

§ 75.815

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cause each corresponding circuit-interrupting device to open.

(d) Circuit-interrupting devices must not reclose automatically.

(e) Where two or more high-voltage cables are used to supply power to a common bus in a high-voltage enclosure, each cable must be provided with ground-wire monitoring. The ground-wire monitoring circuits must cause deenergization of each cable when either the ground-monitor or grounding conductor(s) of any cable become severed or open. On or after May 10, 2002, parallel connected cables on newly installed longwalls must be protected as follows:

(1) When one circuit-interrupting device is used to protect parallel connected cables, the circuit-interrupting device must be electrically interlocked with the cables so that the device will open when any cable is disconnected; or

(2) When two or more parallel circuit-interrupting devices are used to protect parallel connected cables, the circuit-interrupting devices must be mechanically and electrically interlocked. Mechanical interlocking must cause all devices to open simultaneously and electrical interlocking must cause all devices to open when any cable is disconnected.

§ 75.815 Disconnect devices.

(a) The section power center must be equipped with a main disconnecting device installed to deenergize all cables extending to longwall equipment when the device is in the “open” position. See Figures I-1 and I-2 in Appendix A to this subpart I.

(b) Disconnecting devices for motor-starter enclosures must be maintained in accordance with the approval requirements of paragraph (f) of § 18.53 of part 18 of this chapter. The compartment for the disconnect device must be provided with a caution label to warn miners against entering the compartment before deenergizing the incoming high-voltage circuits to the compartment.

(c) Disconnecting devices must be rated for the maximum phase-to-phase voltage of the circuit in which they are installed, and for the full-load current

of the circuit that is supplied power through the device.

(d) Each disconnecting device must be designed and installed so that—

(1) Visual observation determines that the contacts are open without removing any cover;

(2) All load power conductors can be grounded when the device is in the “open” position; and

(3) The device can be locked in the “open” position.

(e) Disconnecting devices, except those installed in explosion-proof enclosures, must be capable of interrupting the full-load current of the circuit or designed and installed to cause the current to be interrupted automatically prior to the opening of the contacts of the device. Disconnecting devices installed in explosion-proof enclosures must be maintained in accordance with the approval requirements of paragraph (f)(2)(iv) of § 18.53 of part 18 of this chapter.

§ 75.816 Guarding of cables.

(a) High-voltage cables must be guarded at the following locations:

(1) Where persons regularly work or travel over or under the cables.

(2) Where the cables leave cable handling or support systems to extend to electric components.

(b) Guarding must minimize the possibility of miners contacting the cables and protect the cables from damage. The guarding must be made of grounded metal or nonconductive flame-resistant material.

§ 75.817 Cable handling and support systems.

Longwall mining equipment must be provided with cable-handling and support systems that are constructed, installed and maintained to minimize the possibility of miners contacting the cables and to protect the high-voltage cables from damage.

§ 75.818 Use of insulated cable handling equipment.

(a) Energized high-voltage cables must not be handled except when motor or shearer cables need to be trained. When cables need to be trained, high-voltage insulated gloves, mitts, hooks, tongs, slings, aprons, or

other personal protective equipment capable of providing protection against shock hazard must be used to prevent direct contact with the cable.

(b) High-voltage insulated gloves, sleeves, and other insulated personal protective equipment must—

(1) Have a voltage rating of at least Class 1 (7,500 volts) that meets or exceeds ASTM F496-97, “Standard Specification for In-Service Care of Insulating Gloves and Sleeves” (1997).

(2) Be examined before each use for visible signs of damage;

(3) Be removed from the underground area of the mine or destroyed when damaged or defective; and

(4) Be electrically tested every 6 months in accordance with publication ASTM F496-97. ASTM F496-97 (Standard Specification for In-Service Care of Insulating Gloves and Sleeves, 1997) is incorporated by reference and may be inspected at any MSHA Coal Mine Safety and Health district office, or at MSHA’s Office of Standards, Regulations, and Variances, 1100 Wilson Blvd., Room 2352, Arlington, Virginia 22209-3939, and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. In addition, copies of the document can be purchased from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

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§ 75.819 Motor-starter enclosures; barriers and interlocks.

Compartment separation and cover interlock switches for motor-starter enclosures must be maintained in accordance with the approval requirements of paragraphs (a) and (b) of § 18.53 of part 18 of this chapter.

§ 75.820 Electrical work; troubleshooting and testing.

(a) Electrical work on all circuits and equipment associated with high-voltage longwalls must be performed only by persons qualified under § 75.153 to perform electrical work on all circuits and equipment.

(b) Prior to performing electrical work, except for troubleshooting and testing of energized circuits and equipment as provided for in paragraph (d) of this section, a qualified person must do the following:

(1) Deenergize the circuit or equipment with a circuit-interrupting device.

(2) Open the circuit disconnecting device. On high-voltage circuits, ground the power conductors until work on the circuit is completed.

(3) Lock out the disconnecting device with a padlock. When more than one qualified person is performing work, each person must install an individual padlock.

(4) Tag the disconnecting device to identify each person working and the circuit or equipment on which work is being performed.

(c) Each padlock and tag must be removed only by the person who installed them, except that, if that person is unavailable at the mine, the lock and tag may be removed by a person authorized by the operator, provided—

(1) The authorized person is qualified under paragraph (a) of this section; and

(2) The operator ensures that the person who installed the lock and tag is aware of the removal before that person resumes work on the affected circuit or equipment.

(d) Troubleshooting and testing of energized circuits must be performed only—

(1) On low- and medium-voltage circuits;

(2) When the purpose of troubleshooting and testing is to determine voltages and currents; and

(3) By persons qualified to perform electrical work and who wear protective gloves on circuits that exceed 40 volts in accordance with the following table: