

Subpart J—Underground Low- and Medium-Voltage Alternating Current Circuits

§ 75.900 Low- and medium-voltage circuits serving three-phase alternating current equipment; circuit breakers.

[STATUTORY PROVISIONS]

Low- and medium-voltage power circuits serving three-phase alternating current equipment shall be protected by suitable circuit breakers of adequate interrupting capacity which are properly tested and maintained as prescribed by the Secretary. Such breakers shall be equipped with devices to provide protection against undervoltage, grounded phase, short circuit, and overcurrent.

§ 75.900-1 Circuit breakers; location.

Circuit breakers used to protect low- and medium-voltage circuits underground shall be located in areas which are accessible for inspection, examination, and testing, have safe roofs, and are clear of any moving equipment used in haulageways.

§ 75.900-2 Approved circuit schemes.

The following circuit schemes will be regarded as providing the necessary protection to the circuit required by § 75.900:

- (a) Ground check relays may be used for undervoltage protection if the relay coils are designed to trip the circuit breaker when line voltage decreases to 40 to 60 percent of the nominal line voltage.
- (b) One undervoltage device installed in the main secondary circuit at the source transformer may be used to provide undervoltage protection for each circuit that receives power from that transformer.
- (c) One circuit breaker may be used to protect two or more branch circuits if the circuit breaker is adjusted to afford overcurrent protection for the smallest conductor.
- (d) Circuit breakers with shunt trip, series trip or undervoltage release devices may be used if the tripping elements of such devices are selected or adjusted in accordance with the set-

tings listed in the tables of the National Electric Code, 1968.

§ 75.900-3 Testing, examination, and maintenance of circuit breakers; procedures.

Circuit breakers protecting low- and medium-voltage alternating current circuits serving three-phase alternating current equipment and their auxiliary devices shall be tested and examined at least once each month by a person qualified as provided in § 75.153. In performing such tests, actuating any of the circuit breaker auxiliaries or control circuits in any manner which causes the circuit breaker to open, shall be considered a proper test. All components of the circuit breaker and its auxiliary devices shall be visually examined and such repairs or adjustments as are indicated by such tests and examinations shall be carried out immediately.

§ 75.900-4 Testing, examination, and maintenance of circuit breakers; record.

The operator of any coal mine shall maintain a written record of each test, examination, repair, or adjustment of all circuit breakers protecting low- and medium-voltage circuits serving three-phase alternating current equipment used in the mine. Such record shall be kept in a book approved by the Secretary.

[35 FR 17890, Nov. 20, 1970, as amended at 60 FR 33723, June 29, 1995]

§ 75.901 Protection of low- and medium-voltage three-phase circuits used underground.

[STATUTORY PROVISIONS]

- (a) Low- and medium-voltage three-phase alternating-current circuits used underground shall contain either a direct or derived neutral which shall be grounded through a suitable resistor at the power center, and a grounding circuit, originating at the grounded side of the grounding resistor, shall extend along with the power conductors and serve as a grounding conductor for the frames of all the electrical equipment supplied power from that circuit, except that the Secretary or his authorized representative may permit