PART 27—METHANE-MONITORING SYSTEMS

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(d) Methane detector means a component for a methane-monitoring system that functions in a gassy mine, tunnel, or other underground workings to sample the atmosphere continuously and responds to the presence of methane.

(e) Power-shutoff component means a component of a methane-monitoring system, such as a relay, switch, or switching mechanism, that will cause a control circuit to deenergize a machine, equipment, or power circuit when actuated by the methane detector.

(f) Flammable mixture means a mixture of a gas, such as methane, natural gas, or similar hydrocarbon gas with normal air, that can be ignited.

(g) Gassy mine or tunnel means a mine, tunnel, or other underground workings in which a flammable mixture has been ignited, or has been found with a permissible flame safety lamp, or has been determined by air analysis to contain 0.25 percent or more (by volume) of methane in any open workings when tested at a point not less than 12 inches from the roof, face, or rib.

(h) Letter of certification means a formal document issued by MSHA stating that a methane-monitoring system or subassembly or component thereof:

(1) Has met the requirements of this part, and

(2) Is certified for incorporation in or with permissible or approved equipment that is used in gassy mines and tunnels.

(i) Component means a part of a methane-monitoring system that is essential to its operation as a certified methane-monitoring system.

(j) Explosion-proof means that a component or group of components (subassembly) is so constructed and protected by an enclosure with or without a flame arrester(s) that, if a flammable mixture of gas is ignited within the enclosure, it will withstand the resultant pressure without damage to the enclosure and/or flame arrester(s). Also the enclosure and/or flame arrester(s) shall prevent the discharge of flame from within either the enclosure or the flame arrester, or the ignition of any flammable mixture that surrounds the enclosure and/or flame arrester. ¹

(k) Normal operation means that performance of each component as well as of the entire assembly of the methane-monitoring system is in conformance with the functions for which it was designed and for which it was tested by MSHA.

(l) Flame arrester means a device so constructed that it will prevent propagation of flame or explosion from within the unit of which it is part to a surrounding flammable mixture.

(m) Intrinsically safe equipment and circuitry means equipment and circuitry that are incapable of releasing enough electrical or thermal energy under normal or abnormal conditions to cause ignition of a flammable mixture of the most easily ignitable composition.

(n) Fail safe means that the circuitry of a methane-monitoring system shall be so designed that electrical failure of a component which is critical in MSHA’s opinion will result in deenergizing the methane-monitoring system and the machine or equipment of which it is a part.


§ 27.3 Consultation.

By appointment, applicants or their representatives may visit the U.S. Department of Labor, Mine Safety and Health Administration, Approval and Certification Center, 765 Technology Drive, Triadelphia, WV 26059, to discuss with qualified MSHA personnel proposed methane-monitoring systems to be submitted in accordance with the regulations of this part. No charge is made for such consultation and no written report thereof will be made to the applicant.


¹ Explosion-proof components or subassemblies shall be constructed in accordance with the requirements of Part 18 of this subchapter.