000 Millennium Edition, Federal Highway Administration (FHWA), dated December 18, 2000, including Errata #1 to MUTCD 2000 Millennium Edition dated June 14, 2001 (*http://mutcd.fhwa.dot.gov/*).

(2) Nothing in this section authorizes deviation from the following requirements of this subpart:

(i) §234.207(b) (Adjustment, repair, or replacement of a component);

(ii) §234.209(b) (Interference with normal functioning of system);

(iii) §234.211 (Security of warning system apparatus);

(iv) §234.217 (Flashing light units);

(v) §234.219 (Gate arm lights and light cable);

(vi) §234.221 (Lamp voltage);

(vii) §234.223 (Gate arm);

(viii) §234.225 (Activation of warning system);

(ix) §234.227 (Train detection apparatus)—if a train detection circuit is employed to determine the train's presence;

(x) §234.229 (Shunting sensitivity)—if a conventional track circuit is employed;

(xi) §234.231 (Fouling wires)—if a conventional train detection circuit is employed;

(xii) §234.233 (Rail joints)—if a track circuit is employed;

(xiii) §234.235 (Insulated rail joints)—if a track circuit is employed;

(xiv) §234.237 (Reverse switch cut-out circuit); or

(xv) §234.245 (Signs).

(e) *Separate justification for other than fail-safe design.* Deviation from the requirement of §234.203 (Control circuits) that circuits be designed on a fail-safe principle must be separately justified at the component, subsystem, and system level using the criteria of §236.909 of this chapter.

(f) *Software management control for certain systems not subject to a performance standard.* Any processor-based system, subsystem, or component subject to this part, which is not subject to the requirements of part 236, subpart H or I, of this chapter but which provides

safety-critical data to a signal or train control system shall be included in the software management control plan requirements as specified in § 236.18 of this chapter.

[70 FR 72384, Dec. 5, 2005, as amended at 75 FR 2698, Jan. 15, 2010]

Subpart E—Emergency Notification Systems for Telephonic Reporting of Unsafe Conditions at Highway-Rail and Pathway Grade Crossings

SOURCE: 77 FR 35191, June 12, 2012, unless otherwise noted.

§ 234.301 Definitions.

As used in this subpart—

Answering machine means either a device or a voicemail system that allows a telephone caller to leave a recorded message to report an unsafe condition at a highway-rail or pathway grade crossing, as described in § 234.303(c) and (d), and the railroad is able to retrieve the recorded message either remotely or on-site.

Automated answering system means a type of answering system that directs a telephone caller to a single menu of options, where the caller has the choice to select one of the available options to report an unsafe condition at a highway-rail or pathway grade crossing, as described in § 234.303(c) and (d), and immediately after selecting one of the available menu options, the caller is transferred to a live telephone operator.

Class II and *Class III* have the meaning assigned by regulations of the Surface Transportation Board (49 CFR part 1201; General Instructions 1–1), as those regulations may be revised and applied by order of the Board (including modifications in class threshold based on revenue deflator adjustments).

Dispatches a train or *dispatches trains* means dispatches or otherwise provides the authority for the movement of the train or trains through a highway-rail or pathway grade crossing.

Dispatching railroad means a railroad that dispatches or otherwise provides the authority for the movement of one or more trains through a highway-rail or pathway grade crossing.

Emergency Notification System means a system in place by which a railroad receives, processes, and responds to telephonic reports of an unsafe condition at a highway-rail or pathway grade crossing. An Emergency Notification System includes the following components:

(1) The signs, placed and maintained at the grade crossings that display the information necessary for the public to report an unsafe condition at the grade crossing to the dispatching railroad by telephone;

(2) The method that the railroad uses to receive and process a telephone call reporting the unsafe condition;

(3) The remedial actions that a railroad takes to address the report of the unsafe condition; and

(4) The recordkeeping conducted by a railroad in response to the report of the unsafe condition at the grade crossing.

ENS means Emergency Notification System as defined in this section.

Farm grade crossing means a type of highway-rail grade crossing where a private roadway used for the movement of farm motor vehicles, farm machinery, or livestock in connection with agricultural pursuits, forestry, or other land-productive purposes crosses one or more railroad tracks at grade.

Highway-rail and pathway grade crossing means a highway-rail grade crossing and a pathway grade crossing.

Highway-rail or pathway grade crossing means either a highway-rail grade crossing or a pathway grade crossing.

Maintaining railroad means the entity (*e.g.*, track owner or lessee) that is responsible for maintenance of the highway-rail or pathway grade crossing warning device, or for maintenance of other aspects of the highway-rail or pathway grade crossing. If the maintenance responsibility is handled by a contractor, such as maintaining a grade crossing warning system or track structure at the highway-rail or pathway grade crossing, then the contractor is considered the ''maintaining railroad'' for the purposes of this subpart.

Pathway grade crossing means a pathway that crosses one or more railroad tracks at grade and that is—

(1) Explicitly authorized by a public authority or a railroad;

(2) Dedicated for the use of non-vehicular traffic, including pedestrians, bicyclists, and others; and

(3) Not associated with a public highway, road, or street, or a private roadway.

