§ 19.8 Protection against bodily hazard.

This hazard is chiefly due to the possible burning of the wearer by electrolyte spilled from the battery. MSHA therefore requires that:

(a) Spilling of electrolyte. The lamp shall be so designed and constructed that, when properly filled, the battery will neither leak nor spill electrolyte under actual service conditions. Lamps passing a laboratory spilling test will be considered satisfactory in this respect, contingent upon satisfactory performance in service.

(b) Corrosion of battery container. The material of which the container is made shall resist corrosion under conditions of use.

§ 19.9 Performance.

In addition to the general design and the safety features, MSHA considers that a lamp of permissible type should meet certain minimum requirements with respect to performance, as follows:

(a) Time of burning and candlepower. Permissible electric cap lamps shall burn for at least 10 consecutive hours on one charge of the battery and shall give during that period a mean candlepower of not less than 1.

(b) Bulb life. The average life of the bulbs shall be not less than 200 hours.

4The following maximum short-circuit current values may be used as a guide in the design of cap lamp batteries: 100 amperes for a 4-volt battery; 75 amperes for a 6-volt battery; 50 amperes for an 8-volt battery.

§ 19.10 Material required for MSHA records.

In order that MSHA may know exactly what it has tested and approved, detailed records are kept covering each investigation. These include drawings and actual equipment, as follows:

(a) Drawings. The original drawings submitted with the application for the tests and the final drawings, which the manufacturer must submit to MSHA before the approval is granted, to show the details of the lamp as approved. These drawings are used to identify the lamp in the approval and as a means of checking the future commercial product of the manufacturer.

(b) Actual equipment. (1) If MSHA so desires, parts of the lamps which are used in the tests will be retained as a permanent record of the investigation and of the lamps submitted.

(2) If the lamp is approved, MSHA will require the manufacturer, as soon as his first manufactured lamps are available, to submit one complete lamp, bearing the approval plate, as a record of his commercial product.