

# United Mine Workers of America



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22172-1779

June 21, 2013

Sheila McConnell, Deputy Director  
MSHA, Office of Standards, Regulations, and Variances  
1100 Wilson Boulevard, 21st floor, Room 2350  
Arlington, VA 22209-3939.

Re: OMB 1219-0138

Dear Ms. McConnell

Attached are the comments of the United Mine Workers of America on the Proposed Information Collection Request; Comment Request; Safety Standards for Underground Coal Mine Ventilation-Belt Entry Used as an Intake Air Course To Ventilate Working Sections and Areas Where Mechanized Mining Equipment Is Being Installed or Removed

The UMWA appreciates the opportunity to participate in this important rulemaking and asks that you forward our comments to the appropriate person(s) for consideration.

Sincerely,

Dennis O'Dell, Administrator  
UMWA Department of Occupational  
Health and Safety

**Proposed Information Collection; Comment Request; Safety Standards for  
Underground Coal Mine Ventilation-Belt Entry Used as an Intake Air Course To  
Ventilate Working Sections and Areas Where Mechanized Mining Equipment Is  
Being Installed or Removed**

**June 21, 2013**

Under MSHA standards, MSHA allows operators to use air from a belt air course to ventilate a working section, or an area where mechanized mining equipment is being installed or removed, only under certain conditions. The belt air use must be evaluated and approved by the district manager in the mine ventilation plan and operators must follow a number of other requirements that provide additional protection.

Section 75.350(b) requires that the mine operator must include in a ventilation plan a justification that the use of air from a belt entry would afford at least the same measure of protection as where belt haulage entries are not used. The plan also must include information regarding point feeds and regulators and designated areas for dust and air velocity measurements.

Sections 75.351(b)(3) and 75.351(b)(4) require a mine operator to post a map or schematic, at a designated surface location, which shows the locations and type of Atmospheric Monitoring System (AMS) sensors at each location 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. Contact information for AMS and other appropriate personnel also must be posted at this location.

Section 75.351(j) requires approval of the CO ambient levels, and the means to determine those levels, in the mine ventilation plan.

Section 75.351(m) permits a mine to incorporate time delays into the AMS, or to use other methods for reducing non-fire alerts and alarm levels, provided they are specified and approved in the mine ventilation plan. Permission for such time delays, or other methods of reducing non-fire alerts and alarms, would be granted based on associated documentation that justifies these changes.

Sections 75.351(n)(2) and 75.351(n)(3) require that alarms for AMS be tested every seven days and CO, smoke, or methane sensors be calibrated, every 31 days, respectively.

Section 75.351(o)(1)(i) requires that a record be made if the AMS emits an alert or alarm signal. The record would consist of the date, time, location, and type of sensor, and the reason for its activation.

Section 75.351(o)(1)(ii) requires that, if an AMS malfunctions, a record be made of the date, the extent and cause of the malfunction, and the corrective action taken to return the system to proper operating condition.

Section 75.351(o)(1)(iii) requires that the persons doing the weekly test of alert and alarm signals, the monthly calibration, or maintenance of the system make a record of these tests, calibrations, or maintenance.

Section 75.351(o)(3) requires that all records concerning the AMS be kept in a book or electronically in a computer system that is secure and not susceptible to alteration.

Section 75.351(p) requires the mine operator to keep these records for at least one year at a surface location and to make them available for inspection by authorized representatives of the Secretary and representatives of miners.

Section 75.351(q)(3) requires that a record of annual AMS operator training be kept. The record will include the content of training, the person conducting the training, and the date the training is conducted. The record needs to be maintained at the mine site by the mine operator for at least one year.

Sections 75.352(a), 75.352(b), and 75.352(c) require the designated AMS operator or other appropriate personnel to notify, investigate, or evacuate when malfunction, alert, or alarm signals are received.

Section 75.371(hh) requires reporting within the mine ventilation plan of the “ambient level in parts per million of carbon monoxide, and the method for determining the ambient level, in all areas where carbon monoxide sensors are installed.” This provision is impacted by § 75.351(j).

Section 75.371(kk) requires the locations where air quantities are measured as set forth in § 75.350(b)(6) be included in the mine ventilation plan.

Section 75.371(ll) requires the locations and use of point feed regulators, in accordance with Sections 75.350(c) and 75.350(d)(5), to be in the mine ventilation plan.

Section 75.371(mm) requires the location of any diesel-discriminating sensor and additional carbon monoxide or smoke sensors installed in the belt air course to be included in the mine ventilation plan.

Sections 75.371(nn), 75.371(oo), and 75.371(pp) require modification of the mine ventilation plan to show the length of the time delay or any other method used for reducing the number of non-fire related alert and alarm signals from CO sensors, the lower alert and alarm setting for CO sensors, and the alternate instrument and the alert and alarm levels associated with the instrument, respectively.

