

Subchapter 17. Mine Safety Orders
ARTICLE 1 INTRODUCTION

**MSO Committee
Sacramento
February 19, 2014**

§6950. Title.

These Orders shall be known as the Mine Safety Orders.

NOTE: Authority cited: ~~Sections 6312, 6500, 6502, Labor Code.~~ Sections 142.3 and 7997, Labor Code.

§6951. Superseded Orders.

These Mine Safety Orders supersede all previous Mine Safety Orders published in California Administrative Code, Title 8, Chapter 4, Subchapter 12.

§6952. Purpose.

The Mine Safety Orders are designed to promote safety at mines and are promulgated as standards for the guidance of employers and employees. They are consistent with the policy expressed in Section 21, Article XX, of the Constitution of the State of California--a policy which includes "full provision for securing safety in places of employment."

There are other Orders in Title 8 that contain required standards for the guidance of employers and employees in addition to the Mine Safety Orders. These other Orders include, but are not limited to, General Industry Safety Orders, Construction Safety Orders, Electrical Safety Orders, and Unfired Pressure Vessel Safety Orders. **Repeated in Application 6954**

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

~~**§6953. Excerpts from the California Labor Code.**~~ **Deleted as unnecessary. Add Back**

§6953. Excerpts from the California Labor Code.

The following provisions of Division 5, Part 1, Chapter 2, of the California Labor Code, 2013 Edition, are applicable to all employments:

"Section 6401. Every employer shall furnish and use safety devices and safeguards, and shall adopt and use practices, means, methods, operations, and processes which are reasonably adequate to render such employment and place of employment safe. Every employer shall do every other thing reasonably necessary to protect the life and safety of employees."

"Section 6406. No person shall do any of the following:

"(a) Remove, displace, damage, destroy or carry off any safety device, safeguard, notice, or warning, furnished for use in any employment or place of employment.

"(b) Interfere in any way with the use thereof by any other person.

"(c) Interfere with the use of any method or process adopted for the protection of any employee, including himself, in such employment or place of employment.

"(d) Fail or neglect to do every other thing reasonably necessary to protect the life and safety of employees."

§6954. Application.

(a) These orders establish minimum safety standards in places of employment at mines and premises appurtenant thereto.

NOTE: Unless otherwise designated in this subchapter, the phrase "division" refers to the current Division of Occupational Safety and Health or any of its predecessors including the former Division of Industrial Safety or the Division of Occupational Safety and Health Administration. Reference to the former Division of Industrial Safety or Division of Occupational Safety and Health Administration in these orders is meant to refer to their successor, the Division of Occupational Safety and Health, or any subsequent successor agency.

(b) At mines these Orders take precedence over any other Safety Orders of the Division with which they are inconsistent.

(c) Machines, equipment, processes, and operations not specifically covered by these Orders shall be governed by the General Industry Safety Orders.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3 and 6302(d), Labor Code.

(a) These Orders establish minimum safety standards in places of employment at all mines and premises appurtenant thereto on mine property, including access and haulage roads.

NOTE: The Division of Occupational Safety and Health, Mining and Tunneling Unit (The Division), and the United States Department of Labor, Mine Safety and Health Administration (MSHA) exercise concurrent jurisdiction over mines and mine-related mills in California. In situations where the requirements differ, those requirements most protective of employee safety shall be followed.

At mines and mine-related mills At locations where these Orders are applicable, these Orders take precedence over any other Safety Orders of the Division with which they are inconsistent. When Crane Orders are applicable, GISO Crane Orders will be used.

Machines, equipment, processes, procedures, and operations not specifically covered by these Orders shall be governed by other applicable safety orders contained in Title 8, California Code of Regulations. Also in Purpose Above

Any employer performing work at a location subject to these Orders, including temporary and contract labor, is bound by these Orders, and all other applicable safety orders in Title 8, California Code of Regulations.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

§6955. Scope.

(a) The operations to which these Orders apply are those employed at mines in the extraction of minerals, either metallic or nonmetallic. These operations include:

(1) Prospecting, exploration, development, extraction of minerals, and other operations in connection therewith.

(2) Placer and hydraulic mining.

(3) Transportation of men, materials and equipment in areas and operations covered by these orders.

(4) Operations and maintenance of the equipment applicable to the foregoing.

(a) These Orders apply to all employers and employees working at mines above and below ground and mine-related mills where metallic or nonmetallic ore, minerals, gravel, sand, rock, stone, or other materials intended for sale, processing, or manufacturing are extracted or removed from the earth. These operations include:

(1) Surface and underground mines, quarries and borrow pit operations.

(2) Milling operations at mine sites including screening and/or portable crushing.

(3) Prospecting on mine property, exploration on mine property, development, extraction of minerals, and other operations in connection with mines and mills.

(4) Placer and hydraulic mining.

(5) Transportation of men, materials and equipment on mine property and/or in operations covered by these orders.

(6) Operations and maintenance on mine property of the equipment applicable to the operations listed above.

