

the slope or shaft to continue excavation operations until the hazardous condition has been abated.

(d) No work shall be performed in any slope or shaft, no drilling equipment shall be started, and no electrical equipment shall be energized if the methane content in such slope or shaft is 1.0 volume per centum, or more.

(e) Nothing in this § 77.1901 shall prevent the specific assignment of men in the slope or shaft for purposes of abating excessive methane concentrations or any other hazardous condition.

(f) The results of all inspections conducted in accordance with the provisions of paragraph (a) of this section shall be recorded in a book approved by the Secretary.

(Pub. L. No. 96-511, 94 Stat. 2812 (44 U.S.C. 3501 et seq.))

[36 FR 9364, May 22, 1971, as amended at 60 FR 33723, June 29, 1995]

§ 77.1901-1 Methane and oxygen deficiency tests; approved devices.

Tests for oxygen deficiency shall be made with a permissible flame safety lamp or other means approved by the Secretary, and tests for methane shall be made with a methane detector approved by the Secretary.

§ 77.1902 Drilling and mucking operations.

Diesel-powered equipment used in the drilling, mucking, or other excavation of any slope or shaft shall be permissible, and such equipment shall be operated in a permissible manner and shall be maintained in a permissible condition.

§ 77.1902-1 Permissible diesel-powered equipment.

Diesel-powered equipment which has been approved by the Bureau of Mines or the Mine Safety and Health Administration under Part 36 of this chapter (Bureau of Mines Schedule 31) is permissible under the provisions of this section.

§ 77.1903 Hoists and hoisting; minimum requirements.

(a) Hoists used in transporting persons and material during drilling, mucking, or other excavating operations in any slope or shaft shall have

rated capacities consistent with the loads to be handled.

(b) Each hoist used in drilling, mucking, or other excavating operations shall be equipped with an accurate and reliable indicator of the position of the cage, platform, or bucket. The indicator shall be installed in clear view of the hoist operator.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811))

[48 FR 53242, Nov. 25, 1983; 48 FR 54975, Dec. 8, 1983]

§ 77.1904 Communications between slope and shaft bottoms and hoist operators.

(a) Two independent means of signaling shall be provided between the hoistman and all points in a slope or shaft where men are required to work. At least one of these means shall be audible to the hoistman. Signal codes used in any communication system shall be posted conspicuously at each slope and shaft.

(b) Signaling systems used for communication between slopes and shafts and the hoistman shall be tested daily.

§ 77.1905 Hoist safeguards; general.

(a) Hoists used to transport persons shall be equipped with brakes capable of stopping and holding the cage, bucket, platform, or other device when fully loaded.

(b) When persons are transported by a hoist, a second person familiar with and qualified to stop the hoist shall be in attendance, except where the hoist is fully equipped with overspeed, overwind, and automatic stop devices.

§ 77.1906 Hoists; daily inspection.

(a) Hoists used to transport persons shall be inspected daily. The inspection shall include examination of the headgear (headframe, sheave wheels, etc.), connections, links and chains, and other facilities.

(b) Prior to each working shift, and before a hoist is returned to service after it has been out of normal service for any reason, the hoist shall be run by the hoist operator through one complete cycle of operation before any person is permitted to be transported.

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(c) At the completion of each daily examination required by paragraph (a) of this section, the person making the examination shall certify, by signature and date, that the examination has been made. If any unsafe condition in the hoisting equipment is present, the person conducting the examination shall make a record of the condition and the date. Certifications and records shall be retained for one year.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811))

[48 FR 53242, Nov. 25, 1983, as amended at 60 FR 33723, June 29, 1995]

§ 77.1907 Hoist construction; general.

If hooks are used to attach cages or buckets to the socket or thimble of a hoisting rope, the hooks shall be self-closing.

(Sec. 101, Federal Mine Safety and Health Act of 1977, Pub. L. 91-173 as amended by Pub. L. 95-164, 91 Stat. 1291 (30 U.S.C. 811))

[48 FR 53242, Nov. 25, 1983]

§ 77.1908 Hoist installations; use.

(a) Where men are transported by means of a hoist and the depth of the shaft exceeds 50 feet, the hoist rope shall be suspended from a substantial hoisting installation which shall be high enough to provide working clearance between the bottom of the sheave and the top of the cage or bucket.

(b) Where men are transported by means of a hoist and the depth of the shaft exceeds 100 feet, temporary shaft guides and guide attachments, or other no less effective means, shall be installed to prevent the cage, platform, or bucket from swinging.

(c) All guides and guide attachments, or other no less effective means, installed in accordance with paragraph (b) of this section shall be maintained to a depth of not less than 75 feet from the bottom of the shaft.

(d) Where crossheads are used, the cage, platform, or bucket shall not be hung more than 10 feet below the crosshead.

(e) Where men are required to embark or disembark from a cage, platform or bucket suspended over or within a shaft, a loading platform shall be installed to insure safe footing.

(f) During the development of each slope or shaft, either a ladder or independently powered auxiliary hoist shall be provided to permit men to escape quickly in the event of an emergency.

(g) No person shall be permitted to ride the rim of any bucket or on the top of a loaded bucket.

(h) The number of persons permitted to ride in cages, skips, or buckets shall be limited so as to prevent overcrowding.

(i) Persons shall not be permitted to ride on a cage, skip, or bucket with tools or materials, except when necessary to handle equipment while in transit. Materials shall be secured to prevent shifting while being hoisted.

(j) The speed of buckets transporting persons shall not exceed 500 feet per minute and not more than 200 feet per minute when within 100 feet of any stop.

(k) A notice of established speeds shall be posted in clear view of the hoistman.

(l) Conveyances being lowered in a shaft in which men are working shall be stopped at least 15 feet above such men and shall be lowered further only after the hoistman has received a signal that all men who may be endangered by the conveyance are in the clear.

(m) No skip or bucket shall be raised or lowered in a slope or shaft until it has been trimmed to prevent material from falling back down the slope or shaft.

(n) Measures shall be taken to prevent material from falling back into the shaft while buckets or other conveyances are being unloaded.

(o) Properly attached safety belts shall be worn by all persons required to work in or over any shaft where there is a drop of 10 or more feet, unless other acceptable means are provided to prevent such persons from falling into the shaft.

§ 77.1908-1 Hoist operation; qualified hoistman.

Hoists shall be under the control of and operated by a qualified hoistman when men are in a slope or shaft.