## **II. Desired Focus of Comments**

MSHA is soliciting comments concerning the proposed extension of the information collection related to the Safety Standards for Underground Coal Mine Ventilation—Belt Entry Used as an Intake Air Course to Ventilate Working Sections and Areas Where Mechanized Mining Equipment is Being Installed or Removed. MSHA is particularly interested in comments that:

- Evaluate whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information has practical utility;

- Evaluate the accuracy of the MSHA's estimate of the burden of the collection of information, including the validity of the methodology and assumptions used;
- Suggest methods to enhance the quality, utility, and clarity of the information to be collected; and
- Minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses.

### **75.350 Belt Air Course Ventilation**

(a) The belt air course must not be used as a return air course; and except as provided in paragraph (b) of this section, the belt air course must not be used to provide air to working sections or to areas where mechanized mining equipment is being installed or removed.

(1) The belt air course must be separated with permanent ventilation controls from return air courses and from other intake air courses except as provided in paragraph (c) of this section.

(2) Effective December 31, 2009, the air velocity in the belt entry must be at least 50 feet per minute. When requested by the mine operator, the district manager may approve lower velocities in the ventilation plan based on specific mine conditions. Air velocities must be compatible with all fire detection systems and fire suppression systems used in the belt entry.

(b) The use of air from a belt air course to ventilate a working section, or an area where mechanized mining equipment is being installed or removed, shall be permitted only when evaluated and approved by the district manager in the mine ventilation plan. The mine operator must provide justification in the plan that the use of air from a belt entry would afford at least the same measure of protection as where belt haulage entries are not used to ventilate working places. In addition, the following requirements must be met:

(1) The belt entry must be equipped with an AMS that is installed, operated, examined, and maintained as specified in § 75.351.

(2) All miners must be trained annually in the basic operating principles of the AMS, including the actions required in the event of activation of any AMS alert or alarm signal. This training must be conducted prior to working underground in a mine that uses belt air to ventilate working sections or areas where mechanized mining equipment is installed or removed. It must be conducted as part of a miner's 30 CFR part 48 new miner training (§ 48.5), experienced miner training (§ 48.6), or annual refresher training (§ 48.8).

(3)(i) The average concentration of respirable dust in the belt air course, when used as a section intake air course, must be maintained at or below  $1.0 \text{ mg/m}^3$ .

(ii) Where miners on the working section are on a reduced standard below  $1.0 \text{ mg/m}^3$ , the average concentration of respirable dust in the belt entry must be at or below the lowest applicable respirable dust standard on that section.

(iii) A permanent designated area (DA) for dust measurements must be established at a point no greater than 50 feet upwind from the section loading point in the belt entry when the belt air flows over the loading point or no greater than 50 feet upwind from the point where belt air is mixed with air from another intake air course near the loading point. The DA must be specified and approved in the ventilation plan.

(4) The primary escapeway must be monitored for carbon monoxide or smoke as specified in § 75.351(f).

(5) The area of the mine with a belt air course must be developed with three or more entries.

(6) In areas of the mine developed after the effective date of this rule, unless approved by the district manager, no more than 50% of the total intake air, delivered to the working section or to areas where mechanized mining equipment is being installed or removed, can be supplied from the belt air course. The locations for measuring these air quantities must be approved in the mine ventilation plan.

(7) The air velocity in the belt entry must be at least 100 feet per minute. When requested by the mine operator, the district manager may approve lower velocities in the ventilation plan based on specific mine conditions.

(8) The air velocity in the belt entry must not exceed 1,000 feet per minute. When requested by the mine operator, the district manager may approve higher velocities in the ventilation plan based on specific mine conditions.

(c) Notwithstanding the provisions of § 75.380(g), additional intake air may be added to the belt air course through a point-feed regulator. The location and use of point feeds must be approved in the mine ventilation plan.

(d) If the air through the point-feed regulator enters a belt air course which is used to ventilate a working section or an area where mechanized mining equipment is being installed or removed, the following conditions must be met:

(1) The air current that will pass through the point-feed regulator must be monitored for carbon monoxide or smoke at a point within 50 feet upwind of the point-feed regulator. A second point must be monitored 1,000 feet upwind of the point-feed regulator unless the mine operator requests that a lesser distance be approved by the district manager in the mine ventilation plan based on mine specific conditions;

(2) The air in the belt air course must be monitored for carbon monoxide or smoke

upwind of the point-feed regulator. This sensor must be in the belt air course within 50 feet of the mixing point where air flowing through the point-feed regulator mixes with the belt air;

(3) The point-feed regulator must be provided with a means to close the regulator from the intake air course without requiring a person to enter the crosscut where the point-feed regulator is located. The point-feed regulator must also be provided with a means to close the regulator from a location in the belt air course immediately upwind of the crosscut containing the point-feed regulator;

(4) A minimum air velocity of 300 feet per minute must be maintained through the point-feed regulator;

(5) The location(s) and use of a point-feed regulator(s) must be approved in the mine ventilation plan and shown on the mine ventilation map; and

(6) An AMS must be installed, operated, examined, and maintained as specified in § 75.351.

