

## § 1926.912

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### § 1926.912 Underwater blasting.

(a) A blaster shall conduct all blasting operations, and no shot shall be fired without his approval.

(b) Loading tubes and casings of dissimilar metals shall not be used because of possible electric transient currents from galvanic action of the metals and water.

(c) Only water-resistant blasting caps and detonating cords shall be used for all marine blasting. Loading shall be done through a nonsparking metal loading tube when tube is necessary.

(d) No blast shall be fired while any vessel under way is closer than 1,500 feet to the blasting area. Those on board vessels or craft moored or anchored within 1,500 feet shall be notified before a blast is fired.

(e) No blast shall be fired while any swimming or diving operations are in progress in the vicinity of the blasting area. If such operations are in progress, signals and arrangements shall be agreed upon to assure that no blast shall be fired while any person is in the water.

(f) Blasting flags shall be displayed.

(g) The storage and handling of explosives aboard vessels used in underwater blasting operations shall be according to provisions outlined herein on handling and storing explosives.

(h) When more than one charge is placed under water, a float device shall be attached to an element of each charge in such manner that it will be released by the firing. Misfires shall be handled in accordance with the requirements of § 1926.911.

### § 1926.913 Blasting in excavation work under compressed air.

(a) Detonators and explosives shall not be stored or kept in tunnels, shafts, or caissons. Detonators and explosives for each round shall be taken directly from the magazines to the blasting zone and immediately loaded. Detonators and explosives left over after loading a round shall be removed from the working chamber before the connecting wires are connected up.

(b) When detonators or explosives are brought into an air lock, no employee except the powderman, blaster, lock tender and the employees necessary for carrying, shall be permitted to enter

the air lock. No other material, supplies, or equipment shall be locked through with the explosives.

(c) Detonators and explosives shall be taken separately into pressure working chambers.

(d) The blaster or powderman shall be responsible for the receipt, unloading, storage, and on-site transportation of explosives and detonators.

(e) All metal pipes, rails, air locks, and steel tunnel lining shall be electrically bonded together and grounded at or near the portal or shaft, and such pipes and rails shall be cross-bonded together at not less than 1,000-foot intervals throughout the length of the tunnel. In addition, each low air supply pipe shall be grounded at its delivery end.

(f) The explosives suitable for use in wet holes shall be water-resistant and shall be Fume Class 1.

(g) When tunnel excavation in rock face is approaching mixed face, and when tunnel excavation is in mixed face, blasting shall be performed with light charges and with light burden on each hole. Advance drilling shall be performed as tunnel excavation in rock face approaches mixed face, to determine the general nature and extent of rock cover and the remaining distance ahead to soft ground as excavation advances.

### § 1926.914 Definitions applicable to this subpart.

(a) *American Table of Distances* (also known as Quantity Distance Tables) means American Table of Distances for Storage of Explosives as revised and approved by the Institute of the Makers of Explosives, June 5, 1964.

(b) *Approved storage facility*—A facility for the storage of explosive materials conforming to the requirements of this part and covered by a license or permit issued under authority of the Bureau of Alcohol, Tobacco and Firearms. (See 27 CFR part 55)

(c) *Blast area*—The area in which explosives loading and blasting operations are being conducted.

(d) *Blaster*—The person or persons authorized to use explosives for blasting purposes and meeting the qualifications contained in § 1926.901.

(e) *Blasting agent*—A blasting agent is any material or mixture consisting of a fuel and oxidizer used for blasting, but not classified an explosive and in which none of the ingredients is classified as an explosive provided the furnished (mixed) product cannot be detonated with a No. 8 test blasting cap when confined. A common blasting agent presently in use is a mixture of ammonium nitrate ( $\text{NH}_4 \text{NO}_3$ ) and carbonaceous combustibles, such as fuel oil or coal, and may either be procured, premixed and packaged from explosives companies or mixed in the field.

(f) *Blasting cap*—A metallic tube closed at one end, containing a charge of one or more detonating compounds, and designed for and capable of detonation from the sparks or flame from a safety fuse inserted and crimped into the open end.

(g) *Block holing*—The breaking of boulders by firing a charge of explosives that has been loaded in a drill hole.

(h) *Conveyance*—Any unit for transporting explosives or blasting agents, including but not limited to trucks, trailers, rail cars, barges, and vessels.

(i) *Detonating cord*—A flexible cord containing a center core of high explosives which when detonated, will have sufficient strength to detonate other cap-sensitive explosives with which it is in contact.

(j) *Detonator*—Blasting caps, electric blasting caps, delay electric blasting caps, and nonelectric delay blasting caps.

(k) *Electric blasting cap*—A blasting cap designed for and capable of detonation by means of an electric current.

(1) *Electric blasting circuitry*—

(1) Bus wire. An expendable wire, used in parallel or series, in parallel circuits, to which are connected the leg wires of electric blasting caps.

(2) Connecting wire. An insulated expendable wire used between electric blasting caps and the leading wires or between the bus wire and the leading wires.

(3) Leading wire. An insulated wire used between the electric power source and the electric blasting cap circuit.

(4) Permanent blasting wire. A permanently mounted insulated wire used

between the electric power source and the electric blasting cap circuit.

