

to MSHA as part of the approval application:

- (i) Written evidence of the laboratory's independence and current recognition by a laboratory accrediting organization;
- (ii) Complete technical explanation of how the product complies with each requirement in the applicable MSHA product approval requirements;
- (iii) Identification of components or features of the product that are critical to the safety of the product; and
- (iv) All documentation, including drawings and specifications, as submitted to the independent laboratory by the applicant and as required by this part.

(b) The application will be examined by MSHA to determine whether inspection and testing of the modified system or component or of a part will be required. MSHA will inform the applicant whether testing is required and the component or components and related material to be submitted for that purpose.

(c) If the proposed modification meets the requirements of this part, a formal extension of certification will be issued, accompanied by a list of revised drawings and specifications which MSHA has added to those already on file.

[31 FR 10607, Aug. 9, 1966, as amended at 52 FR 17515, May 8, 1987; 68 FR 36421, June 17, 2003]

**§27.12 Withdrawal of certification.**

MSHA reserves the right to rescind for cause any certification issued under this part.

**Subpart B—Construction and Design Requirements**

**§27.20 Quality of material, workmanship, and design.**

(a) MSHA will test only equipment that, in its opinion, is constructed of suitable materials, is of good workmanship, is based on sound engineering principles, and is safe for its intended use. Since all possible designs, arrangements, or combinations of components cannot be foreseen, MSHA reserves the right to modify the construction and design requirements of components or subassemblies and the tests to obtain

the degree of protection intended by the tests described in Subpart C of this part.

(b) Unless otherwise noted, the requirements stated in this part shall apply to explosion-proof enclosures and intrinsically safe circuits.

(c) All components, subassemblies, and assemblies shall be designed and constructed in a manner that will not create an explosion or fire hazard.

(d) All assemblies or enclosures—explosion-proof or intrinsically safe—shall be so designed that the temperatures of the external surfaces, during continuous operation, do not exceed 150 °C. (302 °F.) at any point.

(e) Lenses or globes shall be protected against damage by guards or by location.

(f) If MSHA determines that an explosion hazard can be created by breakage of a bulb having an incandescent filament, the bulb mounting shall be so constructed that the bulb will be ejected if the bulb glass enclosing the filament is broken.

NOTE: Other methods that provide equivalent protection against explosion hazards from incandescent filaments may be considered satisfactory at the discretion of MSHA.

**§27.21 Methane-monitoring system.**

(a) A methane-monitoring system shall be so designed that any machine or equipment, which is controlled by the system, cannot be operated unless the electrical components of the methane-monitoring system are functioning normally.

(b) A methane-monitoring system shall be rugged in construction so that its operation will not be affected by vibration or physical shock, such as normally encountered in mining operations.

(c) Insulating materials that give off flammable or explosive gases when decomposed shall not be used within enclosures where they might be subjected to destructive electrical action.

(d) An enclosure shall be equipped with a lock, seal, or acceptable equivalent when MSHA deems such protection necessary for safety.

(e) A component or subassembly of a methane-monitoring system shall be constructed as a package unit or otherwise in a manner acceptable to MSHA. Such components or subassemblies