

## Mine Safety and Health Admin., Labor

## § 56.2

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AUTHORITY: 30 U.S.C. 811.

SOURCE: 50 FR 4054, Jan. 29, 1985, unless otherwise noted.

### Subpart A—General

#### § 56.1 Purpose and scope.

This part 56 sets forth mandatory safety and health standards for each surface metal or nonmetal mine, including open pit mines, subject to the Federal Mine Safety and Health Act of 1977. The purpose of these standards is the protection of life, the promotion of health and safety, and the prevention of accidents.

#### § 56.2 Definitions.

The following definitions apply in this part. In addition definitions contained in any subpart of part 56 apply in that subpart. If inconsistent with the general definitions in this section, the definition in the subpart will apply in that subpart:

*American Table of Distances* means the current edition of "The American Table of Distances for Storage of Explosives" published by the Institute of Makers of Explosives.

*Approved* means tested and accepted for a specific purpose by a nationally recognized agency.

*Attended* means presence of an individual or continuous monitoring to prevent unauthorized entry or access.

*Authorized person* means a person approved or assigned by mine management to perform a specific type of duty or duties or to be at a specific location or locations in the mine.

*Barricaded* means obstructed to prevent the passage of persons, vehicles, or flying materials.

*Barrier* means a material object, or objects that separates, keeps apart, or demarcates in a conspicuous manner such as cones, a warning sign, or tape.

*Berm* means a pile or mound of material along an elevated roadway capable of moderating or limiting the force of a vehicle in order to impede the vehicle's passage over the bank of the roadway.

*Blast area* means the area in which concussion (shock wave), flying material, or gases from an explosion may cause injury to persons. In determining the blast area, the following factors shall be considered:

- (1) Geology or material to be blasted.
- (2) Blast pattern.
- (3) Burden, depth, diameter, and angle of the holes.
- (4) Blasting experience of the mine.
- (5) Delay system, powder factor, and pounds per delay.
- (6) Type and amount of explosive material.
- (7) Type and amount of stemming.

*Blast site* means the area where explosive material is handled during loading, including the perimeter formed by the loaded blastholes and 50 feet (15.2 meters) in all directions from loaded holes. A minimum distance of 30 feet (9.1 meters) may replace the 50-foot (15.2-meter) requirement if the perimeter of loaded holes is demarcated with a barrier. The 50-foot (15.2-meter) and alternative 30-foot (9.1-meter) requirement also apply in all directions along the full depth of the hole.

*Blasting agent* means any substance classified as a blasting agent by the Department of Transportation in 49 CFR 173.114(a) (44 FR 31182, May 31, 1979) which is incorporated by reference. This document is available for inspection at each Metal and Nonmetal Safety and Health District Office of the Mine Safety and Health Administration, and may be obtained from the U.S. Government Printing Office, Washington, DC 20402.

*Blasting area* means the area near the blasting operations in which concussion or flying material can reasonably be expected to cause injury.

*Blasting cap* means a detonator which is initiated by a safety fuse.

*Blasting circuit* means the electrical circuit used to fire one or more electric blasting caps.

*Blasting switch* means a switch used to connect a power source to a blasting circuit.

*Booster* means any unit of explosive or blasting agent used for the purpose of perpetuating or intensifying an initial detonation.

*Capped fuse* means a length of safety fuse to which a blasting cap has been attached.

*Capped primer* means a package or cartridge of explosives which is specifically designed to transmit detonation to other explosives and which contains a detonator.

*Circuit breaker* means a device designed to open and close a circuit by nonautomatic means and to open the circuit automatically on a predetermined overcurrent setting without injury to itself when properly applied within its rating.

*Combustible* means capable of being ignited and consumed by fire.

*Combustible liquids* means liquids having a flash point at or above 100 °F (37.8 °C). They are divided into the following classes:

(1) Class II liquids—those having flash points at or above 100 °F (37.8 °C) and below 140 °F (60 °C).

(2) Class IIIA liquids—those having flash points at or above 140 °F (60 °C) and below 200 °F (93.4 °C).

(3) Class IIIB liquids—those having flash points at or above 200 °F (93.4 °C).

*Combustible material* means a material that, in the form in which it is used and under the conditions anticipated, will ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. Wood, paper, rubber, and plastics are examples of combustible materials.

*Company official* means a member of the company supervisory or technical staff.

*Competent person* means a person having abilities and experience that fully qualify him to perform the duty to which he is assigned.

*Conductor* means a material, usually in the form of a wire, cable, or bus bar, capable of carrying an electric current.

*Delay connector* means a non-electric short interval delay device for use in delaying blasts which are initiated by detonating cord.

*Detonating cord* means a flexible cord containing a solid core of high explosives.

*Detonator* means any device containing a detonating charge that is used to initiate an explosive and includes but is not limited to blasting caps, electric blasting caps and non-electric instantaneous or delay blasting caps.

*Distribution box* means a portable apparatus with an enclosure through which an electric circuit is carried to one or more cables from a single incoming feed line, each cable circuit being connected through individual overcurrent protective devices.

*Electric blasting cap* means a detonator designed for and capable of being initiated by means of an electric current.