EXCEPTION: Underground vaults, or similar types of structures, which are entered by utility employees to perform work are not under the jurisdiction of these Orders. **Move to 7 below**

(b) The operations to which these Orders do not apply include:

1. Concrete batch plants, hot mix asphalt plants, and hot mix or recycle plants not located either on or off mine property.

2. Brick manufacturing plants not located on mine property;

NOTE: If the brick manufacturing plant is connected to a mine, the jurisdiction of the Mine Safety Orders ends at the point where milling of the crude clay ceases and actual brick manufacturing begins.

3. Gypsum processing plants not located on mine property;

NOTE: If the gypsum manufacturing plant is connected to a mine, the jurisdiction of the Mine Safety Orders ends at the point where milling of the crude gypsum ceases and actual gypsum manufacturing begins.

4. Clay pipe and refractory plants and ceramic manufacturing plants;

5. Salt processing plants not located on mine property;

NOTE: If the salt manufacturing plant is connected to a mine, the jurisdiction of the Mine Safety Orders ends at the point where milling of the crude salt ceases and actual salt processing begins.

1. Pipejacking where the pipe is less than thirty (30) inches in diameter;

NOTE: If employees enter a pipe less than thirty (30) inches in diameter to perform work, compliance personnel shall refer the activity to the M&T Unit for evaluation.

2. Bore or jacking and receiving pits, which are excavated and provided with support as part of work not performed by a boring contractor; and

6. Borrow pits where no milling beyond the use of a grizzly is involved.

7. Underground vaults or similar types of structures, which are entered by utility employees to perform work.

NOTE (Technical Assistance) relocated from bottom of 6968

NOTE: Free Technical Assistance Service (Labor Code, Sections 6354 and 6355).

In order to encourage voluntary compliance with occupational safety and health regulations, free on-site Technical Assistance service is provided by Cal/OSHA. Employers may request this free on-site Technical Assistance for mines by contacting the Cal/OSHA Mining and Tunneling Unit. Employees and employee groups may also participate at the invitation of the employer, or may request Technical Assistance away from the job site.

Technical Assistance services include:

(1) Information, advice, and recommendations on specific safety and health problems in the workplace;

(2) providing Providing help to employers in instituting an effective accident and illness prevention program or improving an existing program; and

(3) training Training in good safety and health practices, and in recognition and correction of hazards through on-site surveys.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

AUTHORITY: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code, California Labor Code Sec. 7950 through 7955 and an Interagency Agreement between the Occupational Safety and Health Administration and the Mine Safety Health Administration in the United States Department of Labor (44 Federal Register 22827- 22830).

§6956. Permits for Variations from These Orders.

(a) When the Division finds that, under such conditions as shall be specified, a variation from the terms of a Safety Order will give such freedom from danger as the employment reasonably

permits, the Division upon written application, after investigation and such hearing as the Division may direct, may make and enter its order permitting such variation from the terms of the said Safety Order in a place of employment, upon such conditions as it may specify and upon the provision and use of such safety measures and appliances as shall in the judgment of the said Division secure the safety of employees. A copy of said order shall be posted conspicuously under glass at the place of employment and shall be maintained in legible condition during the time said order is in effect.

(b) An appeal from a decision of the Division concerning a permit for variation from these Orders may be made to the Industrial Safety Board.

(c) When the Division has reason to believe—or upon receipt of a complaint—that a variation does not provide such freedom from danger as the employment reasonably permits, the Division, after notice to the employer—and to the complainant where a complaint has been received—and after hearing, may continue in force, suspend, revoke, or modify the conditions specified in such order.

(d) Where death or serious personal injury at the place of employment appears in the judgment of the Division to be attributable to a variation from the terms of a Safety Order, the Division may set aside or amend said variation order after notice to the employer and such hearings as the Division may direct. Notice of such action shall be conspicuously posted at the place of employment.

(e) No declaration, act, or omission of the Division or of its representatives, other than a written order authorizing a variation as permitted under this Order, shall be deemed to exempt, either wholly or in part, expressly or impliedly, any employer or place of employment from full compliance with the terms of any Safety Order issued by the Division.

Any permit for variance from these safety orders shall be in accordance with Title 8, Chapter 3.5 – Occupational Safety and Health Standards Board, Subchapter 1.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142 .3 and 7997, Labor Code.

§6957. Responsibility of Independent Contractors. Deleted as unnecessary.

Article 2 DEFINITIONS

§6958. Definitions.

The following definitions shall apply in the application of these Orders.

Access Shaft. A vertical shaft used as a regular means of worker access to underground mines and tunnels under construction, renovation, or demolition. or from underground operations.

Deleted portions are from original Tom Carrel Act

Acceptable. Acceptable to the Division.

Angle of Repose. The maximum slope at which a heap of any loose or fragmented solid material will stand without sliding or come to rest when poured or dumped in a pile or on a slope.

Approved. Approved by the Division of Occupational Safety and Health. Those products, devices, systems, or installations meeting the requirements of Section 3206 of the General Industry Safety Orders. For the purposes of these Orders, this shall include MSHA approval or certification of equivalency.

Appurtenant. A thing is deemed to be incidental or appurtenant to land when it is by right used with the land for its benefit.

