

## § 230.84

### § 230.84 Sanders.

Steam locomotives shall be equipped with operable sanders that deposit sand on the rail head in front of a set of driving wheels. Sanders shall be tested at the beginning of each day the locomotive is used.

### § 230.85 Audible warning device.

(a) *General provisions.* Each steam locomotive shall be equipped with an audible warning device that produces a minimum sound level of 96db(A) at 100 feet in front of the steam locomotive in its direction of travel. The device shall be arranged so that it may conveniently be operated by the engineer from his or her normal position in the cab.

(b) *Method of measurement.* Measurement of the sound level shall be made 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. While the steam locomotive is on level, tangent track, the microphone shall be positioned 4 feet above the ground at the center line of the track and shall be oriented with respect to the sound source in accordance with the microphone manufacturer's recommendations.

### § 230.86 Required illumination.

(a) *General provisions.* Each steam locomotive used between sunset and sunrise shall be equipped with an operable headlight that provides illumination sufficient for a steam locomotive engineer in the cab to see, in a clear atmosphere, a dark object as large as a man of average size standing at least 800 feet ahead and in front of such headlight. If a steam locomotive 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 be equipped on its rear end with an operable headlight that is capable of providing the illumination described in this paragraph (a).

(b) *Dimming device.* Such headlights shall be provided with a device whereby the light from same may be diminished in yards and at stations or when meeting trains.

(c) *Where multiple locomotives utilized.* When two or more locomotives are

## 49 CFR Ch. II (10-1-02 Edition)

used in the same train, the leading locomotive only will be required to display a headlight.

### § 230.87 Cab lights.

Each steam locomotive shall have cab lights that sufficiently illuminate the control instruments, meters and gauges to allow the engine crew to make accurate readings from their usual and proper positions in the cab. These lights shall be so located and constructed that the light will shine only on those parts requiring illumination and does not interfere with the engine crew's vision of the track and signals. Each steam locomotive shall also have a conveniently located additional lamp that can be readily turned on and off by the persons operating the steam locomotive and that provides sufficient illumination to read train orders and timetables.

## THROTTLES AND REVERSING GEAR

### § 230.88 Throttles.

Throttles shall be maintained in safe and suitable condition for service, and efficient means shall be provided to hold the throttle lever in any desired position.

### § 230.89 Reverse gear.

(a) *General provisions.* Reverse gear, reverse levers, and quadrants shall be maintained in a safe and suitable condition for service. Reverse lever latch shall be so arranged that it can be easily disengaged, and provided with a spring which will keep it firmly seated in quadrant. Proper counterbalance shall be provided for the valve gear.

(b) *Air-operated power reverse gear.* Steam locomotives that are equipped with air operated power reverse gear shall be equipped with a connection whereby such gear may be operated by steam or by an auxiliary supply of air in case of failure of the main reservoir air pressure. The operating valve handle for such connection shall be conveniently located in the cab of the locomotive and shall be plainly marked. If an independent air reservoir is used as the source of the auxiliary supply