**Comment:**

This standard specifies the requirements when the belt entry is used as an intake air course to ventilate working sections. The use of belt entries for intake airways is permitted only when evaluated and approved by the MSHA District Manager in the mine ventilation plan. Under the standard, many requirements must be met to use the belt entry for intake ventilation and must be specified in the mine ventilation plan. The information required includes many details such as the velocities of air; locations of point feeds; designated locations for dust measurements; and training requirements for the atmospheric monitoring system to name a few. All of this information is an integral part of the mine ventilation plan and must be maintained for the safe operation of the mine. This information is not a burden on the industry and is a very vital part of the overall safety of the operation. Therefore, we recommend that all of this information be continued to be reported and recorded as has been in the past. The mine ventilation plan should not be considered a "paperwork burden" and is necessary for the proper performance of the functions of the agency and does have practical utility. Should the coal operator choose to submit information electronically, the UMWA would not have a problem with this as long as the information is retained and made available to all interested parties, and copies provided to the miners representative.

## 75.351 Atmospheric monitoring systems.

(a) *AMS operation.* Whenever personnel are underground and an AMS is used to fulfill the requirements of § § 75.323(d)(1)(ii), 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), 75.350(d), or 75.362(f), the AMS must be operating and a designated AMS operator must be on duty at a location on the surface of the mine where audible and visual signals from the AMS must be seen or heard and the AMS operator can promptly respond to these signals.

(b) *Designated surface location and AMS operator.* When an AMS is used to comply with § § 75.323(d)(1)(ii), 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), 75.350(d), or 75.362(f), the following requirements apply:

(1) The mine operator must designate a surface location at the mine where signals from the AMS will be received and two-way voice communication is maintained with each working section, with areas where mechanized mining equipment is being installed or removed, and with other areas designated in the approved emergency evacuation and firefighting program of instruction (§ 75.1502).

(2) The mine operator must designate an AMS operator to monitor and promptly respond to all AMS signals. The AMS operator must have as a primary duty the responsibility to monitor the malfunction, alert and alarm signals of the AMS, and to notify appropriate personnel of these signals. In the event of an emergency, the sole responsibility of the AMS operator shall be to respond to the emergency.

(3) A map or schematic must be provided at the designated surface location that shows the locations and type of AMS sensor at each location, 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.

(4) The names of the designated AMS operators and other appropriate personnel, including the designated person responsible for initiating an emergency mine evacuation under § 75.1501, and the method to contact these persons, must be provided at the designated surface location.

(c) *Minimum operating requirements.* AMSs used to comply with § 75.323(d)(1)(ii), 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), 75.350(d), or 75.362(f) must:

(1) Automatically provide visual and audible signals at the designated surface location for any interruption of circuit continuity and any electrical malfunction of the system. These signals must be of sufficient magnitude to be seen or heard by the AMS operator.

(2) Automatically provide visual and audible signals at the designated surface location when the carbon monoxide concentration or methane concentration at any sensor reaches the alert level as specified in § 75.351(i). These signals must be of sufficient magnitude

to be seen or heard by the AMS operator.

(3) Automatically provide visual and audible signals at the designated surface location distinguishable from alert signals when the carbon monoxide, smoke, or methane concentration at any sensor reaches the alarm level as specified in § 75.351(i). These signals must be of sufficient magnitude to be seen or heard by the AMS operator.

(4) Automatically provide visual and audible signals at all affected working sections and at all affected areas where mechanized mining equipment is being installed or removed when the carbon monoxide, smoke, or methane concentration at any sensor reaches the alarm level as specified in § 75.351(i). These signals must be of sufficient magnitude to be seen or heard by miners working at these locations. Methane signals must be distinguishable from other signals.

(5) Automatically provide visual and audible signals at other locations as specified in Mine Emergency Evacuation and Firefighting Program of Instruction (§ 75.1502) when the carbon monoxide, smoke, or methane concentration at any sensor reaches the alarm level as specified in § 75.351(i). These signals must be seen or heard by miners working at these locations. Methane alarms must be distinguishable from other signals.

(6) Identify at the designated surface location the operational status of all sensors.

(7) Automatically provide visual and audible alarm signals at the designated surface location, at all affected working sections, and at all affected areas where mechanized mining equipment is being installed or removed when the carbon monoxide level at any two consecutive sensors alert at the same time. These signals must be seen or heard by the AMS operator and miners working at these locations.