Auxiliary Ventilation System. A secondary ventilation system used to deliver the required airflow to all work areas a work area of the mine not sufficiently ventilated by the main ventilation system.

Back. The roof, ceiling, or arch of a passage in a mine.

Barrier. A conspicuously marked material object that warns or prevents entry or passage of persons or vehicles, or flying materials. Barriers must be placed far enough from the hazard to prevent injury to employees.

Berm. A pile or mound of material capable of restraining a vehicle.

Berm. A pile or mound of material to prevent over-travel and/or over-turning of equipment along roadways and at dump points. The vehicle speed must be controlled and the berm must be of sufficient size and maintained to prevent over-travel and/or overturning of equipment.

Berm – Elevated Roadway. 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.

Berm – Dumping Locations. A pile or mound of material at a dumping location provided to prevent overtravel and/or overturning at dumping locations.

Booster Fan. 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.

Borrow Pit. Borrow Pit means an area of land where the overburden, consisting of unconsolidated rock, glacial debris, or other earth material overlying bedrock is extracted from the surface. Extraction occurs on an "as-needed" basis, for use as fill materials by the extracting party in the form in which it is extracted. No milling is involved, except for the use of a scalping screen (grizzly) to remove large rocks, wood and trash. Borrow Pits are subject to these Orders when they are located on mine property or related to mining. (For example, a borrow pit used to build a road or construct a surface facility on mine property is subject to Division jurisdiction.) Borrow pits are not subject to these Orders when the excavated material is not processed except for scalping and is used by as fill material.

Bulkhead. A tight partition or stopping in a mine.

Conveyance. A container for moving personnel and/or materials, cage, cab, skip, bucket, enclosure, platform, material conveyor or similar device used to lift, hoist or otherwise carry muck, minerals, materials, or employees, normally associated with a shaft or incline.

Combustible. Capable of being ignited and consumed by fire. Wherever combustible substances or materials are mentioned in these Orders, flammable and extremely flammable substances and materials are included. **Extremely Flammable not in MSOs**

Combustible. Capable of being ignited and consumed by fire. MSHA

~~Competent Person. A person at least 21 years of age and having abilities and experience that fully qualify him for the duties he is assigned. A person having abilities and experience that fully qualify him for the duties he is assigned. One who is capable of identifying existing and predictable hazards in the surroundings or working area which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. A Supervisor, a certified Safety Representative, or a certified Gas Tester, or a trained person designated by the owner or operator.~~ One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are dangerous, hazardous, or unsanitary to employees, and who has authorization to take prompt corrective measures to protect employees.

Division. The Division of Industrial Safety.—The California Division of Occupational Safety and Health (DOSH) including the Mining and Tunneling Unit.

Escapeway. A designated passageway by which persons can safely leave an underground mine.

~~Extremely Flammable. Having a flash point of 20 degrees Fahrenheit or less, when tested by the Tagliabue open-cup method. See Combustible above.~~ **Extremely Flammable not in MSOs**

~~Face. The head of the tunnel where soil is being removed, or that area in a mine where digging is underway.~~ **Deleted portions are from original Tom Carrel Act**

Face or Bank - Surface Mine. The sides from the bottom or floor of a pit to **the un-mined ground** surface surrounding the pit. Where one or more benches or levels are used in a pit, each bench or level has a separate face.

Face—Underground Mine. That part of any adit, tunnel, stope, shaft, ~~or~~ raise, or other operation where excavating is progressing, or was last done.

Fire Resistant. Capable of withstanding propagation of a fire for a period not less than one hour.

*For use of
Advisory
Committee
Only*

fire-resistance rating of at least one hour. MSHA enforcement personnel may also need assistance in recognizing one hour fire resistant construction due to the numerous combinations of techniques and materials which may be used.

Fire resistant Hydraulic Fluids. An approved fluid of such chemical composition and physical characteristics that it will resist the propagation of flame, or meet the requirements of 30 CFR Part 35. A fluid of such chemical composition and physical characteristics that it will resist the propagation of flame.

Fireproof. Fire resistant. See "Noncombustible Material." Delete

Fixed. The machine or device, whether designed for mobility or not, is fastened or remains in place and is not moved about while being operated. This includes material stackers that move around a fixed pivot point.

Flammable. Capable of being easily ignited or burning rapidly. See Combustible above.

Flammable Gas. A gas mixture which when once ignited will allow flames to be self-propagated throughout the mixture, independent of and away from the source of ignition.

Flammable Vapor. The gaseous form of a substance that is normally a liquid or a solid that will burn in the normal concentrations of oxygen in the air. Not in MSHA Used in Flash Point below.

Flash Point. The lowest temperature at which a liquid or a solid gives off flammable vapor in sufficient quantity to burn instantaneously at the approach of a flame or spark.

Ground Support. Wood, steel, concrete, rockbolts, shotcrete, wire mesh, or other materials used for bracing or supporting the ground.

