§ 75.1103–5 Automatic fire warning devices; actions and response.

(a) When the carbon monoxide level reaches 10 parts per million above the established ambient level at any sensor location, automatic fire sensor and warning device systems shall provide an effective warning signal at the following locations:

1. At working sections and other work locations where miners may be endangered from a fire in the belt entry.

2. At a manned surface location where personnel have an assigned post of duty. The manned surface location must have:
   (i) A telephone or equivalent communication with all miners who may be endangered and
   (ii) A map or schematic that shows the locations of sensors, and the intended air flow direction at these locations. This map or schematic must be updated within 24 hours of any change in this information.

3. The automatic fire sensor and warning device system shall include a means for rapid evaluation of electrical short and open circuits, ground faults, pneumatic leaks, or other defect detrimental to its proper operational condition.

(c) Automatic fire sensor and warning devices shall include a manual reset feature.

(d) When a malfunction or warning signal is received at the manned surface location, the sensors that are activated must be identified and appropriate personnel immediately notified.

(e) Upon notification of a malfunction or warning signal, appropriate personnel must immediately initiate an investigation to determine the cause of the malfunction or warning signal and take the required actions set forth in paragraph (f) of this section.

(f) If any sensor indicates a warning, the following actions must be taken unless the mine operator determines that the signal does not present a hazard to miners:

1. Appropriate personnel must notify miners in affected working sections, in affected areas where mechanized mining equipment is being installed or removed, and at other locations specified in the approved mine emergency evacuation and firefighting program of instruction; and
§ 75.1103-6 Automatic fire sensors; actuation of fire suppression systems.

Point-type heat sensors or automatic fire sensor and warning device systems may be used to actuate deluge-type water systems, foam generator systems, multipurpose dry-powder systems, or other equivalent automatic fire suppression systems.

§ 75.1103-7 Electrical components; permissibility requirements.

The electrical components of each automatic fire sensor and warning device system shall:

(a) Remain functional when the power circuits are deenergized as required by §75.706; and

(b) Be provided with protection against ignition of methane or coal dust when the electrical power is deenergized as required by §75.313, but these components shall be permissible or intrinsically safe if installed in a return airway.

§ 75.1103-8 Automatic fire sensor and warning device systems; examination and test requirements.

(a) Automatic fire sensor and warning device systems shall be examined at least once each shift when belts are operated as part of a production shift. A functional test of the warning signals shall be made at least once every seven days. Examination and maintenance of such systems shall be by a qualified person.

(b) A record of the functional test conducted in accordance with paragraph (a) of this section shall be maintained by the operator and kept for a period of one year.

(c) Sensors shall be calibrated in accordance with the manufacturer’s calibration instructions at intervals not to exceed 31 days. A record of the sensor