*(d) Location and installation of AMS sensors.* (1) All AMS sensors, as specified in §§ 75.351(e) through 75.351(h), must be located such that measurements are representative of the mine atmosphere in these locations.

(2) Carbon monoxide or smoke sensors must be installed near the center in the upper third of the entry, in a location that does not expose personnel working on the system to unsafe conditions. Sensors must not be located in abnormally high areas or in other locations where air flow patterns do not permit products of combustion to be carried to the sensors.

(3) Methane sensors must be installed near the center of the entry, at least 12 inches from the roof, ribs, and floor, in a location that would not expose personnel working on the system to unsafe conditions.

*(e) Location of sensors-belt air course.*

(1) In addition to the requirements of paragraph (d) of this section, any AMS used to monitor belt air courses under Sec. 75.350(b) must have approved sensors to monitor for



carbon monoxide at the following locations:

(i) At or near the working section belt tailpiece in the air stream ventilating the belt entry. In longwall mining systems the sensor must be located upwind in the belt entry at a distance no greater than 150 feet from the mixing point where intake air is mixed with the belt air at or near the tailpiece;

(ii) No more than 50 feet upwind from the point where the belt air course is combined with another air course or splits into multiple air courses;

(iii) At intervals not to exceed 1,000 feet along each belt entry. However, in areas along each belt entry where air velocities are between 50 and 100 feet per minute, spacing of sensors must not exceed 500 feet. In areas along each belt entry where air velocities are less than 50 feet per minute, the sensor spacing must not exceed 350 feet;

(iv) Not more than 100 feet downwind of each belt drive unit, each tailpiece, transfer point, and each belt take-up. If the belt drive, tailpiece, and/or take-up for a single transfer point are installed together in the same air course, and the distance between the units is less than 100 feet, they may be monitored with one sensor downwind of the last component. If the distance between the units exceeds 100 feet, additional sensors are required downwind of each belt drive unit, each tailpiece, transfer point, and each belt take-up; and

(v) At other locations in any entry that is part of the belt air course as required and specified in the mine ventilation plan.

(2) Smoke sensors must be installed to monitor the belt entry under Sec. 75.350(b) at the following locations:

(i) At or near the working section belt tailpiece in the air stream ventilating the belt entry. In longwall mining systems the sensor must be located upwind in the belt entry at a distance no greater than 150 feet from the mixing point where intake air is mixed with the belt air at or near the tailpiece;

(ii) Not more than 100 feet downwind of each belt drive unit, each tailpiece transfer point, and each belt take-up. If the belt drive, tailpiece, and/or take-up for a single transfer point are installed together in the same air course, and the distance between the units is less than 100 feet, they may be monitored with one sensor downwind of the last component. If the distance between the units exceeds 100 feet, additional sensors are required downwind of each belt drive unit, each tailpiece, transfer point, and each belt take-up; and

(iii) At intervals not to exceed 3,000 feet along each belt entry.

(iv) This provision shall be effective one year after the Secretary has determined that a smoke sensor is available to reliably detect fire in underground coal mines.

(f) *Locations of sensors--the primary escapeway.* When used to monitor the primary escapeway under § 75.350(b)(4), carbon monoxide or smoke sensors must be located in the primary escapeway within 500 feet of the working section and areas where mechanized mining equipment is being installed or removed. In addition, another sensor must be located within 500 feet in by the beginning of the panel. The point-feed sensor required by § 75.350(d)(1) may be used as the sensor at the beginning of the panel if it is located within 500 feet in by the beginning of the panel.

(g) *Location of sensors--return air splits.* (1) If used to monitor return air splits under § 75.362(f), a methane sensor must be installed in the return air split between the last working place, longwall or shortwall face ventilated by that air split, and the junction of the return air split with another air split, seal, or worked out area.

(2) If used to monitor a return air split under § 75.323(d)(1)(ii), the methane sensors must be installed at the following locations:

(i) In the return air course opposite the section loading point, or, if exhausting auxiliary fan(s) are used, in the return air course no closer than 300 feet downwind from the fan exhaust and at a point opposite or immediately outby the section loading point; and

(ii) Immediately upwind from the location where the return air split meets another air split or immediately upwind of the location where an air split is used to ventilate seals or worked-out areas.

(h) *Location of sensors--electrical installations.* When monitoring the intake air ventilating underground transformer stations, battery charging stations, substations, rectifiers, or water pumps under § 75.340(a)(1)(ii) or § 75.340(a)(2)(ii), at least one sensor must be installed to monitor the mine atmosphere for carbon monoxide or smoke, located downwind and not greater than 50 feet from the electrical installation being monitored.

(i) *Establishing alert and alarm levels.* An AMS installed in accordance with the following paragraphs must initiate alert and alarm signals at the specified levels, as indicated:

(1) For § 75.323(d)(1)(ii) alarm at 1.5% methane.

