

this section shall be done by persons trained in such maintenance.

§ 75.321 Air quality.

(a)(1) The air in areas where persons work or travel, except as specified in paragraph (a)(2) of this section, shall contain at least 19.5 percent oxygen and not more than 0.5 percent carbon dioxide, and the volume and velocity of the air current in these areas shall be sufficient to dilute, render harmless, and carry away flammable, explosive, noxious, and harmful gases, dusts, smoke, and fumes.

(2) The air in areas of bleeder entries and worked-out areas where persons work or travel shall contain at least 19.5 percent oxygen, and carbon dioxide levels shall not exceed 0.5 percent time weighted average and 3.0 percent short term exposure limit.

(b) Notwithstanding the provisions of § 75.322, for the purpose of preventing explosions from gases other than methane, the following gases shall not be permitted to accumulate in excess of the concentrations listed below:

- (1) Carbon monoxide (CO)—2.5 percent
- (2) Hydrogen (H₂)—.80 percent
- (3) Hydrogen sulfide (H₂ S)—.80 percent
- (4) Acetylene (C₂ H₂)—.40 percent
- (5) Propane (C₃ H₈)—.40 percent
- (6) MAPP (methyl-acetylene-propylene-propodiene)—.30 percent

§ 75.322 Harmful quantities of noxious gases.

Concentrations of noxious or poisonous gases, other than carbon dioxide, shall not exceed the threshold limit values (TLV) as specified and applied by the American Conference of Governmental Industrial Hygienists in "Threshold Limit Values for Substance in Workroom Air" (1972). Detectors or laboratory analysis of mine air samples shall be used to determine the concentrations of harmful, noxious, or poisonous gases. This incorporation by reference has been approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the Mine Safety and Health Administration, Department of Labor, 1100 Wilson Blvd., Room 2424, Arlington, Virginia

22209–3939 and at every Coal Mine Health and Safety District and Subdistrict Office. The material is available for examination at the Office of the Federal Register, 800 N. Capitol Street, NW., 7th Floor, suite 700, Washington, DC.

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§ 75.323 Actions for excessive methane.

(a) *Location of tests.* Tests for methane concentrations under this section shall be made at least 12 inches from the roof, face, ribs, and floor.

(b) *Working places and intake air courses.* (1) When 1.0 percent or more methane is present in a working place or an intake air course, including an air course in which a belt conveyor is located, or in an area where mechanized mining equipment is being installed or removed—

(i) Except intrinsically safe atmospheric monitoring systems (AMS), electrically powered equipment in the affected area shall be deenergized, and other mechanized equipment shall be shut off;

(ii) Changes or adjustments shall be made at once to the ventilation system to reduce the concentration of methane to less than 1.0 percent; and

(iii) No other work shall be permitted in the affected area until the methane concentration is less than 1.0 percent.

(2) When 1.5 percent or more methane is present in a working place or an intake air course, including an air course in which a belt conveyor is located, or in an area where mechanized mining equipment is being installed or removed—

(i) Everyone except those persons referred to in § 104(c) of the Act shall be withdrawn from the affected area; and

(ii) Except for intrinsically safe AMS, electrically powered equipment in the affected area shall be disconnected at the power source.

(c) *Return air split.* (1) When 1.0 percent or more methane is present in a return air split between the last working place on a working section and where that split of air meets another split of air, or the location at which the split is used to ventilate seals or worked-out areas changes or adjustments shall be made at once to the

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ventilation system to reduce the concentration of methane in the return air to less than 1.0 percent.

(2) When 1.5 percent or more methane is present in a return air split between the last working place on a working section and where that split of air meets another split of air, or the location where the split is used to ventilate seals or worked-out areas—

(i) Everyone except those persons referred to in §104(c) of the Act shall be withdrawn from the affected area;

(ii) Other than intrinsically safe AMS, equipment in the affected area shall be deenergized, electric power shall be disconnected at the power source, and other mechanized equipment shall be shut off; and

(iii) No other work shall be permitted in the affected area until the methane concentration in the return air is less than 1.0 percent.

(d) *Return air split alternative.* (1) The provisions of this paragraph apply if—

(i) The quantity of air in the split ventilating the active workings is at least 27,000 cubic feet per minute in the last open crosscut or the quantity specified in the approved ventilation plan, whichever is greater;

(ii) The methane content of the air in the split is continuously monitored during mining operations by an AMS that gives a visual and audible signal on the working section when the methane in the return air reaches 1.5 percent, and the methane content is monitored as specified in §75.351; and

(iii) Rock dust is continuously applied with a mechanical duster to the return air course during coal production at a location in the air course immediately outby the most inby monitoring point.

(2) When 1.5 percent or more methane is present in a return air split between a point in the return opposite the section loading point and where that split of air meets another split of air or where the split of air is used to ventilate seals or worked-out areas—

(i) Changes or adjustments shall be made at once to the ventilation system to reduce the concentration of methane in the return air below 1.5 percent;

(ii) Everyone except those persons referred to in §104(c) of the Act shall be withdrawn from the affected area;

(iii) Except for intrinsically safe AMS, equipment in the affected area shall be deenergized, electric power shall be disconnected at the power source, and other mechanized equipment shall be shut off; and

(iv) No other work shall be permitted in the affected area until the methane concentration in the return air is less than 1.5 percent.

(e) *Bleeders and other return air courses.* The concentration of methane in a bleeder split of air immediately before the air in the split joins another split of air, or in a return air course other than as described in paragraphs (c) and (d) of this section, shall not exceed 2.0 percent.

§ 75.324 Intentional changes in the ventilation system.

(a) A person designated by the operator shall supervise any intentional change in ventilation that—

(1) Alters the main air current or any split of the main air current in a manner that could materially affect the safety or health of persons in the mine; or

(2) Affects section ventilation by 9,000 cubic feet per minute of air or more in bituminous or lignite mines, or 5,000 cubic feet per minute of air or more in anthracite mines.

(b) Intentional changes shall be made only under the following conditions:

(1) Electric power shall be removed from areas affected by the ventilation change and mechanized equipment in those areas shall be shut off before the ventilation change begins.

(2) Only persons making the change in ventilation shall be in the mine.

(3) Electric power shall not be restored to the areas affected by the ventilation change and mechanized equipment shall not be restarted until a certified person has examined these areas for methane accumulation and for oxygen deficiency and has determined that the areas are safe.

§ 75.325 Air quantity.

(a)(1) In bituminous and lignite mines the quantity of air shall be at least 3,000 cubic feet per minute reaching each working face where coal is being cut, mined, drilled for blasting, or loaded. When a greater quantity is