*Electrical grounding* means to connect with the ground to make the earth part of the circuit.

*Employee* means a person who works for wages or salary in the service of an employer.

*Employer* means a person or organization which hires one or more persons to work for wages or salary.

*Emulsion* means an explosive material containing substantial amounts of oxidizers dissolved in water droplets, surrounded by an immiscible fuel.

*Explosive* means any substance classified as an explosive by the Department of Transportation in 49 CFR 173.53, 173.88, and 173.100 which are incorporated by reference. Title 49 CFR is available for inspection at each Metal and Nonmetal Safety and Health district office of the Mine Safety and Health Administration, and may be obtained from the U.S. Government Printing Office, Washington, DC 20402.

*Explosive material* means explosives, blasting agents, and detonators.

*Face or bank* means that part of any mine where excavating is progressing or was last done.

*Fire resistance rating* means the time, in minutes or hours, that an assembly of materials will retain its protective characteristics or structural integrity upon exposure to fire.

*Flammable* means capable of being easily ignited and of burning rapidly.

*Flammable gas* means a gas that will burn in the normal concentrations of oxygen in the air.

*Flammable liquid* means a liquid that has a flash point below 100 °F (37.8 °C),

a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100 °F (37.8 °C), and is known as a Class I liquid.

*Flash point* means the minimum temperature at which sufficient vapor is released by a liquid or solid to form a flammable vapor-air mixture at atmospheric pressure.

*High potential* means more than 650 volts.

*Highway* means any public street, public alley, or public road.

*Hoist* means a power driven windlass or drum used for raising ore, rock, or other material from a mine, and for lowering or raising persons and material.

*Igniter cord* means a fuse, cordlike in appearance, which burns progressively along its length with an external flame at the zone of burning, and is used for lighting a series of safety fuses in the desired sequence.

*Insulated* means separated from other conducting surfaces by a dielectric substance permanently offering a high resistance to the passage of current and to disruptive discharge through the substance. When any substance is said to be insulated, it is understood to be insulated in a manner suitable for the conditions to which it is subjected. Otherwise, it is, within the purpose of this definition, uninsulated. Insulating covering is one means for making the conductor insulated.

*Insulation* means a dielectric substance offering a high resistance to the passage of current and to a disruptive discharge through the substance.

*Laminated partition* means a partition composed of the following material and minimum nominal dimensions: ½-inch-thick plywood, ½-inch-thick gypsum wallboard, ⅛-inch-thick low carbon steel, and ¼-inch-thick plywood, bonded together in that order (IME-22 Box). A laminated partition also includes alternative construction materials described in the Institute of Makers of Explosives (IME) Safety Library Publication No. 22, "Recommendations for the Safe Transportation of Detonators in a Vehicle with other Explosive Materials," (May 1993), and the "Generic Loading Guide for the IME-22 Container," (October 1993). 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 at MSHA, 1100 Wilson Blvd., Room 2436, Arlington, Virginia 22209-3939, and at all Metal and Nonmetal Mine Safety and Health district offices, or available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., 7th Floor, suite 700, Washington, DC.

*Lay* means the distance parallel to the axis of the rope in which a strand makes one complete turn about the axis of the rope.

*Loading* means placing explosive material either in a blasthole or against the material to be blasted.

*Low potential* means 650 volts or less.

*Magazine* means a facility for the storage of explosives, blasting agents, or detonators.

*Major electrical installation* means an assemblage of stationary electrical equipment for the generation, transmission, distribution, or conversion of electrical power.

*Mantrip* means a trip on which persons are transported to and from a work area.

*Mill* includes any ore mill, sampling works, concentrator, and any crushing, grinding, or screening plant used at, and in connection with, an excavation or mine.

*Misfire* means the complete or partial failure of a blasting charge to explode as planned.

*Mobile equipment* means wheeled, skid-mounted, track-mounted, or rail-mounted equipment capable of moving or being moved.

*Multipurpose dry-chemical fire extinguisher* means an extinguisher having a rating of at least 2-A:10-B:C and containing a nominal 4.5 pounds or more of dry-chemical agent.

*Noncombustible material* means a material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. Concrete, masonry block, brick, and steel are examples of noncombustible materials.

*Non-electric delay blasting cap* means a detonator with an integral delay element and capable of being initiated by miniaturized detonating cord.

*Overburden* means material of any nature, consolidated or unconsolidated, that overlies a deposit of useful materials or ores that are to be mined.

*Overload* means that current which will cause an excessive or dangerous temperature in the conductor or conductor insulation.

*Permissible* means a machine, material, apparatus, or device that has been investigated, tested, and approved by the Bureau of Mines or the Mine Safety and Health Administration and is maintained in permissible condition.

*Potable water* means water which shall meet the applicable minimum health requirements for drinking water established by the State or community in which the mine is located or by the Environmental Protection Agency in 40 CFR part 141, pages 169–182 revised as of July 1, 1977. Where no such requirements are applicable, the drinking water provided shall conform with the Public Health Service Drinking Water Standards, 42 CFR part 72, subpart J, pages 527–533, revised as of October 1, 1976. Publications to which references are made in this definition are hereby made a part hereof. These incorporated publications are available for inspection at each Metal and Nonmetal Mine Safety and Health District Office of the Mine Safety and Health Administration.