(2) For § § 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), and 75.350(d), alert at 5 ppm carbon monoxide above the ambient level and alarm at 10 ppm carbon monoxide above the ambient level when carbon monoxide sensors are used; and alarm at a smoke optical density of 0.022 per meter when smoke sensors are used. Reduced alert and alarm settings approved by the district manager may be required for carbon monoxide sensors identified in the mine ventilation plan, § 75.371(nn).

(3) For § 75.362(f), alert at 1.0% methane and alarm at 1.5% methane.

(j) *Establishing carbon monoxide ambient levels.* Carbon monoxide ambient levels and the means to determine these levels must be approved in the mine ventilation plan (§ 75.371(hh)) for monitors installed in accordance with §§ 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), and 75.350(d).

(k) *Installation and maintenance.* An AMS installed in accordance with §§ 75.323(d)(1)(ii), 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), 75.350(d), or 75.362(f) must be installed and maintained by personnel trained in the installation and maintenance of the system. The system must be maintained in proper operating condition.

(l) *Sensors.* Sensors used to monitor for carbon monoxide, methane, and smoke 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.

(m) *Time delays.* When a demonstrated need exists, time delays may be incorporated into the AMS. These time delays must only be used to account for non-fire related carbon monoxide alert and alarm sensor signals. These time delays are limited to no more than three minutes. The use and length of any time delays, or other techniques or methods which eliminate or reduce the need for time delays, must be specified and approved in the mine ventilation plan.

(n) *Examination, testing, and calibration.* (1) At least once each shift when belts are operated as part of a production shift, sensors used to detect carbon monoxide or smoke in accordance with §§ 75.350(b), and 75.350(d), and alarms installed in accordance with § 75.350(b) must be visually examined.

(2) At least once every seven days, alarms for AMS installed in accordance with §§ 75.350(b), and 75.350(d) must be functionally tested for proper operation.

(3) At intervals not to exceed 31 days--

(i) Each carbon monoxide sensor installed in accordance with §§ 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), or 75.350(d) must be calibrated in accordance with the manufacturer's calibration specifications. Calibration must be done with a known concentration of carbon monoxide in air sufficient to activate the alarm;

(ii) Each smoke sensor installed in accordance with §§ 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), or 75.350(d) must be functionally tested in accordance with the manufacturer's calibration specifications;

(iii) Each methane sensor installed in accordance with §§ 75.323(d)(1)(ii) or 75.362(f) must be calibrated in accordance with the manufacturer's calibration specifications. Calibration must be done with a known concentration of methane in air sufficient to activate an alarm.

(iv) If the alert or alarm signals will be activated during calibration of sensors, the AMS operator must be notified prior to and upon completion of calibration. The AMS operator must notify miners on affected working sections, areas where mechanized mining equipment is being installed or removed, or other areas designated in the approved emergency evacuation and firefighting program of instruction (§ 75.1502) when calibration will activate alarms and when calibration is completed.

(4) Gases used for the testing and calibration of AMS sensors must be traceable to the National Institute of Standards and Technology reference standard for the specific gas. When these reference standards are not available for a specific gas, calibration gases must be traceable to an analytical standard which is prepared using a method traceable to the National Institute of Standards and Technology. Calibration gases must be within 2.0 percent of the indicated gas concentration.

(o) *Recordkeeping.* (1) When an AMS is used to comply with § § 75.323(d)(1)(ii), 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), 75.350(d), or 75.362(f), individuals designated by the operator must make the following records by the end of the shift in which the following event(s) occur:

(i) If an alert or alarm signal occurs, a record of the date, time, location and type of sensor, and the cause for the activation.

(ii) If an AMS malfunctions, a record of the date, the extent and cause of the malfunction, and the corrective action taken to return the system to proper operation.

(iii) A record of the seven-day tests of alert and alarm signals; calibrations; and maintenance of the AMS must be made by the person(s) performing these actions.

(2) The person entering the record must include their name, date, and signature in the record.

(3) The records required by this section must be kept either in a secure book that is not susceptible to alteration, or electronically in a computer system that is secure and not susceptible to alteration. These records must be maintained separately from other records and identifiable by a title, such as the 'AMS log.'

(p) *Retention period.* Records must be retained for at least one year at a surface location at the mine and made available for inspection by miners and authorized representatives of the Secretary.

(q) *Training.*

(1) All AMS operators must be trained annually in the proper operation of the AMS. This training must include the following subjects:

- (i) Familiarity with underground mining systems;
- (ii) Basic atmospheric monitoring system requirements;
- (iii) The mine emergency evacuation and firefighting program of instruction;
- (iv) The mine ventilation system including planned air directions;
- (v) Appropriate response to alert, alarm and malfunction signals;
- (vi) Use of mine communication systems including emergency notification procedures;  
and
- (vii) AMS recordkeeping requirements.