Haulage Vehicle. As used in these Orders, a self-propelled vehicle other than railroad cars or locomotives, designed to transport 2.5 cubic yards or greater of minerals, dirt, rock, concrete, asphalt, rubble, sand and/or gravel, ore, waste, overburden, or muck at a pit or mine. The term "haulage vehicle" includes trucks, dump trucks, truck-and-trailer combinations, front-end loaders, scrapers, load-haul-dump units, carryalls, and all other similar equipment used for haulage.

High Potential High Voltage. More than 650 600 volts

Highway. Any street, alley, or road, publicly or privately maintained and open for use for the public for use for the public for the purposes of vehicular travel. Definition moved to Explosive Orders

Hoisting. The act of lifting or lowering muck, materials, equipment, and/or personnel in a conveyance.

Hoist--Material. A device for lifting or lowering muck, materials, or equipment. It includes tugger-type winches when used to lift and lower muck, materials, or equipment.

Hoist--First-Class Personnel. A device equipped with the necessary safeguards as required by Section 7126 used to raise and lower personnel.

Incline. A sloping shaft between 20 and 70 degrees from the horizontal. An angled underground travelway that is neither horizontal nor vertical. Inclines include declines and ramps. **Not used in MSOs Delete**

Intrinsically Safe. A device or system that is incapable of releasing enough electrical or thermal energy under normal or abnormal conditions to cause ignition of a mixture of flammable gas and air at its most ignitable composition.

Jumbo. A mobile platform or series of platforms, usually on wheels, to provide work areas for employees and the machines, tools, or materials being used.

Low Voltage. 650 600 volts or less.

Magazine. A building, other than the explosives manufacturing building, or other structures especially designed for the storage of explosives, or any cave or other structure adapted to the storage of explosives.

Main Ventilation System. A primary system used to deliver the required airflow to all work areas of the mine. When ventilation lines are used they shall be rigid and MSHA approved flame resistant and shall meet the requirements of 30CFR Part 7 Section 7.24 (7-1-08 Edition),

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

Mine. An area of land from which minerals are extracted in non-liquid form.

Mine. An area of land from which minerals are extracted in non-liquid form by workers on the surface or underground. Private ways and roads appurtenant to such area, and lands, excavations, underground passageways, shafts, slopes, tunnels and workings, structures, facilities, equipment, machines, tools, or other property including impoundments, retention dams, and tailings ponds, on the surface or underground, used in, or to be used in, or resulting from, the work of extracting such minerals from their natural deposits in nonliquid form, by workers, or used in, or to be used in, the milling of such minerals or the work of preparing such minerals.

Mine Opening. Any opening or entrance from the surface into an underground mine, including portals and shafts.

Mineral. As used in these Orders, Any substance, organic or inorganic, found in nature as part of the earth and having sufficient value away from its natural location to be mined, quarried, or dug for its own sake or its own specific use.

Movable. The machine or device that can be, and usually is, moved about in course of normal operations, but is too heavy to be carried. This includes self-propelled machines.

Muck. Excavated dirt, rock, minerals or other material. **Shaded portions are from original Tom Carrel Act**

MSHA. The United States Department of Labor, Mine Safety and Health Administration.

Noncombustible Material. 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.

Permissible. Applied to any device, equipment, or appliance, means that such device, equipment, or appliance is classed as by the Mine Safety and Health Administration. Applied to a machine, apparatus, or device which is capable of releasing sufficient electrical or thermal energy to cause ignition, but which has been investigated by MSHA certifying that this energy cannot escape into explosive atmospheres when the device is maintained in accordance with the requirements of the approving agency.

Man-Deck Personnel Cage. An enclosed shaft conveyance for the vertical transportation of employees.

Portable. The machine or device can be, and usually is, manually held or carried about in the course of normal operation, and is not fastened in place.

Portable. A machine or device which can be, and usually is, carried about in the course of normal operation.

Portal. A nearly level entrance to an underground mine, including any related cut, arch, ground support, or retaining walls.

Public Conveyance. Any railroad car, street car, ferry, cab, bus, airplane, or other vehicle which is carrying passengers for hire. **Definition moved to Explosive Orders**

Qualified Person, Attendant, or Operator. A person designated by the employer, who by reasons of their training and experience has demonstrated their ability to safely perform their duties and, where required, is properly licensed and/or certified in accordance with federal, state, or local laws and regulations.

Ramp. An inclined passageway in a mine suitable for rubber-tired equipment or conveyors. Ramps are also called inclines or declines. The inclination is typically below 30 degrees.

