

314. Instructions shall be posted up in every generating, transforming, and motor house containing directions as to the restoration of persons suffering from electric shock. All employees working in connection with the electrical apparatus shall be required to acquaint themselves with the instructions in question.

315. In mines in the underground workings of which electricity is used for power or lighting purposes, direct telephonic or other equivalent means of communication shall be provided between the surface and the shaft-bottom or main distributing centre underground.

316. Previous to the introduction into any mine of electricity for power or lighting, notice in writing must be sent to the Inspector of Mines. Notice must also be sent of any existing electric power or lighting installation at any time within three months after the coming into force of these regulations.

317. A plan shall be kept at the mine showing the position of all permanent electrical machinery and cables in the mine, and shall be corrected as often as may be necessary to keep it up to a date not more than three months previous.

Generating-stations and Machine-rooms.

318. Where the generating-station under the control of the owner or manager of the mine is not within 400 yards of the shaft or mine mouth or entrance, an efficiently enclosed locked switch box or boxes, or a switch-house, shall, where reasonably practicable, be provided near the shaft or mine mouth or entrance for cutting off the supply of electricity to the mine.

319. There shall be a passage-way in front of the switchboard of not less than 3 ft. in width, and if there are any connections at the back of the switchboard any passage-way behind the switchboard shall not be less than 3 ft. clear. This space shall not be utilized as a store-room or a lumber-room, or obstructed in any manner by resistance-frames, meters, or otherwise. If space is required for resistance-frames or other electrical apparatus behind the board, the passage-way must be widened accordingly.

No cable shall cross the passage-way at the back of the board, except below the floor or at a height of not less than 7 ft. above the floor.

The space at the back of the switchboards shall be properly floored, accessible from each end, and, except in the case of low-pressure switchboards, must be kept locked up, but the lock must allow of the door being opened from the inside without the use of a key. The floor at the back shall be firm and even.

320. Every generator shall be provided with a switch on each pole between the generator and the bus-bars.

Suitable instruments shall be provided for measuring the current and pressure of each generator.

Every feeder connected to the bus-bars in the generating-station shall be furnished with an ammeter on the main switchboard.

321. If the transmission-lines from the generating-station to the shaft or mine-entrance are overhead, there shall be lightning-arresters in connection therewith.

322. Automatic cut-outs must be arranged so that when the contact lever opens outwards no danger exists of striking the head of the attendant. If unenclosed fuses are used they must be placed within 2 ft. of the floor, or be otherwise suitably protected.

Where the supply is at a pressure exceeding the limits of medium pressure, there shall be no live metalwork on the front of the main switchboard within 8 ft. of the floor or platform, and the space provided under Regulation No. 319 of this section shall be not less than 4 ft. in the clear. Insulating floors or mats shall be provided for medium-pressure boards where live metalwork is on the front or back.

323. All terminals and live metal on machines over medium pressure above ground, and over low pressure under ground, where practicable, shall be protected with insulating covers or with metal covers connected to earth.

Cables.

324. All conductors inside a mine, except as hereinafter provided, shall be continuously covered with insulating-material.

A continuously insulated cable must be so constructed that when a test-piece of it has been immersed in water for twenty-four hours it will, while still immersed, in the case of cables intended for low or medium pressures, withstand 2,000 volts for ten minutes between the conductor and the water, and between cores if there are more than one in the cable.

If the cable is intended for high or extra high pressure, twice the working-pressure shall be taken for this test.

Prior to the immersion the test-piece must have been bent six times (three times in one direction and three times in the opposite direction) round a cylindrical surface not more than twelve times the diameter of the finished cable.

325. The sectional area of conductors must be greater than that determined by the heating effect of the current required for the maximum number of motors or other current-using apparatus that can be used simultaneously on the circuit, except in the case of overhead wires upon the surface.

The size of the conductor will be determined in accordance with the table showing maximum current for copper conductors set out in Regulation No. 350, column 3 of which refers to cables having insulations of Class A, and column 4 to cables having insulation of Class B, according to the following definitions:—

(A.) A dielectric which is impervious to moisture, and only needs mechanical protection ("dielectric" does not include braiding or taping).

(B.) A dielectric which must be kept perfectly dry, and therefore needs to be encased in a waterproof sheath, generally of soft metal such as lead drawn closely over the dielectric.

Below ground, however, column 4 may be applied to cables having insulation of Class A, in cases where the atmospheric temperature never exceeds 100° Fahr.

326. All conductors (except as hereinafter provided) shall in every case be maintained completely