(2) At least once every six months, all AMS operators must travel to all working sections.

(3) A record of the content of training, the person conducting the training, and the date the training was conducted, must be maintained at the mine for at least one year by the mine operator.

(r) *Communications.* When an AMS is used to comply with § 75.350(b), a two-way voice communication system required by § 75.1600 must be installed in an entry that is separate from the entry in which the AMS is installed no later than August 2, 2004. The two-way voice communication system may be installed in the entry where the intake sensors required by § 75.350(b)(4) or 75.350(d)(1) are installed.

**Comments:**

This standard specifies the requirements for using an atmospheric monitoring system (AMS). The AMS is required when the belt entry is used as an intake to ventilate the working areas. This standard includes a number of recordkeeping requirements such as locations of AMS sensors; the intended air flow direction; names of designated responsible persons; alert and alarm levels for the AMS; as well as others. This information is a necessary part of the overall plan for ventilating with belt air and must not be changed. These specifications are necessary for the agency, company, miners and all involved parties to ensure that the AMS is operating properly. Including this information as part of the ventilation plan is not a "paperwork burden" to the industry and is a standard part of the submission of the mine ventilation plan. Therefore, the UMWA recommends that no change be made to this standard. This information is a necessary for the proper performance of the functions of the agency and will have practical utility.

## **75.352 Actions in response to AMS malfunction, alert, or alarm signals**

(a) When a malfunction, alert, or alarm signal is received at the designated surface location, the sensor(s) that are activated must be identified and the AMS operator must promptly notify appropriate personnel.

(b) Upon notification of a malfunction, alert, or alarm signal, appropriate personnel must promptly initiate an investigation to determine the cause of the signal and take the required actions set forth in paragraphs (c), (d), or (e) of this section.

(c) If any sensor installed in accordance with § 75.340(a)(1)(ii), 75.340(a)(2)(ii), 75.350(b), or 75.350(d) indicates an alarm or if any two consecutive sensors indicate alert at the same time, the following procedures must be followed unless the cause of the signal(s) is known not to be 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 § 75.1502 approved mine emergency evacuation and firefighting program of instruction; and

(2) All personnel in the affected areas, unless assigned other duties under § 75.1502, must be withdrawn promptly to a safe location identified in the mine emergency evacuation and firefighting program of instruction.

(d) If there is an alert or alarm signal from a methane sensor installed in accordance with § 75.323(d)(1)(ii) and 75.362(f), an investigation must be initiated to determine the cause of the signal, and the actions required under § 75.323 must be taken.

(e) If any fire detection components of the AMS malfunction or are inoperative, immediate action must be taken to return the system to proper operation. While the AMS component repairs are being made, operation of the belt may continue if the following conditions are met:

(1) If one AMS sensor malfunctions or becomes inoperative, a trained person must continuously monitor for carbon monoxide or smoke at the inoperative sensor.

(2) If two or more adjacent AMS sensors malfunction or become inoperative, a trained person(s) must patrol and continuously monitor for carbon monoxide or smoke so that the affected areas will be traveled each hour in their entirety, or a trained person must be stationed to monitor at each inoperative sensor.

(3) If the complete AMS malfunctions or becomes inoperative, trained persons must patrol and continuously monitor for carbon monoxide or smoke so that the affected areas will be traveled each hour in their entirety.

(4) The trained person(s) monitoring under this section must, at a minimum, have two-way voice communication capabilities with the AMS operator at intervals not to exceed 2,000 feet and report contaminant levels to the AMS operator at intervals not to exceed 60 minutes.

(5) The trained person(s) monitoring under this section must report immediately to the AMS operator any concentration of the contaminant that reaches either the alert or alarm level specified in § 75.351(i), or the alternate alert and alarm levels specified in paragraph (e)(7) of this section, unless the source of the contaminant is known not to present a hazard.

(6) Detectors used to monitor under this section must have a level of detectability equal to that required of the sensors in § 75.351(l).

(7) For those AMSs using sensors other than carbon monoxide sensors, an alternate detector and the alert and alarm levels associated with that detector must be specified in the approved mine ventilation plan.

(f) If the minimum air velocity is not maintained when required under Sec. 75.350(b)(7), immediate action must be taken to return the ventilation system to proper operation. While the ventilation system is being corrected, operation of the belt may continue only while a trained person(s) patrols and continuously monitors for carbon monoxide or smoke as set forth in Sec. Sec. 75.352(e)(3) through (7), so that the affected areas will be traveled each hour in their entirety.

(g) The AMS shall automatically provide both a visual and audible signal in the belt entry at the point-feed regulator location, at affected sections, and at the designated surface location when carbon monoxide concentrations reach:

- (1) The alert level at both point-feed intake monitoring sensors; or
- (2) The alarm level at either point-feed intake monitoring sensor.

