

## § 23.6

## 30 CFR Ch. I (7-1-00 Edition)

(d) Formal tests will not be made unless the device has been completely developed and is in a form that can be marketed.

(e) The results of the tests shall be regarded as confidential by all present at the tests and shall not be made public in any way prior to the formal approval of the device by MSHA.

(f) No verbal report of approval or disapproval will be made to the applicant. After MSHA has considered the results of the inspections and tests, a formal written report of the approval or disapproval will be made to the applicant by MSHA. The applicant shall not advertise his device as being permissible or approved, or as having passed the tests, prior to receipt of the formal notice of approval.

[Sched. 9B, 4 FR 1555, Apr. 11, 1939, as amended by Supp. 1, 20 FR 2975, May 4, 1955; 43 FR 12315, Mar. 24, 1978]

### § 23.6 General requirements for approval.

Telephones and signaling devices shall be durable in construction, practical in operation, and suitable for conditions of underground service. They shall offer no probable explosion hazard under normal operation if use in gassy or dusty mine atmospheres.

### § 23.7 Specific requirements for approval.

(a) The circuits external to telephones and signal devices shall be intrinsically safe; that is, the electrical design and construction of telephones and signal devices shall be such that neither contact between wires comprising the external circuits nor contact of tools or other metal objects with external terminals and circuits will result in electrical sparks capable of igniting explosive methane-air mixtures (or such mixtures with coal dust in suspension) during normal operation of the telephones or signal devices.

(b) All parts which, during normal operation, are capable of producing sparks that might ignite explosive methane-air mixtures shall be enclosed in explosion-proof compartments. All openings in the casings of such compartments shall be adequately protected. It is desirable that openings be as few as possible. All joints in the cas-

ings of an explosion-proof compartment shall be metal-to-metal so designed as to have a width of contact, measured along the shortest path from the inside to the outside of the compartment, of not less than 1 inch if the unoccupied volume (air space) in the compartment is more than 60 cubic inches. For unoccupied volume of 60 cubic inches or less, a  $\frac{3}{8}$ -inch width of contact will be acceptable.

(c) All bolts and screw holes shall be "blind" or bottomed if the omission of a bolt or screw would otherwise leave an opening into the compartment. An adequate lock or seal shall be provided to prevent tampering and exposure of spark-producing parts by unauthorized persons.

(d) Battery cells shall be placed in an explosion-proof compartment or else in one that is locked or sealed, and the terminals and the connections thereto shall be so arranged and protected as to preclude meddling, tampering, or making other electrical connections with them.

(e) Manufacturers shall furnish adequate instructions for the installation and connection of telephones and signal devices in order that the safety of these devices and other circuits shall not be diminished by improper installation. MSHA reserves the right to require the attachment of wiring diagrams to the cases of telephones and signal devices.

(f) If electric light bulbs are used in signaling devices, they shall be either equipped with effective safety devices, such as are required for permissible electric mine lamps,<sup>1</sup> or enclosed in explosion-proof compartments.

(g) Line powered telephones and signaling devices or systems shall be equipped with standby power sources that have the capacity to enable the devices or systems to continue functioning in the event the line power fails or is cut off. Manufacturers shall furnish instructions for the proper maintenance of standby power sources.

NOTE: Paragraph (g) of this section is issued under the authority of Sec. 101 of the Federal Mine Safety and Health Act of 1977, Pub. L. 95-164 as amended by Pub. L. 95-164,

<sup>1</sup> In this case, the requirements of the current schedule for mine lamps will apply.