Public report of warning system malfunction or *public report of warning system malfunction at a highway-rail grade crossing* means a report that contains specific information regarding a warning system malfunction at a highway-rail grade crossing that is supplied to a railroad via the ENS by a member of the public who does not belong to one of the categories of individuals listed in the definition of *Credible report of warning system malfunction* or *credible report of warning system malfunction at a highway-rail grade crossing* in § 234.5.

Third-party telephone service means a service that receives telephonic reports of unsafe conditions at highway-rail and pathway grade crossings on behalf of a railroad. A third-party telephone service that receives reports on behalf of a dispatching railroad is the only entity between the receipt of the report from the telephone caller and the transmission of the report to the dispatching railroad. A third-party telephone service that receives reports on behalf of a maintaining railroad is the only entity between the receipt of the report from a dispatching railroad and the transmission of the report to the maintaining railroad.

Warning system failure at a pathway grade crossing means failure of an active pathway grade crossing warning system to perform as intended.

§ 234.303 Emergency notification systems for telephonic reporting of unsafe conditions at highway-rail and pathway grade crossings.

(a) *Duty of dispatching railroad in general.* Each railroad shall establish and maintain a toll-free telephone service by which the railroad can directly and promptly receive telephone calls from the public reporting specific information about any of the conditions listed in paragraph (c) of this section with respect to a highway-rail grade crossing and paragraph (d) of this section with respect to a pathway grade crossing through which the railroad dispatches a train, except as provided in paragraphs (b) and (e) of this section, and in § 234.306(a). The dispatching railroad shall either have a live person answer calls directly and promptly, or use an automated answering system or a third-party telephone service for the purpose of receiving reports pursuant to this section, except as provided in paragraph (b) of this section.

(b) *Exceptions for certain railroads.* If a dispatching railroad operates in accordance with either of the conditions set forth in this paragraph, the railroad is not subject to the general duties stated in the last sentence of paragraph (a) of this section.

(1) If a railroad dispatches one or more trains through a highway-rail or pathway grade crossing, each of which is authorized to travel through the crossing at speeds not greater than 20 miles per hour (mph), the railroad may use an answering machine to receive calls regarding unsafe conditions at such a crossing. If using an answering machine pursuant to this paragraph, the railroad must retrieve its messages immediately prior to the start of its operations each day.

(2) If a railroad dispatches one or more trains through a highway-rail or pathway grade crossing on a seasonal or intermittent basis (*e.g.*, tourist, biweekly service, or non-24-hour service), and any of the trains is authorized to travel through the crossing at speeds greater than 20 mph, the railroad may use an answering machine to receive calls regarding unsafe conditions at such a crossing, but only during hours of non-operation. If using an answering machine pursuant to this paragraph (b), during periods of non-operation, the railroad must retrieve its messages daily. However, the railroad must retrieve its messages immediately prior to the start of its operations for the day, and during hours of operation the dispatching railroad shall either have a live person answer calls directly and promptly, use an automated answering system, or employ a third-party telephone service, in accordance with paragraph (a) of this section, to receive reports regarding unsafe conditions at crossings through which it dispatches trains.

(c) *Reportable unsafe conditions at highway-rail grade crossings.* Each railroad shall establish a service pursuant to paragraph (a) of this section, except as provided in paragraphs (b) and (e) of this section, and in §234.306(a), to receive telephone calls regarding the following conditions with respect to a highway-rail grade crossing through which it dispatches a train:

(1) A warning system malfunction at the highway-rail grade crossing;

(2) A disabled vehicle or other obstruction blocking a railroad track at the highway-rail grade crossing;

(3) An obstruction to the view of a pedestrian or a vehicle operator for a reasonable distance in either direction of a train's approach to the highway-rail grade crossing; or

(4) Any information relating to any other unsafe condition at the highway-rail grade crossing.

(d) *Reportable unsafe conditions at pathway grade crossings.* Each railroad shall establish a service pursuant to paragraph (a) of this section, except as provided in paragraphs (b) and (e) of this section, and in §234.306(a), to receive telephone calls regarding the following conditions with respect to a pathway grade crossing through which it dispatches a train:

(1) A failure of the active warning system at the pathway grade crossing to perform as intended;

(2) An obstruction blocking a railroad track at the pathway grade crossing;

(3) An obstruction to the view of a pathway grade crossing user for a reasonable distance in either direction of a train's approach to the pathway grade crossing; or

(4) Any information relating to any other unsafe condition at the pathway grade crossing.

(e) *Class II or Class III railroads.* A Class II or Class III railroad that dispatches one or more trains through a highway-rail or pathway grade crossing within an area in which the use of a non-toll-free number would not incur any additional fees for the caller than if a toll-free number were used, may use that non-toll-free number to receive calls pursuant to paragraph (a) of this section regarding each such crossing in that area.

(f) *Reports not made through the ENS.* If a report of an unsafe condition at a highway-rail or pathway grade crossing is not made through the telephone service described in paragraph (a) of this section, this subpart E does not apply to that report.

§234.305 Remedial actions in response to reports of unsafe conditions at highway-rail and pathway grade crossings.

(a) *General rule on response to credible report of warning system malfunction at a highway-rail grade crossing.* (1) If a railroad receives a credible report of a warning system malfunction at a highway-rail grade crossing pursuant to §234.303(c)(1) and the railroad has maintenance responsibility for the warning system to which the report pertains, then it shall take the appropriate action required by subpart C of this part.

