

through spring switch within interlocking limits and through spring switch installed in automatic block signal, train stop, train control or cab signal territory where train movements over the switch are made at a speed exceeding 20 miles per hour, except that signal protection shall be required only with the current of traffic on track signaled for movement in only one direction.

NOTE: Does not apply to spring switch installed prior to October 1, 1950 in automatic block signal, automatic train stop, or automatic train control territory.

[49 FR 3383, Jan. 26, 1984]

**§ 236.13 Spring switch; selection of signal control circuits through circuit controller.**

The control circuits of signals governing facing movements over a main track spring switch shall be selected through the contacts of a switch circuit controller, or through the contacts of relay repeating the position of such circuit controller, which, when normally closed switch point is open one-fourth inch or more, will cause such signals to display their most restrictive aspects, except that where a separate aspect is displayed for facing movements over the switch in the reverse position the signal shall display its most restrictive aspect when the switch points are open one-fourth inch or more from either the normal or reverse position.

**§ 236.14 Spring switch signal protection; requirements.**

(a) The indication of signal governing movements from siding to main track with the current of traffic on track signaled for movements in only one direction through a spring switch in automatic block signal territory shall be not less restrictive than "Proceed at Restricted Speed" when the block, into which movements are governed by the signal, is occupied, and shall be "Stop" when the main track is occupied by a train approaching the switch within at least 1,500 feet in approach of the approach signal located stopping distance from the main track signal governing trailing movements over switch, except that the indication may be caused to

be less restrictive if approach or time locking is used.

(b) The indication of signal governing movements against the current of traffic from the reverse main of main tracks to a single track, or signal governing movements from a siding to a main track signaled for movements in either direction, through a spring switch, in automatic block signal territory, shall be not less restrictive than "Proceed at Restricted Speed" when the block, into which movements are governed by the signal, is occupied by a preceding train, and shall be "Stop" when the block on the single track into which the signal governs is occupied by an opposing train.

(c) The indication of signal governing movements against the current of traffic from the reverse main of main tracks to a single track or signal governing movements from a siding to a main track signaled for movements in either direction through a spring switch in automatic block signal territory shall be "Stop" when the normal direction main track of the double track or the single track signaled for movements in both directions is occupied by a train approaching the switch within at least 1,500 feet in approach of the approach signal located stopping distance from the main track signal governing trailing movements over switch, except that indication may be caused to be less restrictive if approach or time locking is used.

**§ 236.15 Timetable instructions.**

Automatic block, traffic control, train stop, train control and cab signal territory shall be designated in timetable instructions.

**§ 236.16 Electric lock, main track releasing circuit.**

When an electric lock releasing circuit is provided on the main track to permit a train or an engine to diverge from the main track without time delay, the circuit shall be of such length to permit occupancy of the circuit to be seen by a crew member stationed at the switch. When the releasing circuit extends into the fouling circuit, a train or engine on the siding shall be prevented from occupying the releasing circuit by a derail either

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pipe-connected to switch point or equipped with an independently operated electric lock.

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### § 236.17 Pipe for operating connections, requirements.

(a) Steel or wrought-iron pipe one inch or larger, or members of equal strength, shall be used for operating connections for switches, derails, movable-point frogs, facing-point locks, rail-locking devices of movable bridge protected by interlocking, and mechanically operated signals, except up-and-down rod which may be three-fourths inch pipe or solid rod. Pipe shall be fully screwed into coupling and both ends of each pipe shall be riveted to pipe plug with 2 rivets.

(b) Pipeline shall not be out of alignment sufficiently to interfere with proper operation, shall be properly compensated for temperature changes, and supported on carriers spaced not more than 8 feet apart on tangent and curve of less than 2° and not more than 7 feet apart on curve of 2° or more. With lever in any position, couplings in pipe line shall not foul carriers.

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### § 236.18 Software management control plan.

(a) Within 6 months of June 6, 2005, each railroad shall develop and adopt a software management control plan for its signal and train control systems. A railroad commencing operations after June 6, 2005, shall adopt a software management control plan for its signal and train control systems prior to commencing operations.

(b) Within 30 months of the completion of the software management control plan, each railroad shall have fully implemented such plan.

(c) For purposes of this section, "software management control plan" means a plan designed to ensure that the proper and intended software version for each specific site and location is documented (mapped) and maintained through the life-cycle of the system. The plan must further describe how the proper software configuration is to be identified and confirmed in the event of replacement, modification, or

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disarrangement of any part of the system.

[70 FR 11095, Mar. 7, 2005]

### ROADWAY SIGNALS AND CAB SIGNALS

#### § 236.21 Location of roadway signals.

Each roadway signal shall be positioned and aligned so that its aspects can be clearly associated with the track it governs.

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#### § 236.22 Semaphore signal arm; clearance to other objects.

At least one-half inch clearance shall be provided between semaphore signal arm, and any object that may interfere with its operation.

#### § 236.23 Aspects and indications.

(a) Aspects shall be shown by the position of semaphore blades, color of lights, position of lights, flashing of lights, or any combination thereof. They may be qualified by marker plate, number plate, letter plate, marker light, shape and color of semaphore blades or any combination thereof, subject to the following conditions:

(1) Night aspects of roadway signals, except qualifying appurtenances, shall be shown by lights; day aspects by lights or semaphore arms. A single white light shall not be used.

(2) Reflector lenses or buttons or other devices which depend for visibility upon reflected light from an external source shall not be used hereafter in night aspects, except qualifying appurtenances.

(b) The aspects of cab signals shall be shown by lights or by illuminated letters or numbers.

(c) Each aspect displayed by a signal shall be identified by a name and shall indicate action to be taken. Only one name and indication shall apply to those aspects indicating the same action to be taken; the same aspect shall not be used with any other name and indication.

(d) The fundamental indications of signal aspects shall conform to the following: