

information provided by research, as guidance for reducing the settings for specific locations. This issue must be addressed on a mine-by-mine basis as conditions warrant.

Advisory Committee Recommendation 3—Miners should be trained in the basic principles of the early-warning fire detection system and the actions required in the event of activation of a system alarm. Appropriate personnel responsible for the installation, maintenance, operation, and inspection of the system should be trained in their duties. In the special case of the AMS operator, who is the person responsible for monitoring the system, and, hence, initiating the fire fighting and evacuation plan, MSHA should assure, by examination of competency, the training and its effectiveness received by that person. At any time there are workers underground in an AMS-equipped mine, there should be a trained operator within sight or sound of the control station.

In this proposed rule, MSHA has included training requirements for AMS operators, AMS installation and maintenance personnel, and all miners to assure responses to the AMS alert and alarm signals are timely and effective. MSHA has not included a requirement for competency testing of the AMS operator because each AMS is unique to a specific mine. The mine operator is required to train the AMS operator to respond to the system. The training requirements for AMS operators are proposed in § 75.351(q) and the requirements for training of maintenance personnel are proposed in § 75.351(k). Training of both the AMS operators and maintenance personnel should be conducted in accordance with manufacturer's instructions, as part of the mine operator's maintenance program. These training programs fall under existing 30 CFR 75.160—Training programs and 75.161—Plans for training programs. General training would be required under proposed § 75.350(b)(2). Training is required for all new miners and in annual refresher training required under part 48.

Advisory Committee Recommendation 4—In mines using an AMS as a condition for using air in the conveyor belt entry to ventilate working places, the minimum velocity in the belt entry should be 50 feet per minute.

As previously discussed, MSHA agrees that for spacing of sensors at intervals of 1000 feet, a minimum velocity of 50 fpm is required. For lower velocities, research has shown that a 350-foot spacing can provide adequate early warning. MSHA has included this sensor spacing requirement in proposed § 75.351(e)(3).

Advisory Committee Recommendation 5—The agency should move forward with the

development and promulgation of approval schedules for early-warning fire detection systems (including smoke sensors). Approval schedules should include performance standards as well as safety standards and should be flexible enough to permit advances in technology.

MSHA has decided not to develop approval schedules for AMSs. However, we are proposing in § 75.351(l) that the sensors be listed or certified by a nationally recognized testing laboratory (NRTL). The standards used by the NRTLs to list or certify the sensors will be American National Standards. Systems are required by existing § 75.1103–2(b) (Automatic fire sensors; approved components; installation requirements) to meet the 1967 National Fire Code, 72A. This was an American National Standard.

Requiring the NRTL approval will not discourage new technology, as we have also proposed in § 75.351(l) that the components can be approved by the Secretary, allowing MSHA to accept new technology that has not yet been approved by a NRTL. MSHA is also proposing minimum operating requirements in proposed § 75.351(c); minimum installation requirements in proposed §§ 75.351(d) and (e); and operating parameters in proposed §§ 75.351(i) and (j). We agree that the regulation must provide flexibility to allow advances in technology, and believe this approach provides that flexibility. The Agency will continue to evaluate systems for intrinsic safety.

Advisory Committee Recommendation 6—Velocities, both minimum and maximum, should provide air that is capable of containing methane and dust levels at or below the levels specified in the standards. The concentration of respirable dust in a belt conveyor haulageway used to ventilate the working place should not exceed 1.0 mg/m<sup>3</sup> at a point just outby the section tailpiece. The concentration of respirable dust at all other outby locations in the belt haulageways should not exceed 2.0 mg/m<sup>3</sup>. Designated areas should be established at appropriate locations in the belt haulageway for dust measurement and should be identified in the ventilation system and methane and dust control plan.

Proposed § 75.350 (b)(3) would require respirable dust levels as recommended by the Advisory Committee, and would require the establishment of permanent designated areas for sampling near section tailpieces. The 2.0 mg/m<sup>3</sup> standard and establishment of designated areas for outby areas already exists in part 70. Methane action levels are addressed in § 75.323.

Advisory Committee Recommendation 7—The minimum air velocity in belt haulage entries in all mines, whether belt air is used

to ventilate working places or not, should be established based on the ability of the air current to reduce the potential for methane layering.

MSHA believes that the air velocity in mines utilizing the belt as an intake under § 75.350 will have sufficient velocity to avoid methane layering. However, we believe that layering is no less dangerous in mines not using belt air. Means to address methane layering are already addressed under §§ 75.321 (Air quality) and 75.323 (Actions for excessive methane). No new provisions are included in this proposed rule.

Advisory Committee Recommendation 8—Lifelines should be installed and maintained in all primary and alternate escapeways. Tracks and belts can be treated as acceptable lifelines, provided that, where track switches and belt transfers exist, provisions are made for clear designation of the escape route.

The Advisory Committee recommended that lifelines be installed and maintained in all escapeways. The Advisory Committee heard testimony from several members of the industry to the effect that lifelines are beneficial. However, they also heard that lifelines placed in active entries were quickly destroyed due to normal mining activities and that repair was not considered a priority. Therefore, we have not included a requirement for lifelines in the proposed rule. We solicit comments on the need for, costs of, and the maintainability of, lifelines in escapeways.

Advisory Committee Recommendation 9—Ventilation of the primary and alternate escapeways should consider the interfaces and interrelationships among all aspects of the mining system (e.g., the haulage system, the ventilation system, the production system, etc.). Ventilation systems should be designed and maintained to protect the integrity of the mine atmosphere in the primary intake escapeway. The alternate escapeway should be designed and maintained to maximize the possibilities of escape. Information submitted in the ventilation plan approval should include substantiating data relative to the integrity of the mine atmosphere in the escapeways under normal and pressurized conditions.

The Advisory Committee recognized the importance of protecting the "integrity of the atmosphere" in the primary escapeway. In addressing this issue, the Advisory Committee report states, "it is desirable, even during normal operation of the mine, to maintain the integrity of the mine atmosphere in the escapeways by providing a positive pressure differential between the escapeways and the adjacent entries." MSHA agrees that separation of the belt air course from the primary escapeway is essential in