(2) If a railroad receives a credible report of a warning system malfunction at a highway-rail grade crossing pursuant to §234.303(c)(1) and the railroad has dispatching responsibility for the crossing, but does not have maintenance responsibility for the warning system to which the report pertains, it shall promptly contact all trains that are authorized to operate through the highway-rail grade crossing in an effort to notify the train crews of the reported malfunction prior to each train's arrival at the crossing. After contacting the appropriate trains, the railroad shall then promptly contact the maintaining railroad and inform it of the reported malfunction. The maintaining railroad shall then take the appropriate action required by subpart C of this part.

(b) *General rule on response to public report of warning system malfunction at a highway-rail grade crossing.* (1) If a railroad receives a public report of a warning system malfunction at a highway-rail grade crossing pursuant to §234.303(c)(1) and the railroad has maintenance responsibility for the warning system to which the report pertains, the railroad shall promptly contact all trains that are authorized to operate through the highway-rail grade crossing in an effort to notify the train crews of the reported malfunction prior to each train's arrival at the crossing.

After contacting the appropriate trains, the railroad shall then promptly contact the law enforcement agency having jurisdiction over the highway-rail grade crossing and provide the necessary information for the law enforcement agency to direct traffic or carry out other activities to maintain safety at the highway-rail grade crossing. The railroad shall then promptly investigate the report, determine the nature of the malfunction and take the appropriate action required by § 234.207.

(2) If a railroad receives a public report of a warning system malfunction at a highway-rail grade crossing warning system pursuant to § 234.303(c)(1) and the railroad does not have maintenance responsibility for the warning system at the highway-rail grade crossing, it shall promptly contact all trains that are authorized to operate through the highway-rail grade crossing to which the report pertains in an effort to notify the train crews of the reported malfunction prior to each train's arrival at the crossing. After contacting the appropriate trains, the railroad shall then promptly contact the law enforcement agency having jurisdiction over the highway-rail grade crossing and provide the necessary information for the law enforcement agency to direct traffic or carry out other activities to maintain safety at the highway-rail grade crossing. The railroad shall then promptly contact the maintaining railroad and inform it of the reported malfunction. The maintaining railroad shall then promptly investigate the report, determine the nature of the malfunction, and take the appropriate action required by § 234.207.

(c) *General rule on response to report of warning system failure at a pathway grade crossing.* (1) If a railroad receives a report of a warning system failure at a pathway grade crossing pursuant to § 234.303(d)(1) and the railroad has maintenance responsibility for the warning system to which the report pertains, the railroad shall promptly contact all trains that are authorized to operate through the pathway grade crossing in an effort to notify the train crews of the reported failure prior to each train's arrival at the crossing. After contacting the appropriate trains, the railroad shall then promptly contact the law enforcement agency having jurisdiction over the pathway grade crossing and provide the necessary information for the law enforcement agency to direct traffic or carry out other activities to maintain safety at the pathway grade crossing. The railroad shall then promptly investigate the report, determine the nature of the failure, and without undue delay repair the active warning system if necessary.

(2) If a railroad receives a report of warning system failure at a pathway grade crossing pursuant to § 234.303(d)(1), but does not have maintenance responsibility for the warning system to which the report pertains, the railroad shall promptly contact all trains that are authorized to operate through the pathway grade crossing to which the report pertains in an effort to notify the train crews of the reported failure prior to each train's arrival at the crossing. After contacting the appropriate trains, the railroad shall then promptly contact the law enforcement agency having jurisdiction over the pathway grade crossing and provide the necessary information for the law enforcement agency to direct traffic or carry out other activities to maintain safety at the pathway grade crossing. The railroad shall then promptly contact the maintaining railroad and inform it of the reported failure. The maintaining railroad shall then promptly investigate the report, determine the nature of the failure, and without undue delay repair the warning system if necessary.

(d) *General rule on response to report of a disabled vehicle or other obstruction blocking a railroad track at a highway-rail or pathway grade crossing.* (1) If a railroad receives a report of a disabled vehicle or other obstruction blocking a railroad track at a highway-rail or pathway grade crossing, pursuant to § 234.303(c)(2) or (d)(2), and the railroad has maintenance responsibility for the crossing to which the report pertains, the railroad shall promptly contact all trains that are authorized to operate through the crossing in an effort to notify the train crews of the reported obstruction prior to each train's arrival at the crossing. After contacting the

appropriate trains, the railroad shall then promptly contact the law enforcement agency having jurisdiction over the crossing to provide it with the information necessary to assist in the removal of the reported track obstruction or to carry out other activities to maintain safety at the crossing. The railroad shall then promptly investigate the report, determine the nature of the obstruction, and without undue delay take the necessary action to have the obstruction removed.

(2) If a railroad receives a report of a disabled vehicle or other obstruction blocking a railroad track at a highway-rail or pathway grade crossing, pursuant to §234.303(c)(2) or (d)(2), but does not have maintenance responsibility for the crossing to which the report pertains, the railroad shall promptly contact all trains that are authorized to operate through the crossing to which the report pertains in an effort to notify the train crews of the reported obstruction prior to each train's arrival at the crossing. After contacting the appropriate trains, the railroad shall then promptly contact the law enforcement agency having jurisdiction over the crossing to provide it with the information necessary to assist in the removal of the reported track obstruction or to carry out other activities to maintain safety at the crossing. The railroad shall then promptly contact the maintaining railroad and inform it of the reported obstruction. The maintaining railroad shall then promptly investigate the report, determine the nature of the obstruction, and without undue delay take the necessary action to have the obstruction removed.