Railroad. Any railway or tramway which carries passengers for hire, on the particular line or branch in the vicinity where explosives are stored, or where explosive-manufacturing buildings are situated. **Definition moved to Explosive Orders**

Refuge Station. Place of Refuge. On every mine level where a 30-inch passageway cannot be maintained, Places of Refuge affording a clearance of at least 2 feet between the widest portion of the haulage equipment or train and the nearest edge of the Place of Refuge shall be

provided at intervals of not more than 200 feet and at all permanent work stations. Places of Refuge shall be not less than 4 feet long, plainly marked and kept free of rubbish. **Rename as "Shelter Hole"**

Refuge Chamber.—A refuge chamber shall be maintained within 5,000 feet of the face of a working place without two escapeways. Workers shall be provided with emergency rescue equipment and trained in its use. Refuge chambers shall be equipped with a continuous breathable compressed air supply meeting the requirements of Section 5144(i) Breathing Air Quality and Use in the General Industry Safety Orders, a telephone, potable water and means of isolating the chamber from the mine atmosphere. The emergency equipment, air supply, and rescue chamber installation shall be acceptable to the Division. An area, place, haven or shelter within an underground mine that can be sealed off from the rest of the mine to protect miners who are unable to get out of the mine in an emergency. The shelter contains equipment (such as food, air, water, first aid, communication, and sanitation facilities that allow the miners to survive until they can be retrieved rescued or escape. **See letter from vendor**

Return Air. The mine air or ventilation that has passed through the active mine working and is returning to the surface. **Deleted as unnecessary**

Return Air Course. The air course through which the vitiated air of a mine is returned or conducted to the surface. The portion of the main ventilation system between the point where working air is removed or exhausted from the underground environment and its point of release into the outside atmosphere. **Not in MSOs Delete**

Rock Burst. A sudden and violent failure of overstressed rock resulting in the instantaneous release of large amounts of accumulated energy.

Safety Can. An closed container approved by Underwriters' Laboratories, Inc., (UL), the Factory Mutual Engineering Corp., (FM), or MSHA, for flammable liquids, of not more than 5 gallons capacity, having a flash-arresting screen, spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire heat.

Secured or Securely Fastened. The device or object referred to is so anchored that it will not become accidentally detached, displaced, or removed under normal use and foreseen circumstances.

Shaft. A vertical or near-vertical inclined passageway to underground workings, normally equipped with a hoist, through which mining operations, including ventilation, are conducted. A shaft is either vertical or inclined at an angle greater than 20 degrees from the horizontal. A shaft is vertical if its alignment is greater that 70 degrees from the horizontal; a shaft is inclined if its alignment is greater than 20 degrees and up to 70 degrees from the horizontal. A winze or raise in which men are hoisted or lowered shall be considered a shaft. for the purpose of these Orders.

Shall and Should. Shall means mandatory and should means recommended.

Shelter Holes. An intentional widening of a haulageway to provide safety for employees walking in the haulageway at any location where a 30-inch passageway cannot be maintained.

Stope. An underground excavation resulting from actual mining of ore, as distinguished from other excavations, such as drifts, crosscuts, raises, or winzes.

Substantially Constructed or Substantial Construction. Construction of such strength, material, and workmanship that the object will withstand all reasonable shock, wear, usage, and deterioration it was designed to withstand.

Timber. Wood, steel, concrete, or other materials used for bracing or supporting the ground.
Deleted as unnecessary (see Ground Support above)

Trackless Vehicle. A type of vehicle that does not run on railroad tracks. **Deleted as unnecessary**

Tramway. An aerial passenger tramway device used to transport passengers, muck, or minerals by the use of overhead steel cables (or by ropes) supported in one or more spans.

Underground. Mines, tunnels or similar confined excavations under the surface of the earth.

NOTE Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

Article 3 REPORTS TO THE DIVISION

§6959. Mine Openings and Closings.

(a) The owner, operator, or person in charge of any mine or mill under the Scope of these Orders shall notify the nearest Mining and Tunneling Unit Office before starting or stopping suspending operations for a period planned to exceed 90 days, of the approximate or actual date mine operation will commence or cease suspend operations

(b) Notifications required by this Section shall include the following:

- (1) The mine name; and,
- (2) The company legal name; and,
- (3) Mailing address; and,
- (4) Telephone number or contact information; and,
- (5) Name and Title of person in charge; and,
- (6) Approximate or actual starting date or closing suspension date; and,
- (7) Type of mine or mine facility; and,
- (8) Estimated number of employees; and,
- (9) Whether operations will be continuous or intermittent; and,
- (10) Precise mine location (Latitude and Longitude, Township and Range, or another equally precise method).

(c) Notifications shall be made by telephone, fax, electronic mail, or certified mail, and shall be documented by the owner, operator, and/or employer.

NOTE: Submitting a copy of the MSHA 30CFR Part 56 Section 56.1000 required notification along with a copy of the MSHA required Notification of Legal Identity to the nearest Mining and Tunneling Office shall be accepted as compliance with this Section.

§6960. Reports to the Mining and Tunneling Unit

(a) ~~In addition to the serious injury, illness, or fatality reporting requirements of Section 342 of the Cal/OSHA regulations, the~~ The employer shall notify the nearest Office of the Cal/OSHA Mining and Tunneling unit by telephone immediately, but no longer than 2 hours after the employer knows or with diligent inquiry would have known, of any serious event or change of conditions that increases the hazards to employees. Incidents that require this 2-hour reporting include, but are not limited to the following:

(1) Fire, that cannot be extinguished within 30 minutes, or an unplanned ignition or explosion of gas or dust.

(2) Breakage of cables or other gear by which ~~men~~ passengers are hoisted or lowered, overwinding of cables, or other operational hoisting failures which endanger employees.

(3) A sudden inrush of water, gas, mud, petroleum products, or other material which endangers employees.

(4) Entrapment of workers for over 10 minutes by failure of material or ground, or entrapment due to hoisting equipment malfunctions.

(5) An unstable condition at an impoundment, refuse pile, or waste bank which requires emergency action in order to prevent failure, or which causes individuals to evacuate an area, ; or, failure of an impoundment, refuse pile, or waste bank.

(6) In surface and underground mines, any serious problem of ground instability, rock burst, or failure of ground support systems, unplanned ground movement, ground shifting, or face collapse including unplanned roof and/or rib fall in active workings.

(7) Any haulage accident such as a runaway vehicle, train, locomotive, rail car, or an equipment collision or rollover that injures an employee or causes more than \$500 in property damage.

(8) Any fatality, serious injury, or serious illness which is required to be reported to the Division by Section 342 of the Cal/OSHA regulations.

(9) ~~Advancement within 100 feet of any other mine working.~~ Advancing a mine working within 100 feet of any other mine working suspected of containing a dangerous accumulation of water or gases, or presenting any other hazard to employees such as subsidence or ground instability.

(4) Overwinding while men are being hoisted. Moved up to (2) above

- (5) Serious inrush of water. **Moved up to (3) above**
- (4) Advancing a mine working within 100 feet of any other mine working suspected of containing a dangerous accumulation of water or gases. **Moved down to (9) above.**
- (6) An unplanned ignition or explosion of gas or dust. **Moved up to (1) above**
- (10) Any other accident, occurrence, or change of condition that increases or may increase the hazards of mining. **Relocate – see (9) above.**
- (7) Crushing of active mine workings. **Moved up to (6) above.**
- (8) Any serious problem of ground instability. **Moved up to (5 and/or 6) above**
- (9) Fatal accidents and accidents resulting in two or more serious injuries. **Obsolete**
- (9) Any other accident, occurrence, or change of condition that tends to materially increase the hazards of mining. **Vague and unenforceable**

NOTE: The reporting requirements of this Section are in addition to the blasting incident reporting of Section 5248 of the General Industry Safety Orders.

(b) The notification required in (a) shall include the following information:

- (1) Date, time, and type of event; and
- (2) Mine name and location; and
- (3) Employer's legal name, address, and telephone number; and
- (4) Name and job title of person making report; and
- (5) Results of employer's preliminary investigation; **Employer's preliminary assessment of the situation as known at the time of the report.**
- (6) Corrective actions taken by **the employer prior to the time of the report.**

Immediately Reportable Accidents and Injuries (MSHA)

Mine operators must call immediately, but no later than **15 minutes** from the time they know or should know that an accident has occurred.

Immediately Reportable Accidents and Injuries are:

1. A death of an individual at a mine;
2. An injury to an individual at a mine which has a reasonable potential to cause death;
3. An entrapment of an individual for more than thirty minutes or which has a reasonable potential to cause death;
4. An unplanned inundation of a mine by a liquid or gas;
5. An unplanned ignition or explosion of gas or dust;
6. In underground mines, an unplanned fire not extinguished within 10 minutes of discovery; in surface mines and surface areas of underground mines, an unplanned fire not extinguished within 30 minutes of discovery;

*For use of
Advisory
Committee
Only*

7. An unplanned ignition or explosion of a blasting agent or an explosive;
8. An unplanned roof fall at or above the anchorage zone in active workings where roof bolts are in use; or, an unplanned roof or rib fall in active workings that impairs ventilation or impedes passage;
9. A coal or rock outburst that causes withdrawal of miners or which disrupts regular mining activity for more than one hour;
10. An unstable condition at an impoundment, refuse pile, or culm bank which requires emergency action in order to prevent failure, or which causes individuals to evacuate an area; or, failure of an impoundment, refuse pile, or culm bank;
11. Damage to hoisting equipment in a shaft or slope which endangers an individual or which interferes with use of the equipment for more than thirty minutes; and
12. An event at a mine which causes death or bodily injury to an individual not at the mine at the time the event occurs.

*For use of
Advisory
Committee
Only*

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

§6961. Prejob Safety Conference. **NEW** The Division and the owner of a mine, if he is not the operator of the mine, shall be notified before any initial mining operation or construction may be started at any mines or tunnels. A prejob safety conference shall be held with an authorized representative of the Division for all underground operations. Representatives of the tunnel or mine owner, the employer, and employees shall be included in the prejob safety conference. There will normally be only one prejob safety conference held at each mine. If a mine has suspended operation for a period exceeding 24 months, the employer shall notify the nearest Office of the Cal/OSHA Mining and Tunneling unit by telephone to determine if an additional prejob safety conference may be necessary. **Add PJ Form Appendix**

~~§6961~~ §6962. Underground Mine Classifications. **NEW**

(a)When the preliminary investigation of a mine project is conducted by the owner, their agent, or the agency proposing construction of the mine, the geologic information shall be submitted to the Division for review and classification relative to flammable gas or vapors. The preliminary classification shall be obtained from the Division prior to mine opening and in all cases prior to actual underground construction. In order to make the evaluation, the following will be required:

(1) Plans and specifications;

(2) Geological reports, including any information indicating flammable gas or vapors.