**Comments:**

As with 75.351, this standard specifies the actions to be taken in response to an AMS malfunction, alert, or alarm signal. Comments here would be the same as noted in 75.351 above. This standard does not contain any recordkeeping requirements except (e)(7) requires that AMS using sensors other than carbon monoxide sensors and alternate detector and alert and alarms levels must be specified in the approved mine ventilation plan. This should not present a "paperwork burden" on the industry and would reasonably be noted in the mine ventilation plan as an alternative to the AMS. Comments here would be similar to those on 75.351 above.

### **75.371 Mine Ventilation Plan; contents**

The mine ventilation plan shall contain the information described below and any additional provisions required by the district manager:

- (a) The mine name, company name, mine identification number, and the name of the individual submitting the plan information.
- (b) Planned main mine fan stoppages, other than those scheduled for testing, maintenance or adjustment, including procedures to be followed during these stoppages and subsequent restarts (see §75.311(a)) and the type of device to be used for monitoring main mine fan pressure, if other than a pressure recording device (see 75.310(a)(4)).
- (c) Methods of protecting main mine fans and associated components from the forces of an underground explosion if a 15-foot offset from the nearest side of the mine opening is not provided (see §75.310(a)(6)); and the methods of protecting main mine fans and intake air openings if combustible material will be within 100 feet of the area surrounding the fan or these openings (see §75.311(f)).
- (d) Persons that will be permitted to enter the mine, the work these persons will do while in the mine, and electric power circuits that will be energized when a back-up fan system is used that does not provide the ventilating quantity provided by the main mine fan (see §75.311(c)).
- (e) The locations and operating conditions of booster fans installed in anthracite mines (see §75.302).
- (f) Section and face ventilation systems used, including drawings illustrating how each system is used, and a description of each different dust suppression system used on equipment on working sections.
- (g) Locations where the air quantities must be greater than 3,000 cubic feet per minute (see (h) In anthracite mines, locations where the air quantities must be greater than 1,500 cubic feet per minute (see §75.325(e)(1)).
- (i) Working places and working faces other than those where coal is being cut, mined, drilled for blasting or loaded, where a minimum air quantity will be maintained, and the air quantity at those locations (see §75.325(a)(1)).
- (j) The operating volume of machine mounted dust collectors or diffuser fans, if used (see §75.325(a)(3)).
- (k) The minimum mean entry air velocity in exhausting face ventilation systems where coal is being cut, mined, drilled for blasting, or loaded, if the velocity will be less than 60



feet per minute. Other working places where coal is not being cut, mined, drilled for blasting or loaded, where at least 60 feet per minute or some other minimum mean entry air velocity will be maintained (see §75.326).

(l) The maximum distance if greater than 10 feet from each working face at which face ventilation control devices will be installed (see §75.330(b)(2)). The working places other than those where coal is being cut, mined, drilled for blasting or loaded, where face ventilation control devices will be used (see §75.330(b)(1)(ii)).

(m) The volume of air required in the last open crosscut or the quantity of air reaching the pillar line if greater than 9,000 cubic feet per minute (see §75.325(b)).

(n) In anthracite mines, the volume of air required in the last open crosscut or the quantity of air reaching the pillar line if greater than 5,000 cubic feet per minute (see §75.325(e)(2)).

(o) Locations where separations of intake and return air courses will be built and maintained to other than the third connecting crosscut outby each working face (see §75.333(b)(1)).

(p) The volume of air required at the intake to the longwall sections, if different than 30,000 cubic feet per minute (see §75.325(c)).

(q) The velocities of air on a longwall or shortwall face, and the locations where the velocities must be measured (see §75.325(c)(2)).

(r) The minimum quantity of air that will be provided during the installation and removal of mechanized mining equipment, the location where this quantity will be provided, and the ventilation controls that will be used (see § 75.325(d), (g), and (i)).

(s) The locations and frequency of the methane tests if required more often by §75.362(d)(1)(iii) (see §75.362(d)(1)(iii)).

(t) The locations where samples for "designated areas" will be collected, including the specific location of each sampling device, and the respirable dust control measures used at the dust generating sources for these locations (see §70.208 of this chapter).

(u) The methane and dust control systems at underground dumps, crushers, transfer points, and haulageways.

(v) Areas in trolley haulage entries where the air velocity will be greater than 250 feet per minute and the velocity in these areas (see §75.327(b)).

(w) Locations where entries will be advanced less than 20 feet from the inby rib without a crosscut being provided where a line brattice will be required. (see §75.333(g)).