(e) *Special rule on contacting a train that is not required to have communication equipment.* If a railroad is not required by §220.9 of this chapter to have a working radio or working wireless communications in each occupied controlling locomotive of its trains and the railroad receives a report pursuant to §234.303(c)(1), (c)(2), (d)(1), or (d)(2) about a highway-rail or pathway crossing that any of the trains is authorized to operate through, the railroad shall promptly contact the occupied controlling locomotive of the train as required by paragraph (a), (b), (c), or (d) of this §234.305 by the quickest means available consistent with §220.13(a) of this chapter.

(f) *General rule on response to report of an obstruction of view at a highway-rail or pathway grade crossing.* (1) Upon receiving a report pursuant to §234.303(c)(3) or (d)(3), the railroad, if it is both the dispatching and the maintaining railroad, shall timely investigate the report and remove the obstruction if it is lawful and feasible to do so.

(2) If the dispatching railroad is not also the maintaining railroad, it shall promptly contact the maintaining railroad, which shall timely investigate the report and remove the obstruction if it is lawful and feasible to do so.

(g) *General rule on response to report of other unsafe condition at a highway-rail or pathway grade crossing.* Upon receiving a report pursuant to §234.303(c)(4) or (d)(4) related to the maintenance of a crossbuck sign or other similar grade crossing safety device or any other unsafe condition (such as a pot hole that could cause injury or damage) not covered by paragraph (a), (b), or (c) of this §234.305, the railroad, if it is both the dispatching and the maintaining railroad, shall timely investigate the report; and, if the railroad finds that the unsafe condition exists, it shall timely correct it if it is lawful and feasible to do so. If the dispatching railroad is not also the maintaining railroad, it shall timely inform the maintaining railroad, which shall timely investigate the report; and, if the maintaining railroad finds that the unsafe condition exists, it shall timely correct it if it is lawful and feasible to do so.

(h) *General rule on a maintaining railroad's responsibilities for receiving reports of unsafe conditions at highway-rail and pathway grade crossings.* (1) *In general.* If the dispatching railroad is required under this section to contact the maintaining railroad, the maintaining railroad shall—

(i) Provide the dispatching railroad with sufficient contact information by which the dispatching railroad may timely contact the maintaining railroad upon receipt of a report; and

(ii) Have either a live person answer calls directly and promptly, or use an automated answering system for the

purpose of receiving a call from the dispatching railroad of a report of an unsafe condition, except as provided in paragraph (h)(2) of this section.

(2) *Exceptions for use of a third-party telephone service and answering machine by a maintaining railroad.* (i) If a maintaining railroad is responsible for the maintenance of a highway-rail or pathway grade crossing through which a railroad dispatches one or more trains, each of which is authorized to travel through the crossing at speeds not greater than 20 mph, the maintaining railroad may use a third-party telephone service, in accordance with §234.307, or an answering machine to receive reports from a dispatching railroad of unsafe conditions at such a crossing. If using an answering machine pursuant to this paragraph, the railroad must retrieve its messages immediately prior to the start of its operations for the day.

(ii) If a maintaining railroad is responsible for the maintenance of a highway-rail or pathway grade crossing only on a seasonal or intermittent basis (*e.g.*, tourist, biweekly service, or non-24-hour service), the maintaining railroad may use a third-party telephone service, in accordance with §234.307, or an answering machine to receive reports from a dispatching railroad of unsafe conditions at such a crossing. If using an answering machine pursuant to this paragraph, during periods of non-operation, the maintaining railroad must retrieve its messages daily. However, the railroad must retrieve its messages immediately prior to the start of its operations for the day, and during hours of operation the railroad shall either have a live person answer calls directly or use an automated answering system to receive reports regarding unsafe conditions at such a crossing.

§234.306 Multiple dispatching or maintaining railroads with respect to the same highway-rail or pathway grade crossing; appointment of responsible railroad.

(a) *Duty of multiple dispatching railroads to appoint a primary dispatching railroad for the crossing.* (1) Where more than one railroad dispatches a train through the same highway-rail or pathway grade crossing, the dispatching railroads for the crossing shall appoint one of the railroads to be the primary dispatching railroad for the crossing and, as such, the primary dispatching railroad for the crossing shall do the following:

(i) Provide its emergency telephone number to the railroad responsible for the placement and maintenance of the ENS sign(s) at the crossing;

(ii) Receive all reports through ENS of unsafe conditions at the crossing as required by §234.303;

(iii) After receiving a report of an unsafe condition at the crossing, promptly contact all other railroads that dispatch trains through the crossing to warn them of the reported unsafe condition, and, as appropriate, promptly contact the maintaining railroad(s) for the crossing as required by §234.305; and

(iv) Otherwise carry out its duties under this subpart as a dispatching railroad for the crossing, with respect to the crossing.