(3) Proximity and identity of existing utilities and abandoned underground tanks;

(4) History or past use of the mine location, including existing adjacent mines or tunnels, if known;

(5) The Division may require additional drill holes or other geologic data prior to making gas classifications.

(b) The Division shall classify all underground mines or portions of mines into one of the following classifications:

(1) Nongassy, which classification shall be applied to mines where there is little likelihood of encountering gas during the construction and operation of the mine.

(2) Gassy, which classification shall be applied to mines where it is likely gas will be encountered, or if a concentration greater than 5 percent of the LEL of:

(A) Flammable gas has been detected not less than 12 inches from any surface in any open workings with normal ventilation.

(B) Flammable petroleum vapors that have been detected not less than 3 inches from any surface in any open workings with normal ventilation.

(C) A notice of the classification shall be prominently posted at the mine site, and all personnel shall be informed of the classification and its posted location.

(D) Special conditions unique to the site required to ensure the safety of employees may be listed upon the classification, and all personnel must know and follow any special conditions listed on the classification.

(E) The Division shall classify or reclassify any mine as Gassy if the preliminary investigation or past experience indicates that any gas or petroleum vapors in hazardous concentrations is likely to be encountered in such mine or if the mine is connected to a Gassy or Extrahazardous excavation and may expose employees to a reasonable likelihood of danger.

(F) For the purpose of reclassification and to ensure a proper application of the classification, the Division shall be notified immediately if a gas or petroleum vapor exceeds any one of the individual classification limits described in subsection (b) above or abandoned workings have been intersected. No underground excavation works shall continue until the need for reclassification has been evaluated by the Division.

(G) A request for reclassification may be submitted in writing to the Division by the employer and/or owner's designated agent whenever the identification of any specific changes and/or conditions that have occurred subsequent to the initial classification criteria such as geological information, bore hole sampling results, underground tanks or utilities, ventilation system, air quality records, and/or evidence of the lack of intrusions of explosive gas or vapor into the underground atmosphere.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

Add Rescue Plan Article 4. ACCIDENT PREVENTION PROGRAM

~~§6965.~~ §6963. Injury and Illness Prevention Program.

Every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program in accordance with Section 3203 of the General Industry Safety Orders; and include the following additional training requirements:

(a) The employer shall hold meetings at least **once each month** with supervisory personnel and foremen for a discussion of safety problems and accidents that have occurred, including recommendations of ways and means for the prevention of accidents. A record of such meetings shall be kept, stating the meeting date, time, place, supervisory personnel present, subjects discussed, suggestions made and corrective action taken, and maintained for inspection by the Division.

(b) Supervisory personnel shall **conduct "toolbox" or "tailgate" safety meetings** with their crews at least weekly on the job to emphasize safety. Records of all meetings shall be kept, stating the meeting date, time, personnel present, subjects discussed, and corrective actions taken if any, and maintained for inspection by the Division.

(c) At mines employing fewer than five employees, a **weekly "tailgate" safety meeting** may be used in lieu of the required safety committee meetings to discuss accidents, "near misses", unsafe conditions or actions, and recommendations to prevent future accidents.

(d) **The employer shall train all employees to immediately notify their supervisor** of any: (1) unsafe or dangerous workplace conditions; (2) defects and damage of ground control, machinery, apparatus, or equipment; (3) accidents or "near misses" occurring in the workplace. The employer shall investigate such reports promptly, and shall take such actions as required to correct unsafe or dangerous conditions.

(e) The employer shall ensure that scheduled workplace inspections are conducted to identify unsafe conditions and work practices, and identify and evaluate hazards, in accordance with the following:

(1) At all surface mining operations, the employer shall designate a supervisor or other competent person to examine each working place at **least once each shift**.

(2) At all underground mining operations, the employer shall designate a supervisor, Certified Safety Representative, or other competent person to examine each working place at least **twice during each working shift**. One inspection shall be made during the early part of the work shift and another inspection during the later part of the work shift.

(f) All employees at mines shall be trained in the possible hazardous conditions and the protective measures to be taken to eliminate those hazards, including site-specific training in the following topics, where applicable:

1. Self-rescue and respiratory devices;
2. Employee and material transportation, check-in/check-out system;
3. Warning signals and communication methods;
4. The work environment, location, and mining methods;
5. Mine map, escape routes, emergency evacuation, emergency medical plans;

6. Fire-warning signals and firefighting procedures;
7. Mine gases, air monitoring, and ventilation plans;
8. Work procedures and safety plans for ground control, highwalls, water hazards, pits and spoil banks;
9. Illumination and night work;
10. Dust, noise, and other health hazards, air monitoring, and exposure control plans;
11. Electrical hazards;
12. Explosives (if used);
13. House keeping procedures to conform to Section 7062.
14. Heat Illness procedures to conform to Section 3395.
15. Confined Space procedures to conform to Section 5157.
16. Statutory rights of employees and their representatives.
17. Authority and responsibility of supervisors.
18. First Aid and emergency medical procedures.

