

§ 57.5046

30 CFR Ch. I (7–1–00 Edition)

§ 57.5046 Protection against radon gas.

Where radon daughter concentrations exceed 10 WL, respirator protection against radon gas shall be provided in addition to protection against radon daughters. Protection against radon gas shall be provided by supplied air devices or by face masks containing absorbent material capable of removing both the radon and its daughters.

§ 57.5047 Gamma radiation surveys.

(a) Gamma radiation surveys shall be conducted annually in all underground mines where radioactive ores are mined.

(b) Surveys shall be in accordance with American National Standards (ANSI) Standard N13.8-1973, entitled "Radiation Protection in Uranium Mines", section 14.1 page 12, which is hereby incorporated by reference and made a part hereof. This publication may be examined in any Metal and Nonmetal Mine Safety and Health District Office, Mine Safety and Health Administration, or may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

(c) Where average gamma radiation measurements are in excess of 2.0 milliroentgens per hour in the working place, gamma radiation dosimeters shall be provided for all persons affected, and records of cumulative individual gamma radiation exposure shall be kept.

(d) Annual individual gamma radiation exposure shall not exceed 5 rems.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 33723, June 29, 1995; 60 FR 35695, July 11, 1995]

PHYSICAL AGENTS—SURFACE AND UNDERGROUND

§ 57.5050 Exposure limits for noise.

(a) No employee shall be permitted an exposure to noise in excess of that specified in the table below. Noise level measurements shall be made using a sound level meter meeting specifications for type 2 meters contained in American National Standards Institute (ANSI) Standard S1.4-1971, "General Purpose Sound Level Meters," approved April 27, 1971, which is hereby incorporated by reference and made a

part hereof, or by a dosimeter with similar accuracy. This publication may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018, or may be examined in any Metal and Nonmetal Mine Health and Safety District or District Office of the Mine Safety and Health Administration.

PERMISSIBLE NOISE EXPOSURES

Duration per day, hours of exposure	Sound level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

No exposure shall exceed 115 dBA. Impact or impulsive noises shall not exceed 140 dB, peak sound pressure level.

NOTE: When the daily exposure is composed of two or more periods of noise exposure at different levels, their combined effect shall be considered rather than the individual effect of each.

If the sum

$$(C_1/T_1) + (C_2/T_2) + \dots (C_n/T_n)$$

exceeds unity, then the mixed exposure shall be considered to exceed the permissible exposure. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level. Interpolation between tabulated values may be determined by the following formula:

$$\log T = 6.322 - 0.0602 SL$$

Where T is the time in hours and SL is the sound level in dBA.

(b) When employees' exposure exceeds that listed in the above table, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce exposure to within permissible levels, personal protection equipment shall be provided and used to reduce sound levels to within the levels of the table.

[50 FR 4082, Jan. 29, 1985, as amended at 60 FR 35695, July 11, 1995]

EFFECTIVE DATE NOTE: At 64 FR 49629, Sept. 13, 1999, § 57.5050 and the undesignated

center heading preceding it were removed effective Sept. 13, 2000.

Subpart E—Explosives

SOURCE: 61 FR 36801, July 12, 1996, unless otherwise noted.

§ 57.6000 Definitions.

The following definitions apply in this subpart.

Attended. Presence of an individual or continuous monitoring to prevent unauthorized entry or access. In addition, areas containing explosive material at underground areas of a mine can be considered attended when all access to the underground areas of the mine is secured from unauthorized entry. Vertical shafts shall be considered secure. Inclined shafts or adits shall be considered secure when locked at the surface.

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

Blast area. 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. 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) requirements also apply in all directions along the full depth of the hole. In underground mines, at least 15 feet (4.6 meters) of solid rib, pillar, or broken rock can be substituted for the 50-foot (15.2-

meter) distance. In underground mines utilizing a block-caving system or similar system, at least 6 feet (1.8 meters) of solid rib or pillar, including concrete reinforcement of at least 10 inches (254 millimeters), with overall dimensions of not less than 6 feet (1.8 meters), may be substituted for the 50-foot (15.2-meter) distance requirement.

Blasting agent. Any substance classified as a blasting agent by the Department of Transportation in 49 CFR 173.114a(a). This document is available at any MSHA Metal and Nonmetal Safety and Health district office.

Detonating cord. A flexible cord containing a center core of high explosives which may be used to initiate other explosives.

Detonator. Any device containing a detonating charge used to initiate an explosive. These devices include electric or nonelectric instantaneous or delay blasting caps, and delay connectors. The term "detonator" does not include detonating cord. Detonators may be either "Class A" detonators or "Class C" detonators, as classified by the Department of Transportation in 49 CFR 173.53, and 173.100. This document is available at any MSHA Metal and Nonmetal Safety and Health district office.

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

Explosive. Any substance classified as an explosive by the Department of Transportation in 49 CFR 173.53, 173.88, and 173.100. This document is available at any MSHA Metal and Nonmetal Safety and Health district office.

Explosive material. Explosives, blasting agents, and detonators.

Flash point. The minimum temperature at which sufficient vapor is released by a liquid to form a flammable vapor-air mixture near the surface of the liquid.

Igniter cord. A fuse that burns progressively along its length with an external flame at the zone of burning, used for lighting a series of safety fuses in a desired sequence.

Laminated partition. A partition composed of the following material and minimum nominal dimensions: ½-inch-thick plywood, ½-inch-thick gypsum