(2) After receiving a report of an unsafe condition at the crossing from the appointed dispatching railroad, each of the other dispatching railroad(s) to which the report pertains shall carry out the remedial action required by §234.305 and the recordkeeping required by §234.313.

(b) *Duty of multiple maintaining railroads to appoint a railroad responsible for the placement and maintenance of the ENS sign(s).* (1) Where more than one railroad maintains the same crossing, the maintaining railroads for the crossing shall appoint one of the railroads to be responsible for the placement and maintenance of the ENS sign(s) at the crossing pursuant to §§234.309 and 234.311.

(2) The railroad appointed under paragraph (b)(1) of this section shall display on the ENS sign(s) at the crossing the emergency telephone number of the dispatching railroad for the crossing or, if more than one railroad dispatches a train through the crossing, the emergency telephone number of the primary dispatching railroad for the crossing identified under paragraph (a) of this section.

(c) *Duty of multiple maintaining railroads with respect to remedial action at the crossing.* Where there are multiple

maintaining railroads for a crossing, the dispatching railroad (or, if more than one railroad dispatches a train through the crossing, the primary dispatching railroad for the crossing under paragraph (a) of this section) upon receipt of a report of an unsafe condition, shall promptly contact and inform the appropriate maintaining railroad(s) for the crossing of the reported problem. After each maintaining railroad for the crossing receives a report of an unsafe condition at the crossing that pertains to its maintenance responsibilities for the crossing, the maintaining railroad shall carry out the remedial action required by § 234.305 and the recordkeeping required by § 234.313.

§ 234.307 Use of third-party telephone service by dispatching and maintaining railroads.

(a) *General use of a third-party telephone service by a dispatching railroad.* A dispatching railroad may use a third-party telephone service to receive reports of unsafe conditions at highway-rail and pathway grade crossings pursuant to § 234.303. If a dispatching railroad chooses to use a third-party telephone service, the third-party telephone service shall be reached directly and promptly by the telephone number displayed on the ENS sign pursuant to § 234.309. The third-party telephone service may use an automated answering system for the purpose of receiving such reports. The dispatching railroad shall have a live person answer calls directly and promptly from the third-party telephone service, unless permitted pursuant to § 234.303(b) to use an answering machine. The dispatching railroad shall ensure that the third-party telephone service complies with the applicable requirements of § 234.307.

(b) *General use of a third-party telephone service by a maintaining railroad.* Pursuant to § 234.305(h)(2), a maintaining railroad that either maintains a highway-rail or pathway grade crossing on a seasonal or intermittent basis (*e.g.*, tourist, biweekly service, or non-24 hours service), or a crossing through which a railroad dispatches one or more trains, each of which is authorized to travel through the crossing at speeds not greater than 20 mph, may use a third-party telephone service to receive reports of unsafe conditions at such a crossing from a dispatching railroad. The third-party telephone service may use an automated answering system for the purpose of receiving such reports. The maintaining railroad shall receive reports from the third-party telephone service by either having a live person answer calls directly and promptly, or using an answering machine. If using an answering machine pursuant to this paragraph, the railroad must use the answering machine in accordance with § 234.305(h)(2). The maintaining railroad shall ensure that the third-party telephone service complies with the applicable requirements of § 234.307.

(c) *Duties of third-party telephone service in contacting dispatching and maintaining railroads.* Upon receiving a report pursuant to §§ 234.303 or 234.305, on behalf of either the dispatching railroad or maintaining railroad, respectively, the third-party telephone service shall immediately contact the railroad, and, at a minimum, provide it with the following information:

(1) The nature of the reported unsafe condition;

(2) The location of the unsafe condition, including the U.S. DOT National Crossing Inventory number for the crossing;

(3) Whether the person reporting the unsafe condition is a railroad employee, law enforcement officer, highway traffic official, or other employee of a public agency acting in an official capacity;

(4) The date and time that the report was received by the third-party telephone service; and

(5) Any additional information provided by the caller that may be useful to restore the crossing to a safe condition.

(d) *Duties of railroad using third-party telephone service.* If a dispatching or maintaining railroad uses a third-party telephone service to receive reports of unsafe conditions at a highway-rail or pathway grade crossing, the railroad shall—

(1) Provide the third-party telephone service with sufficient contact information by which the third-party telephone service may immediately contact the railroad upon receipt of a report;

(2) Inform FRA in writing, before the implementation of such a service, of the railroad's intent to use a third-party telephone service, and provide FRA with contact information for the third-party telephone service and information identifying the highway-rail and pathway grade crossings about which the third-party telephone service will receive reports;

(3) Inform FRA in writing within 30 days following any changes in the use or discontinuance of a third-party telephone service; and

(4) Take appropriate action required by §234.305, upon being contacted by the third-party telephone service about a report.

(e) *Third-party telephone service and railroad responsibilities.* If a railroad uses a third-party telephone service to receive reports pursuant to §§234.303 or 234.305, the third-party telephone service is responsible for carrying out the duties of this section and recordkeeping duties under §234.313, and, if applicable under §234.315. In addition, the railroad remains responsible for any acts or omissions of the third-party telephone service it utilizes that violate the provisions of this section or the recordkeeping requirements under §234.313, and, if applicable under §234.315.

§234.309 ENS signs in general.

