

**§ 236.24**

(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:

(1) A red light, a series of horizontal lights or a semaphore blade in a horizontal position shall be used to indicate stop.

(2) A yellow light, a lunar light, or a series of lights or a semaphore blade in the upper or lower quadrant at an angle of approximately 45 degrees to the vertical, shall be used to indicate that speed is to be restricted and stop may be required.

(3) A green light, a series of vertical lights, or a semaphore blade in a vertical position in the upper quadrant or 60° or 90° in the lower quadrant shall be used to indicate proceed at authorized speed.

(e) The names, indications, and aspects of roadway and cab signals shall be defined in the carrier's Operating Rule Book or Special Instructions. Modifications shall be filed with the FRA within thirty days after such modifications become effective.

(f) The absence of a qualifying appurtenance, the failure of a lamp in a light signal, or a false restrictive position of an arm of a semaphore signal shall not cause the display of a less restrictive aspect than intended.

[33 FR 19684, Dec. 25, 1968, as amended at 49 FR 3383, Jan. 26, 1984]

**§ 236.24 Spacing of roadway signals.**

Each roadway signal shall be located with respect to the next signal or signals in advance which govern train movements in the same direction so that the indication of a signal dis-

**49 CFR Ch. II (10-1-05 Edition)**

playing a restrictive aspect can be complied with by means of a brake application, other than an emergency application, initiated at such signal, either by stopping at the signal where a stop is required, or by a reduction in speed to the rate prescribed by the next signal in advance where reduced speed is required.

**§ 236.25 [Reserved]**

**§ 236.26 Buffing device, maintenance.**

Buffing device shall be maintained so as not to cause the signal to display a less restrictive aspect than intended.

**TRACK CIRCUITS**

**§ 236.51 Track circuit requirements.**

Track relay controlling home signals shall be in deenergized position, or device that functions as a track relay controlling home signals shall be in its most restrictive state, and the track circuit of an automatic train stop, train control, or cab signal system shall be deenergized in the rear of the point where any of the following conditions exist:

(a) When a rail is broken or a rail or switch-frog is removed except when a rail is broken or removed in the shunt fouling circuit of a turnout or crossover, provided, however, that shunt fouling circuit may not be used in a turnout through which permissible speed is greater than 45 miles per hour. It shall not be a violation of this requirement if a track circuit is energized:

(1) When a break occurs between the end of rail and track circuit connector; within the limits of rail-joint bond, appliance or other protective device, which provides a bypath for the electric current, or

(2) As result of leakage current or foreign current in the rear of a point where a break occurs.

(b) When a train, locomotive, or car occupies any part of a track circuit, including fouling section of turnout except turnouts of hand-operated main track crossover. It shall not be a violation of this requirement where the presence of sand, rust, dirt, grease, or other foreign matter prevents effective

shunting, except that where such conditions are known to exist adequate measures to safeguard train operation must be taken.

(c) Where switch shunting circuit is used:

(1) Switch point is not closed in normal position.

(2) A switch is not locked where facing-point lock with circuit controller is used.

(3) An independently operated fouling-point derail equipped with switch circuit controller is not in derailing position.

[33 FR 19684, Dec. 25, 1968, as amended at 49 FR 3383, Jan. 26, 1984]

#### § 236.52 Relayed cut-section.

Where relayed cut-section is used in territory where noncoded direct-current track circuits are in use the energy circuit to the adjoining track shall be open and the track circuit shunted when the track relay at such cut-section is in deenergized position.

#### § 236.53 Track circuit feed at grade crossing.

At grade crossing with an electric railroad where foreign current is present, the electric energy for noncoded direct current track circuit shall feed away from the crossing.

#### § 236.54 Minimum length of track circuit.

When a track circuit shorter than maximum inner wheelbase of any locomotive or car operated over such track circuit is used for control of signaling facilities, other means shall be used to provide the equivalent of track circuit protection.

[49 FR 3383, Jan. 26, 1984]

#### § 236.55 Dead section; maximum length.

Where dead section exceeds 35 feet, a special circuit shall be installed. Where shortest outer wheelbase of a locomotive operating over such dead section is less than 35 feet, the maximum length of the dead section shall not exceed the length of the outer wheelbase of such locomotive unless special circuit is used.

[49 FR 3383, Jan. 26, 1984]

#### § 236.56 Shunting sensitivity.

Each track circuit controlling home signal or approach locking shall be so maintained that track relay is in deenergized position, or device that functions as a track relay shall be in its most restrictive state if, when track circuit is dry, a shunt of 0.06 ohm resistance is connected across the track rails of the circuit, including fouling sections of turnouts.

[49 FR 3383, Jan. 26, 1984]

#### § 236.57 Shunt and fouling wires.

(a) Except as provided in paragraph (b) of this section, shunt wires and fouling wires hereafter installed or replaced shall consist of at least two discrete conductors, and each shall be of sufficient conductivity and maintained in such condition that the track relay will be in deenergized position, or device that functions as a track relay will be in its most restrictive state, when the circuit is shunted.

(b) This rule does not apply to shunt wires where track or control circuit is opened by the switch circuit controller.

[49 FR 3383, Jan. 26, 1984]

#### § 236.58 Turnout, fouling section.

Rail joints within the fouling section shall be bonded, and fouling section shall extend at least to a point where sufficient tract centers and allowance for maximum car overhang and width will prevent interference with train, locomotive, or car movement on the adjacent track.

[49 FR 3383, Jan. 26, 1984]

#### § 236.59 Insulated rail joints.

Insulated rail joints shall be maintained in condition to prevent sufficient track circuit current from flowing between the rails separated by the insulation to cause a failure of any track circuit involved.

#### § 236.60 Switch shunting circuit; use restricted.

Switch shunting circuit shall not be hereafter installed, except where tract or control circuit is opened by the circuit controller.

[49 FR 3384, Jan. 26, 1984]