

### Subpart A—General

#### § 57.1 Purpose and scope.

This part 57 sets forth mandatory safety and health standards for each underground metal or nonmetal mine, including related surface operations, 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.

#### § 57.2 Definitions.

The following definitions apply in this part, except in any subpart preceded by a separate set of definitions:

*Abandoned mine* means all work has stopped on the mine premises and an office with a responsible person in charge is no longer maintained at the mine.

*Abandoned workings* means deserted mine areas in which further work is not intended.

*Active workings* means areas at, in, or around a mine or plant where men work or travel.

*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.

*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.

*Auxiliary fan* means a fan used to deliver air to working place off the main airstream; generally used with ventilation tubing.

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

*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 Mine 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 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 fan* means a fan installed in the main airstream or a split of the main airstream to increase airflow through a section or sections of a mine.

*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.

*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 nonelectric 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.

*Escapeway* means a passageway by which persons may leave a mine.

*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 Mine 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.

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

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

*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.

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

*High potential* means more than 650 volts.

*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.

*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

*Low potential* means 650 volts or less.

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

*Main fan* means a fan that controls the entire airflow of the mine, or the airflow of one of the major air circuits.

*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.

*Mine opening* means any opening or entrance from the surface into a mine.

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

*Multipurpose dry-chemical fire extinguisher* means a listed or approved multipurpose dry-chemical fire extinguisher having a minimum rating of 2-A:10-B:C, by Underwriters Laboratories, Inc., and containing a minimum of 4.5 pounds of dry-chemical agent.

*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 which 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 a reverse direction.

*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 5 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 difference potential in a circuit.

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

*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 level* (WL) means any combination of the short-lived radon daughters in one liter of air that will result in ultimate emission of  $1.3 \times 10^5$

MeV (million electron volts) of potential alpha energy, and exposure to these radon daughters over a period of time is expressed in terms of "working level months" (WLM). Inhalation of air containing a radon daughter concentration of 1 WL for 173 hours results in an exposure of 1 WLM."

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

[50 FR 4082, Jan. 29, 1985, as amended at 50 FR 20100, May 14, 1985; 53 FR 32526, Aug. 25, 1988; 60 FR 35695, July 11, 1995]

PROCEDURES

**§ 57.1000 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 Mine Safety and Health Administration 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 subdistrict office as provided above and indicate whether the closure is temporary or permanent.

[51 FR 36198, Oct. 8, 1986, as amended at 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995]

**Subpart B—Ground Control**

AUTHORITY: 30 U.S.C. 811.

SOURCE: 51 FR 36198, Oct. 8, 1986, unless otherwise noted.

**§ 57.3000 Definitions.**

The following definitions apply in this subpart.

*Rock burst.* A sudden and violent failure of overstressed rock resulting in the instantaneous release of large amounts of accumulated energy. Rock burst does not include a burst resulting from pressurized mine gases.

*Rock fixture.* Any tensioned or non-tensioned device or material inserted

into the ground to strengthen or support the ground.

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

SCALING AND SUPPORT—SURFACE AND UNDERGROUND

**§ 57.3200 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.

**§ 57.3201 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.

**§ 57.3202 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 the work to injury.

**§ 57.3203 Rock fixtures.**

(a) For rock bolts and accessories addressed in ASTM F432-95, "Standard Specification for Roof and Rock Bolts and Accessories," the mine operator shall—

- (1) Obtain a manufacturer's certification that the material was manufactured and tested in accordance with the specifications of ASTM F432-95; and
- (2) Make this certification available to an authorized representative of the Secretary and to the representative of miners.

(b) Fixtures and accessories not addressed in ASTM F432-95 may be used for ground support provided they—

- (1) Have been successful in supporting the ground in an area with