(a) *Provision of information.* If the dispatching railroad and the maintaining railroad(s) are not the same entity, the dispatching railroad for a highway-rail or pathway grade crossing shall provide to the maintaining railroad the telephone number that is to be displayed on the ENS sign at the crossing, not later than 180 calendar days before the date that implementation of an ENS is required.

(b) *Information to be displayed.* Each ENS sign located at each highway-rail or pathway grade crossing as required by §234.311 shall display the necessary information for the dispatching railroad to receive reports of unsafe conditions at the crossing. This information, at a minimum, includes the following:

(1) The toll-free telephone number (or non-toll-free telephone number as provided for in §234.303(e)) established to receive reports pursuant to §234.303(a);

(2) An explanation of the purpose of the sign (*e.g.*, ''Report emergency or problem to ____''); and

(3) The U.S. DOT National Crossing Inventory number assigned to that crossing.

(c) *Sign size and other physical features.* Each ENS sign shall—

(1) Measure at least 12 inches wide by 9 inches high;

(2) Be retroreflective;

(3) Have legible text (*i.e.,* letters and numerals) with a minimum character height of 1 inch for the information required in paragraph (b) of this section; and

(4) Have white text set on a blue background with a white border, except that the U.S. DOT National Crossing Inventory number may be black text set on a white rectangular background.

§234.311 ENS sign placement and maintenance.

(a) *Number of signs at highway-rail or pathway grade crossing.* (1) *In general.* The maintaining railroad, or the railroad appointed pursuant to §234.306(b), for a highway-rail or pathway grade crossing shall place and maintain a sign on each approach to the crossing that conforms to §234.309, except as provided in paragraph (a)(2) of this section.

(2) *Exceptions.* (i) At a farm grade crossing, the responsible railroad shall place and maintain a minimum of one sign that conforms to §234.309 at the crossing.

(ii) At a railroad yard, port or dock facility, or a private industrial facility that does not meet the definition of ''plant railroad'' in §234.5, the responsible railroad shall place and maintain a minimum of one sign at each vehicular entrance to the facility in accordance with §234.309, in lieu of placing signs at each crossing within the yard, port or dock facility, or private industrial facility. Each sign must be placed so that it is clearly visible to a driver of a motor vehicle located at the vehicular entrance to the facility.

(b) *Placement of sign(s).* (1) Each sign required by paragraph (a) of this section must be located at the crossing, except as provided in paragraph (a)(2)(ii) of this section, and maintained by the responsible railroad so that the sign—

(i) Is conspicuous to users of the roadway or pathway by day and night;

(ii) Does not obstruct any other sign or traffic control device at the crossing;

(iii) Does not limit the view of a train approaching the highway-rail or pathway grade crossing; and

(iv) If mounted on a post, has supports that are crashworthy (*i.e.*, breakaway or yielding).

(2) A sign placed on the signal bungalow does not comply with paragraph (b)(1)(i) of this section.

§ 234.313 Recordkeeping.

(a) *In general.* Each railroad subject to this subpart shall keep records in accordance with this section. Records may be kept either on paper forms provided by the railroad or by electronic means in a manner that conforms with § 234.315. Each dispatching railroad responsible for receiving reports pursuant to § 234.303(a), each third-party telephone service responsible for receiving reports pursuant to § 234.307, and, if applicable, each maintaining railroad shall keep, at a minimum, the following information for each report received under this subpart:

(1) The nature of the reported unsafe condition;

(2) The location of the highway-rail or pathway grade crossing, by highway name, if applicable, and the U.S. DOT National Crossing Inventory number.

(3) The time and date of receipt of the report by the railroad;

(4) If applicable, whether the person who provided the report was a railroad employee, law enforcement officer, highway traffic official, or other employee of a public agency acting in an official capacity;

(5) Actions taken by the railroad prior to resolving the reported unsafe condition at the grade crossing (*e.g.*, warning train crews, notifying the maintaining railroad, or contacting law enforcement or other public authorities);

(6) If the reported unsafe condition is substantiated, actions taken by the railroad to remedy the reported unsafe condition, if lawful and feasible;

(7) The time and date when the reported unsafe condition was remedied;

(8) If no remedial action was taken, the reason why; and

(9) If a dispatching railroad, in accordance with § 234.305, is required to contact a maintaining railroad, the time and date when it contacted the maintaining railroad.

(b) *Records of credible reports of warning system malfunction.* A railroad that has maintenance responsibility over warning devices at a highway-rail grade crossing and maintains records pursuant to § 234.109, shall be deemed to comply with the recordkeeping requirements of this subpart with regard to credible reports of warning system malfunctions.

(c) *Records involving multiple dispatching or maintaining railroads.* (1) Where multiple railroads dispatch trains through the same highway-rail or pathway grade crossing and appoint one railroad to receive telephonic reports regarding unsafe conditions at such crossings pursuant to § 234.306, the appointment must be recorded in writing and a copy of the document retained by each railroad for the duration of the appointment or for one year, whichever period is longer.

(2) Where multiple railroads have maintenance responsibility for the same highway-rail or pathway grade crossing and they appoint one railroad to be responsible for installing and maintaining the ENS sign(s) at the crossing pursuant to § 234.306, the appointment must be recorded in writing and a copy of the document retained by each railroad for the duration of the appointment or for one year, whichever period is longer.

