

(d) Noise measurements shall be made under typical operating conditions using a sound level meter conforming, at a minimum, to the requirements of ANSI S1.4-1971, Type 2, and set to an A-weighted slow response or with an audiodosimeter of equivalent accuracy and precision.

(e) In conducting sound level measurements with a sound level meter, the microphone shall be oriented vertically and positioned approximately 15 centimeters from and on axis with the crew member's ear. Measurements with an audiodosimeter shall be conducted in accordance with manufacturer's procedures as to microphone placement and orientation.

§ 229.123 Pilots, snowplows, end plates.

After January 1, 1981, each lead locomotive shall be equipped with an end plate that extends across both rails, a pilot, or a snowplow. The minimum clearance above the rail of the pilot, snowplow or end plate shall be 3 inches, and the maximum clearance 6 inches.

§ 229.125 Headlights and auxiliary lights.

(a) Each lead locomotive used in road service shall have a headlight that produces at least 200,000 candela. If a locomotive or locomotive consist in road service is regularly required to run backward for any portion of its trip other than to pick up a detached portion of its train or to make terminal movements, it shall also have on its rear a headlight that produces at least 200,000 candela. Each headlight shall be arranged to illuminate a person at least 800 feet ahead and in front of the headlight.

(b) Each locomotive or locomotive consist used in yard service shall have two headlights, one located on the front of the locomotive or locomotive consist and one on its rear. Each headlight shall produce at least 60,000 candela and shall be arranged to illuminate a person at least 300 feet ahead and in front of the headlight.

(c) Headlights shall be provided with a device to dim the light.

(d) Effective December 31, 1997, each lead locomotive operated at a speed greater than 20 miles per hour over one or more public highway-rail crossings

shall be equipped with operative auxiliary lights, in addition to the headlight required by paragraph (a) or (b) of this section. A locomotive equipped on March 6, 1996 with auxiliary lights in conformance with § 229.133 shall be deemed to conform to this section until March 6, 2000. All locomotives in compliance with § 229.133(c) shall be deemed to conform to this section. Auxiliary lights shall be composed as follows:

(1) Two white auxiliary lights shall be placed at the front of the locomotive to form a triangle with the headlight.

(i) The auxiliary lights shall be at least 36 inches above the top of the rail, except on MU locomotives and control cab locomotives where such placement would compromise the integrity of the car body or be otherwise impractical. Auxiliary lights on such MU locomotives and control cab locomotives shall be at least 24 inches above the top of the rail.

(ii) The auxiliary lights shall be spaced at least 36 inches apart if the vertical distance from the headlight to the horizontal axis of the auxiliary lights is 60 inches or more.

(iii) The auxiliary lights shall be spaced at least 60 inches apart if the vertical distance from the headlight to the horizontal axis of the auxiliary lights is less than 60 inches.

(2) Each auxiliary light shall produce at least 200,000 candela.

(3) The auxiliary lights shall be focused horizontally within 15 degrees of the longitudinal centerline of the locomotive.

(e) Auxiliary lights required by paragraph (d) of this section may be arranged

(1) to burn steadily or

(2) flash on approach to a crossing.

If the auxiliary lights are arranged to flash;

(i) they shall flash alternately at a rate of at least 40 flashes per minute and at most 180 flashes per minute,

(ii) the railroad's operating rules shall set a standard procedure for use of flashing lights at public highway-rail grade crossings, and

(iii) the flashing feature may be activated automatically, but shall be capable of manual activation and deactivation by the locomotive engineer.