

alert and alarm signals that should be covered under the provisions of the approved program of instruction under § 75.1502 (commonly referred to as the mine emergency evacuation and firefighting program of instruction). We have included in proposed §§ 75.351(b)(1), 75.352(a)(2), and 75.352(b)(2), requirements for including these actions and additional information in the approved program of instruction. It is MSHA's experience that the operator can use the data recorded from alert signals, alarms, malfunctions, calibrations, and maintenance as an effective tool for maintaining an effective fire detection system. MSHA is not proposing to require the operator to review and initial records on a monthly basis because we believe that the proposed requirements of § 75.351(o)—recordkeeping and § 75.351(p)—retention period, fulfill the intent of this recommendation. MSHA expects since the "AMS log" is available for review by the miners and authorized representatives of the Secretary, that the mine operator will also review the AMS log data.

MSHA is including in proposed § 75.351(n) requirements for examinations, testing, and calibration of the AMS sensors. These are the same requirements recommended by the Advisory Committee. MSHA is proposing in § 75.351(o) recordkeeping requirements for alert and alarm signals, malfunctions, tests, calibrations, and maintenance of the AMS. We intend the visual examination to be completed as part of the on-shift examination already required under § 75.362(b).

Item 11—AMS Malfunction

The Advisory Committee recommended:

"If any portion of the early warning fire detection system malfunctions, the affected belt haulage conveyor may continue to operate. The responsible person should notify all sections affected. Once it has been determined that the cause is a malfunction, a qualified person(s) having access to communications with the responsible person on the surface should patrol the affected area and monitor for carbon monoxide or equivalent with a handheld detector(s) as outlined below for the period of time necessary to identify the problem and make necessary repairs:

- (a) If one sensor becomes inoperative, a qualified person should monitor at that location;
- (b) If two or more adjacent sensors become inoperative, a qualified person should patrol and monitor the area affected; and
- (c) If the complete system becomes inoperative, a sufficient number of qualified persons shall patrol and monitor so the affected belt entries are traveled each hour in their entirety. If the failure lasts more than

eight (8) hours, then the MSHA District Manager should be notified immediately.

Handheld carbon monoxide detectors (or equivalent) should be maintained in a working condition, and available for use in a timely manner."

This item in the Advisory Committee report describes the actions required if any sensor(s) or portions of the AMS system become inoperable for any reason. Proposed § 75.352(d) would require the actions as suggested by the Advisory Committee to be taken. We believe that operators will have an interest in repairing and restoring monitoring capabilities as soon as possible. There is no need to limit the use of hand monitoring since it is considered a safe alternative. For this reason, we are not including a requirement to report to MSHA any malfunction exceeding 8 hours as recommended by the Advisory Committee.

MSHA is proposing to require the immediate reporting to the surface of any contaminant measurements exceeding the appropriate alert and alarm levels. Even when contaminants do not exceed alert and alarm levels, personnel must report the levels to the AMS operator at intervals not to exceed one hour. The proposed rule achieves the intent of the recommendation.

Item 12—Mine Ventilation Map

The Advisory Committee recommended:

"The mine ventilation map should contain the details of the early warning fire detection system, including the type of sensor (CO or equivalent) and the sensor location and should be posted at the mine."

In proposed § 75.351(b), MSHA would require that a map or schematic be posted. Also, the proposed rule would require the operator to indicate the intended air flow direction at each sensor location on the map. MSHA believes this information will be helpful if evacuation of personnel is necessary. The proposed rule meets the recommendation of the Advisory Committee for this item.

Item 13—Smoke Sensors; Slippage Switches

The Advisory Committee recommended:

"In mines using belt air to ventilate working places, slippage switches should be integrated into the early warning fire detection system. Where it is not feasible to do so, the switches should be visually examined each production shift. Smoke sensors (or equivalent) when commercially available, should be installed no more than 100 feet inby each drive."

MSHA is not adopting this recommendation of the Advisory Committee into its proposed rule. We believe that properly maintained slippage switches do not require monitoring. We would be interested in receiving comments on the merits and

drawbacks of this recommendation. Specifically, we solicit comments on:

- (1) The benefits of integration of slippage switch monitoring into AMSs for belt air mines;
- (2) the cost of such a requirement; and
- (3) any difficulty operators may experience in accomplishing this action, if required.

Item 14—Backup Communication

The Advisory Committee recommended:

"The communication system in use at the mine should be capable of providing backup communication to the working section(s). This redundancy may be in the form of; two communication lines, the use of one communication line plus another form of communication (e.g., leaky feeder, trolley, wireless, automatic alert/alarms, etc.), or any other equally effective system(s) selected by the operator.

In operations having only one means of verbal communication:

- (a) Transmission lines for the automatic section alarms and phone should be carried in separate entries; and
- (b) In the event of failure of the phone system, and the section receives an alarm, miners should be evacuated as required in the mine Fire Fighting and Evacuation Plan."

MSHA agrees that the communication line should be maintained in an entry other than that used for the AMS data transmission line. In proposed § 75.351(r), we would require that two separate means of communication be maintained from the surface to the working sections and setup or removal areas.

MSHA believes that the AMS data transmission line provides one form of communication, and that a second two-way system should be installed in a separate entry. If the mine's primary two-way system is installed along with the AMS line, a second method of two-way communication would be required. This method could include a second mine phone line. The proposal meets the recommendation of the Advisory Committee for this item.

C. Advisory Committee's Discussion on Velocity Caps

MSHA agrees with the Advisory Committee discussion on this issue, and has proposed in § 75.351(i)(2) that reduced alert and alarm settings may be required for some CO sensor locations. The locations would be specified in the mine ventilation plan according to the requirements in proposed § 75.371(mm).

MSHA has not included any specific document or guideline for reducing these settings. Rather, we agree with the Advisory Committee discussion that the District Manager should use all available information, including