(d) *Record retention period; records availability.* Each railroad shall retain for at least one year (from the latest date of railroad activity in response to a report received under this subpart) all records referred to in paragraphs (a) and (b) of this section. Records required to be kept under this subpart shall be made available to FRA as provided by 49 U.S.C. 20107.

§ 234.315 Electronic recordkeeping.

(a) If a railroad subject to this subpart maintains records required by this subpart in electronic format in lieu of on paper, the system for keeping the electronic records must meet all of the following conditions:

(1) The railroad adequately limits and controls accessibility to the records retained in its electronic database system and identifies those individuals who have such access;

(2) The railroad has a terminal at the location designated by the railroad as the general office for the railroad system and at each division headquarters;

(3) Each such terminal has a computer and either a facsimile machine or a printer connected to the computer to retrieve and produce information in a usable format for immediate review by FRA representatives;

(4) The railroad has a designated representative who is authorized to authenticate retrieved information from the electronic system as a true and accurate copy of the electronically kept record; and

(5) The railroad provides FRA representatives with immediate access to the record(s) for inspection and copying during normal business hours and provides a printout of such record(s) upon request.

(b) If a record required by this subpart is in the form of an electronic record kept by an electronic recordkeeping system that does not comply with paragraph (a) of this section, then the record must be kept on paper.

§ 234.317 Compliance dates.

(a) *Railroads without an ENS of any kind.* If a railroad subject to this subpart does not have an ENS of any kind in place on August 13, 2012, the railroad shall implement an ENS that conforms to this subpart no later than September 1, 2015.

(b) *Railroads with nonconforming ENS telephone service.* If a railroad subject to this subpart already has its own ENS telephone service or is using a third-party ENS telephone service, and that telephone service does not conform to the requirements in § 234.303 or § 234.307, respectively, on August 13, 2012, the railroad shall comply with § 234.303 or § 234.307, respectively, no later than March 1, 2014.

(c) *Railroads with ENS signs of nonconforming size.* (1) If a railroad subject to this subpart already has ENS signs in place, and those signs do not conform to the requirements in § 234.309 on August 13, 2012, the railroad's ENS signs shall conform to § 234.309 no later than as required below:

(i) If the railroad's sign size is greater than or equal to 60 square inches and the height of the lettering on the sign is greater than or equal to ¾ inch for the information required in § 234.309(b) on August 13, 2012, the railroad may maintain the sign for its useful life.

(ii) If the railroad's sign size is greater than or equal to 60 square inches but the height of the lettering is less than ¾ inch for the information required in § 234.309(b) on August 13, 2012, the railroad's sign must conform to § 234.309 no later than September 1, 2017.

(iii) If the railroad's sign size is less than 60 square inches, regardless of the height of the lettering for the information required in § 234.309(b), on August 13, 2012, the railroad's sign must conform to § 234.309 no later than September 1, 2015.

(2) If the railroad chooses to replace an ENS sign of non-conforming size before the applicable compliance date stated, the railroad shall replace that sign with a sign that conforms to § 234.309.

(d) *Railroads with ENS signs having nonconforming placement.* If a railroad subject to this subpart already has ENS signs in place, and the placement of those signs does not conform to the requirements in § 234.311 on August 13, 2012, the placement of the railroad's ENS signs shall conform to § 234.311 no later than September 1, 2017. If a railroad changes the placement of the sign before September 1, 2017, the placement of the sign must conform to § 234.311. If a railroad replaces a sign before September 1, 2017, so that the sign conforms to § 234.309, and the placement of that sign does not conform to § 234.311, the railroad shall also change the placement of the sign so that it conforms to § 234.311.

(e) *Railroads with nonconforming ENS recordkeeping.* If a railroad subject to

this subpart already conducts recordkeeping as part of its ENS, and that recordkeeping does not conform to §234.313 or §234.315, the railroad's recordkeeping shall conform to §234.313 or §234.315 no later than September 1, 2013.

APPENDIX A TO PART 234—SCHEDULE OF CIVIL PENALTIES[1]