- (x) A description of the bleeder system to be used, including its design (see §75.334).
- (y) The means for determining the effectiveness of bleeder systems (see §75.334(c)(2)).
- (z) The locations where measurements of methane and oxygen concentrations and air quantities and tests to determine whether the air is moving in the proper direction will be made to evaluate the ventilation of nonpillared worked-out areas (see §75.364(a)(1)) and the effectiveness of bleeder systems (see §75.364(a)(2)(iii)). Alternative methods of evaluation of the effectiveness of bleeder systems (§75.364(a)(2)(iv)).
- (aa) The means for adequately maintaining bleeder entries free of obstructions such as roof falls and standing water (see §75.334(c)(3)).
- (bb) The location of ventilation devices such as regulators, stoppings and bleeder connectors used to control air movement through worked-out areas (see §75.334(c)(4)). The location and sequence of construction of proposed seals for each worked-out area. (see §75.334(e)).
- (cc) In mines with a demonstrated history of spontaneous combustion: a description of the measures that will be used to detect methane, carbon monoxide, and oxygen concentration during and after pillar recovery and in worked-out areas where no pillars have been recovered (see §75.334(f)(1)); and, the actions which will be taken to protect miners from the hazards associated with spontaneous combustion (see §75.334(f)(2)). If a bleeder system will not be used, the methods that will be used to control spontaneous combustion, accumulations of methane-air mixtures, and other gases, dusts, and fumes in the worked-out area (see §75.334(f)(3)).
- (dd) The location of all horizontal degasification holes that are longer than 1,000 feet and the location of all vertical degasification holes.
- (ee) If methane drainage systems are used, a detailed sketch of each system, including a description of safety precautions used with the systems.
  - (ff) Seal installation requirements provided by § 75.335 and the sampling provisions provided by § 75.336.
- (gg) The alternative location for the additional sensing device if the device will not be installed on the longwall shearing machine (see §75.342(a)(2)).
- (hh) The ambient level in parts per million of carbon monoxide, and the method for determining the ambient level, in all areas where carbon monoxide sensors are installed.
- (ii) The locations (designated areas) where dust measurements would be made in the belt entry when belt air is used to ventilate working sections or areas where mechanized mining equipment is being installed or removed, in accordance with § 75.350(b)(3).

- (jj) The locations and approved velocities at those locations where air velocities in the belt entry are above or below the limits set forth in Sec. 75.350(a)(2) or Sec. Sec. 75.350(b)(7) and 75.350(b)(8).
- (kk) The locations where air quantities are measured as set forth in § 75.350(b)(6).
- (ll) The locations and use of point-feed regulators, in accordance with § § 75.350(c) and 75.350(d)(5).
- (mm) The location of any diesel-discriminating sensor, and additional carbon monoxide or smoke sensors installed in the belt air course.
- (nn) The length of the time delay or any other method used to reduce the number of non-fire related alert and alarm signals from carbon monoxide sensors.
- (oo) The reduced alert and alarm settings for carbon monoxide sensors, in accordance with § 75.351(i)(2).
- (pp) The alternate detector and the alert and alarm levels associated with the detector, in accordance with § 75.352(e)(7).
- (qq) The distance that separation between the primary escapeway and the belt or track haulage entries will be maintained if other than to the first connecting crosscut outby the section loading point (see §75.380(g)).
- (rr) In anthracite mines, the dimensions of escapeways where the pitch of the coal seam does not permit escapeways to be maintained 4 feet by 5 feet and the locations where these dimensions must be maintained (see §75.381(c)(4)).
- (ss) Areas designated by the district manager where measurements of CO and NO<sup>2</sup> concentrations will be made (see § 70.1900(a)(4)).
- (tt) Location where the air quantity will be maintained at the section loading point (see § 75.325(f)(2)).
- (uu) Any additional location(s) required by the district manager where a minimum air quantity must be maintained for an individual unit of diesel-powered equipment. (see § 75.325(l)(5)).
- (vv) The minimum air quantities that will be provided where multiple units of diesel-powered equipment are operated (see § 75.325(g) (1)-(3) and (i)).
- (ww) The diesel-powered mining equipment excluded from the calculation under § 75.325(g). (see § 75.325(h)).
- (xx) Action levels higher than the 50 percent level specified by § 70.1900(c). (see §

75.325(j)).

(yy) The locations where the pressure differential cannot be maintained from the primary escapeway to the belt entry.

**Comments:**

This standard specifies the information required in the mine ventilation plan. The mine ventilation plan is one of the most important mine plans required by the standards. Because this plan is the main plan for ventilation of the mine, it must not be changed. The information required in this plan is essential for the health and safety of the mine and the miners. The mine ventilation plan is a historical plan that has been required since passage of the Mine Act. The plan is a standard part of a mine operation and is not a burden to the mine operator. The information required in the plan should not be changed and is necessary for the functions of the agency and does have practical utility. Should the mine operator desire to submit the plan or proposed plan changes electronically, the UMWA would not oppose this as long as a copy of the plan is provided and made available to the miners' representatives.