*Powder chest* means a substantial, nonconductive portable container equipped with a lid and used at blasting sites for explosives other than blasting agents.

*Primer* means a unit, package, or cartridge of explosives used to initiate other explosives or blasting agents, and which contains a detonator.

*Reverse-current protection* means a method or device used on direct-current circuits or equipment to prevent the flow of current in the reverse direction.

*Rock fixture* means any tensioned or nontensioned device or material inserted into the ground to strengthen or support the ground.

*Roll protection* means a framework, safety canopy or similar protection for

the operator when equipment overturns.

*Safety can* means an approved container, of not over five gallons capacity, having a spring-closing lid and spout cover.

*Safety fuse* means a flexible cord containing an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing blasting caps or a black powder charge.

*Safety switch* means a sectionalizing switch that also provides shunt protection in blasting circuits between the blasting switch and the shot area.

*Scaling* means removal of insecure material from a face or highwall.

*Secondary safety connection* means a second connection between a conveyance and rope, intended to prevent the conveyance from running away or falling in the event the primary connection fails.

*Shaft* means a vertical or inclined shaft, a slope, incline or winze.

*Short circuit* means an abnormal connection of relatively low resistance, whether made accidentally or intentionally, between two points of different potential in a circuit.

*Slurry (as applied to blasting)*. See “Water gel.”

*Storage facility* means the entire class of structures used to store explosive materials. A “storage facility” used to store blasting agents corresponds to a BATF Type 4 or 5 storage facility.

*Storage tank* means a container exceeding 60 gallons in capacity used for the storage of flammable or combustible liquids.

*Stray current* means that portion of a total electric current that flows through paths other than the intended circuit.

*Substantial construction* means construction of such strength, material, and workmanship that the object will withstand all reasonable shock, wear, and usage, to which it will be subjected.

*Suitable* means that which fits, and has the qualities or qualifications to meet a given purpose, occasion, condition, function, or circumstance.

*Travelway* means a passage, walk or way regularly used and designated for

persons to go from one place to another.

*Water gel* or *Slurry* (as applied to blasting) means an explosive or blasting agent containing substantial portions of water.

*Wet drilling* means the continuous application of water through the central hole of hollow drill steel to the bottom of the drill hole.

*Working place* means any place in or about a mine where work is being performed.

[69 FR 38837, June 29, 2004]

PROCEDURES

**§ 56.1000 Notification of commencement of operations and closing of mines.**

The owner, operator, or person in charge of any metal and nonmetal mine shall notify the nearest MSHA Metal and Nonmetal Mine Safety and Health district office before starting operations, of the approximate or actual date mine operation will commence. The notification shall include the mine name, location, the company name, mailing address, person in charge, and whether operations will be continuous or intermittent.

When any mine is closed, the person in charge shall notify the nearest district office as provided above and indicate whether the closure is temporary or permanent.

[50 FR 4054, Jan. 29, 1985, as amended at 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995; 71 FR 16667, Apr. 3, 2006]

**Subpart B—Ground Control**

AUTHORITY: 30 U.S.C. 811

SOURCE: 51 FR 36197, Oct. 8, 1986, unless otherwise noted.

**§ 56.3000 Definitions.**

The following definitions apply in this subpart.

*Travelway.* A passage, walk, or way regularly used or designated for persons to go from one place to another.

[51 FR 36197, Oct. 8, 1986, as amended at 69 FR 38840, June 29, 2004]

MINING METHODS

**§ 56.3130 Wall, bank, and slope stability.**

Mining methods shall be used that will maintain wall, bank, and slope stability in places where persons work or travel in performing their assigned tasks. When benching is necessary, the width and height shall be based on the type of equipment used for cleaning of benches or for scaling of walls, banks, and slopes.

**§ 56.3131 Pit or quarry wall perimeter.**

In places where persons work or travel in performing their assigned tasks, loose or unconsolidated material shall be sloped to the angle of repose or stripped back for at least 10 feet from the top of the pit or quarry wall. Other conditions at or near the perimeter of the pit or quarry wall which create a fall-of-material hazard to persons shall be corrected.

SCALING AND SUPPORT

**§ 56.3200 Correction of hazardous conditions.**

Ground conditions that create a hazard to persons shall be taken down or supported before other work or travel is permitted in the affected area. Until corrective work is completed, the area shall be posted with a warning against entry and, when left unattended, a barrier shall be installed to impede unauthorized entry.

**§ 56.3201 Location for performing scaling.**

Scaling shall be performed from a location which will not expose persons to injury from falling material, or other protection from falling material shall be provided.

**§ 56.3202 Scaling tools.**

Where manual scaling is performed, a scaling bar shall be provided. This bar shall be of a length and design that will allow the removal of loose material without exposing the person performing this work to injury.

**§ 56.3203 Rock fixtures.**

(a) For rock bolts and accessories addressed in ASTM F432-95, "Standard