Section	Violation	Willful violation
Subpart B—Reports		
234.7 Accidents involving grade crossing signal failure	$5,000	$7,500
234.9 Grade crossing signal system failure reports	2,500	5,000
Subpart C—Response to Reports of Warning System Malfunction		
Sec.		
234.101 Employee notification rules	2,500	5,000
234.103 Timely response to report of malfunction	2,500	5,000
234.105 Activation failure		
(a) Failure to notify—train crews	5,000	7,500
Other railroads	5,000	7,500
(b) Failure to notify law enforcement agency	2,500	5,000
(c) Failure to comply with—flagging requirements	5,000	5,000
Speed restrictions	5,000	7,500
(d) Failure to activate horn or whistle	5,000	7,500
234.106 Partial activation		
(a) Failure to notify—train crews	5,000	7,500
Other railroads	5,000	7,500
(b) Failure to notify law enforcement agency	2,500	5,000
(c) Failure to comply with—flagging requirements speed restrictions	5,000	7,500
(d) Failure to activate horn or whistle	5,000	7,500
234.107 False activation		
(a) Failure to notify—train crews	5,000	7,500
Other railroads	5,000	7,500
(b) Failure to notify law enforcement agency	2,500	5,000
(c) Failure to comply with—flagging requirements	5,000	7,500
Speed restrictions	5,000	7,500
(d) Failure to activate horn or whistle	5,000	7,500
234.109 Recordkeeping	1,000	2,000
Subpart D—Maintenance, Inspection, and Testing		
Maintenance Standards:		
234.201 Location of plans	1,000	2,000
234.203 Control circuits	1,000	2,000
234.205 Operating characteristics of warning system apparatus	2,500	5,000
234.207 Adjustment, repair, or replacement of component	2,500	5,000
234.209 Interference with normal functioning of system	5,000	7,500
234.211 Locking of warning system apparatus	1,000	2,000
234.213 Grounds	1,000	2,000
234.215 Standby power system	5,000	7,500
234.217 Flashing light units	1,000	2,000
234.219 Gate arm lights and light cable	1,000	2,000
234.221 Lamp voltage	1,000	2,000
234.223 Gate arm	1,000	2,000
234.225 Activation of warning system	5,000	7,500
234.227 Train detection apparatus	2,500	5,000
234.229 Shunting sensitivity	2,500	5,000
234.231 Fouling wires	1,000	2,000
234.233 Rail joints	1,000	2,000
234.235 Insulated rail joints	1,000	2,000
234.237 Switch equipped with circuit controller	1,000	2,000
234.239 Tagging of wires and interference of wires or tags with signal apparatus	1,000	2,000
234.241 Protection of insulated wire; splice in underground wire	1,000	2,000
234.243 Wire on pole line and aerial cable	1,000	2,000
234.245 Signs	1,000	2,000
Inspections and Tests:		
234.247 Purpose of inspections and tests; removal from service of relay or device failing to meet test requirements	2,500	5,000
234.249 Ground tests	2,500	5,000
234.251 Standby power	5,000	7,500
234.253 Flashing light units and lamp voltage	1,000	2,000
234.255 Gate arm and gate mechanism	1,000	2,000
234.257 Warning system operation	2,500	5,000
234.259 Warning time	1,000	2,000

Section		Violation	Willful violation
234.261	Highway traffic signal pre-emption	1,000	2,000
234.263	Relays	1,000	2,000
234.265	Timing relays and timing devices	1,000	2,000
234.267	Insulation resistance tests, wires in trunking and cables	2,500	5,000
234.269	Cut-out circuits	1,000	2,000
234.271	Insulated rail joints, bond wires, and track connections	2,500	5,000
234.273	Results of tests	1,000	2,000
234.275	Processor-Based Systems	$5,000	$7,500

[1] A penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to $105,000 for any violation where circumstances warrant. See 49 CFR part 209, appendix A.

[61 FR 31806, June 20, 1996, as amended at 63 FR 11623, Mar. 10, 1998; 69 FR 30595, May 28, 2004; 70 FR 11094, Mar. 7, 2005; 73 FR 76704, Dec. 30, 2008; 77 FR 24422, Apr. 24, 2012]

APPENDIX B TO PART 234—ALTERNATE METHODS OF PROTECTION UNDER 49 CFR 234.105(c), 234.106, AND 234.107(c)

[This is a summary—see body of text for complete requirements]

	Flagger for each direction of traffic	Police officer present	Flagger present, but not one for each direction of traffic	No flagger/no police
False Activation	Normal Speed	Normal Speed	Proceed with caution—maximum speed of 15 mph.	Proceed with caution—maximum speed of 15 mph.
Partial Activation*	Normal Speed	Normal Speed	Proceed with caution—maximum speed of 15 mph.	Proceed with caution—maximum speed of 15 mph.
Activation Failure**	Normal Speed	Normal Speed	Proceed with caution—maximum speed of 15 mph.	Stop: Crewmember flag traffic and reboard.

*Partial activiation—full warning not given.
Non-gated crossing with one pair of lights designed to flash alternatively, one light does not work (and back-lights from other side not visible).
Gated crossing—gate arm not horizontal; or any portion of a gate arm is missing if that portion had held a gate arm flashing light.
**Activitation failure includes—if more than 50% of the flashing lights on any approach lane not functioning; or if an approach lane has two or more pairs of flashing lights, there is not at least one pair operating as intended.

PART 235—INSTRUCTIONS GOVERNING APPLICATIONS FOR APPROVAL OF A DISCONTINUANCE OR MATERIAL MODIFICATION OF A SIGNAL SYSTEM OR RELIEF FROM THE REQUIREMENTS OF PART 236

Sec.

AUTHORITY: 49 U.S.C. 20103, 20107; 28 U.S.C. 2461, note; and 49 CFR 1.49.

SOURCE: 49 FR 3380, Jan. 26, 1984, unless otherwise noted.

§ 235.1 Scope.

This part prescribes application for approval to discontinue or materially modify block signal systems, interlockings, traffic control systems, automatic train stop, train control, or cab signal systems, or other similar appliances, devices, methods, or systems, and provides for relief from part 236 of this title.

§ 235.3 Application.

(a) Except as provided in paragraph (b) of this section, this part applies to railroads that operate on standard gage track which is part of the general railroad system of transportation.

(b) This part does not apply to rail rapid transit operations conducted over track that is used exclusively for that purpose and that is not part of the general system of railroad transportation.