(m) *Electric delay blasting caps*—Caps designed to detonate at a predetermined period of time after energy is applied to the ignition system.

(n) *Explosives*—(1) Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; that is, with substantially instantaneous release of gas and heat, unless such compound, mixture or device is otherwise specifically classified by the U.S. Department of Transportation.

(2) All material which is classified as Class A, Class B, and Class C Explosives by the U.S. Department of Transportation.

(3) Classification of explosives by the U.S. Department of Transportation is as follows:

*Class A Explosives.* Possessing detonating hazard, such as dynamite, nitroglycerin, picric acid, lead azide, fulminate of mercury, black powder, blasting caps, and detonating primers.

*Class B Explosives.* Possessing flammable hazard, such as propellant explosives, including some smokeless propellants.

*Class C Explosives.* Include certain types of manufactured articles which contain Class A or Class B explosives, or both, as components, but in restricted quantities.

(o) *Fuse lighters*—Special devices for the purpose of igniting safety fuse.

(p) *Magazine*—Any building or structure, other than an explosives manufacturing building, used for the storage of explosives.

(q) *Misfire*—An explosive charge which failed to detonate.

(r) *Mud-capping* (sometimes known as bulldozing, adobe blasting, or dobying). The blasting of boulders by placing a quantity of explosives against a rock, boulder, or other object without confining the explosives in a drill hole.

(s) *Nonelectric delay blasting cap*—A blasting cap with an integral delay element in conjunction with and capable of being detonated by a detonation impulse or signal from miniaturized detonating cord.

(t) *Primary blasting*—The blasting operation by which the original rock formation is dislodged from its natural location.

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(u) *Primer*—A cartridge or container of explosives into which a detonator or detonating cord is inserted or attached.

(v) *Safety fuse*—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.

(w) *Secondary blasting*—The reduction of oversize material by the use of explosives to the dimension required for handling, including mudcapping and blockholing.

(x) *Stemming*—A suitable inert incombustible material or device used to confine or separate explosives in a drill hole, or to cover explosives in mud-capping.

(y) *Springing*—The creation of a pocket in the bottom of a drill hole by the use of a moderate quantity of explosives in order that larger quantities or explosives may be inserted therein.

(z) *Water gels, or slurry explosives*—A wide variety of materials used for blasting. They all contain substantial proportions of water and high proportions of ammonium nitrate, some of which is in solution in the water. Two broad classes of water gels are: (1) Those which are sensitized by a material classed as an explosive, such as TNT or smokeless powder, and (2) those which contain no ingredient classified as an explosive; these are sensitized with metals such as aluminum or with other fuels. Water gels may be premixed at an explosives plant or mixed at the site immediately before delivery into the bore hole.

(aa) *Semiconductive hose*. Semiconductive hose—a hose with an electrical resistance high enough to limit flow of stray electric currents to safe levels, yet not so high as to prevent drainage of static electric charges to ground; hose of not more than 2 megohms resistance over its entire length and of not less than 5,000 ohms per foot meets the requirement.

[44 FR 8577, Feb. 9, 1979; 44 FR 20940, Apr. 6, 1979, as amended at 58 FR 35184, 35311, June 30, 1993]

### Subpart V—Electric Power Transmission and Distribution

SOURCE: 79 FR 20696, Apr. 11, 2014, unless otherwise noted.

AUTHORITY: 40 U.S.C. 3701 *et seq.*; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 1-2012 (77 FR 3912); and 29 CFR Part 1911.

### § 1926.950 General.

(a) *Application*—(1) *Scope*. (i) This subpart, except for paragraph (a)(3) of this section, covers the construction of electric power transmission and distribution lines and equipment. As used in this subpart, the term “construction” includes the erection of new electric transmission and distribution lines and equipment, and the alteration, conversion, and improvement of existing electric transmission and distribution lines and equipment.

NOTE TO PARAGRAPH (a)(1)(i): An employer that complies with §1910.269 of this chapter will be considered in compliance with requirements in this subpart that do not reference other subparts of this part. Compliance with §1910.269 of this chapter will not excuse an employer from compliance obligations under other subparts of this part.

(ii) Notwithstanding paragraph (a)(1)(i) of this section, this subpart does not apply to electrical safety-related work practices for unqualified employees.

(2) *Other part 1926 standards*. This subpart applies in addition to all other applicable standards contained in this part 1926. Employers covered under this subpart are not exempt from complying with other applicable provisions in part 1926 by the operation of §1910.5(c) of this chapter. Specific references in this subpart to other sections of part 1926 are provided for emphasis only.

(3) *Applicable part 1910 requirements*. (i) Line-clearance tree trimming performed for the purpose of clearing space around electric power generation, transmission, or distribution lines or equipment and on behalf of an organization that operates, or that controls the operating procedures for, those lines or equipment shall comply with §1910.269 of this chapter.

(ii) Work involving electric power generation installations shall comply with §1910.269 of this chapter.

(b) *Training*—(1) *All employees*. (i) Each employee shall be trained in, and familiar with, the safety-related work practices, safety procedures, and other safety requirements in this subpart