

TITLE: Marking of Fixed-Site Sensors for Use with Atmospheric Monitoring Systems in Underground Coal Mines

1.0 PURPOSE

The purpose of this policy is to specify the requirements for marking fixed-site sensors intended for use with atmospheric monitoring systems (AMS) in underground coal mines.

2.0 SCOPE

This policy applies to new carbon monoxide, methane, or smoke sensor designs submitted for evaluation by the Electrical Safety Division.

3.0 REFERENCES

Title Code of Federal Regulations (30 CFR) Section 75.351

4.0 DEFINITIONS

- 4.1. Atmospheric Monitoring System (AMS). A network consisting of hardware and software meeting the requirements of 30 CFR 75.351 and 30 CFR 75.1103-2 and capable of: measuring atmospheric parameters; transmitting the measurements to a designated surface location; providing alert and alarm signals; processing and cataloging atmospheric data; and, providing reports.
- 4.2. Fixed-Site Sensor. A device capable of measuring carbon monoxide, methane or smoke in the underground mine atmosphere and providing a signal for transmission to a designated surface location. The operating range of the sensor must be compatible with the range of interest.
- 4.3. Consensus Standard. Standards developed or adopted by organizations which plan, develop, establish, or coordinate voluntary consensus standards using agreed-upon procedures. Note: A review of American National Standards shows that ANSI/ISA92.02.01 covers carbon monoxide sensors; ANSI/ISA12.13 covers combustible gas detectors, including methane sensors; and ANSI/UL 268 covers smoke sensors. It is anticipated that the sensors will be compared to these standards by nationally recognized testing laboratories.

5.0 POLICY

Paragraph (l) of Section 75.351 requires that sensors used to monitor for carbon monoxide, methane, and smoke in certain areas of underground coal mines must be either of a type listed and installed in accordance with the recommendations of a nationally recognized testing laboratory approved by the Secretary; or these sensors must be of a type, and installed in a manner, approved by the Secretary.

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To comply with this regulation, the applicant for evaluation of the sensor must either:

- (a) provide evidence that a nationally recognized testing laboratory has conducted performance testing on the sensor in accordance with a consensus standard, and listed the sensor, or
- (b) provide evidence that new or unique devices that are not yet listed by a nationally recognized testing laboratory have been submitted to the Technical Support Group, MSHA, through the Chief, Division of Safety, Coal Mine Safety and Health, Arlington, Virginia, and have been determined to be acceptable and recommended, or
- (c) if (a) or (b) are not satisfied, mark the sensor that it is not accepted by MSHA for compliance with Section 75.351.