(g) The training required in the above section shall be reviewed annually for every employee, and repeated as necessary.

(h) In addition to the training required by this section every person with direction, control or authority over miners, including all first-line and second-line supervisors, (leadworkers, foremen, supervisors, superintendents, etc.) shall be trained in their duties and responsibilities and the following topics:

1. The employer's Injury Illness Prevention Program and the supervisor's responsibilities under that program.
2. The requirements of the Mine Safety Orders and other applicable Safety Orders.
3. The identification and evaluation of workplace hazards and unsafe conditions, and appropriate actions for correcting, mitigating, and protecting workers from those hazards.
4. The procedures for obtaining emergency medical assistance.
5. Supervisor's responsibilities for reporting and documentation.
6. When persons are working at the mine, a competent person designated by the mine operator shall be in attendance to ensure the miners work safety and take charge in case of an emergency.

(i) The training required in subsection (h) shall be reviewed annually for every supervisors, and repeated as necessary.

(k) An outline of the training program, and a copy of the training materials and handouts, shall be available for inspection by employees and the Division upon request.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

~~§6963.~~ §6964. Code of Safe Practices

- (a) Each employee, when first hired, shall be trained in the employers Code of Safe Practices and shall be provided with the sections applicable to their work. The Code of Safe Practices shall also be posted at the jobsite or be provided to each supervisory employee who shall have it readily available.
- (b) The employer shall adopt and use of a Code of Safe Practices for the employer's surface and underground mining operations.
- (c) Copies of such code shall be readily available at the job site for employee use and inspection by the Division.

~~§6962.~~ §6965. Safety Bulletin Boards.

- (a) A safety bulletin board shall be provided at each mine. All notices pertaining to the mine safety shall be posted on the safety bulletin board at a location where employees congregate. All required postings and other pertinent notices pertaining to mine safety (Mine Classification, applicable Diesel Permit(s), site Emergency Plan, and any special orders, rules, special conditions, or regulations to be used shall be prominently posted at the mine site. Fire and safety diagrams, rescue contact information, emergency medical contact procedure, availability of the Code of Safe Practices, citations, and other safety notices) also shall be posted on the safety bulletin board and maintained in legible condition.
- (b) A second bulletin board may be used for posting other bulletins, pictures, slogans, and circulars.

~~§6964.~~ §6966. Safety Committee.

At least once every month a safety committee shall make a detailed inspection of all working places and equipment. The safety committee shall include at least one hourly employee who is regularly assigned to the area being inspected. The committee shall note any unsafe practices and conditions and shall promptly report their findings to the person in charge. A written record shall be made of the suggestions offered and action taken.

- (b) At mines employing fewer than five ~~men~~ persons, personal safety instruction for all employees each month will be accepted in lieu of the safety committee required by subsection (a) of this section.

~~§6965.~~ This subsection relocated to 6963(d) (See above).

Any unsafe condition of ground control, defects in or damage to machinery, apparatus, or equipment resulting in unsafe or dangerous conditions, and accidents occurring in course of operations which may result in personal injury, shall be reported to the employer. The employer shall investigate such reports promptly, and shall take such actions as may be required to correct the condition if it is in fact unsafe or dangerous.

~~§6966. §6966. Supervision. This subsection relocated to 6963(h)(6) (See above).~~

~~(a) The operator of every mine shall appoint a competent man who shall be personally in charge of the work and the employees therein.~~

~~(b) The operator of such mine may be personally in charge of such work and employees.~~

~~(c) Some competent person in authority shall be on duty whenever employees are working in a mine.~~

~~When persons are working at the mine, a competent person designated by the mine operator shall be in attendance to ensure the miners work safety and take charge in case of an emergency.~~

~~§6967. Certification of Safety Representatives at Underground Mines.~~ REWRITTEN SEE BELOW

~~(a) The employer shall designate a competent safety representative, certified by the Division experienced in underground mining with the responsibility of administering the safety program. He shall institute action to correct unsafe conditions and unsafe practices.~~

~~Every person requesting certification as a safety representative shall submit a completed application form to the Division. Upon submission of an application for certification as a safety representative, the Division shall collect the amount of \$15.00 for examination fee which is non-refundable. Renewal fees are \$5.00 annually.~~

~~(b) Labor Code Excerpts: Section 8003.~~

~~"Violation of regulations, rules, orders, or special orders adopted by the board or division as a condition of certification shall be punishable by suspension or revocation of certification, unless such violation is responsible for death or injury to employees, in which case it shall be punishable as a misdemeanor."~~

~~NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.~~

§6967. Safety Representatives and Gas Testers at Underground Mines.

(a) At all underground mines where these Orders apply, the employer shall designate an on-site Safety Representative who is qualified and experienced to recognize hazardous conditions in underground mining and is certified by the Division. The on-site Safety Representative shall monitor the work and have the authority to correct unsafe conditions and practices, or stop the

work if an imminent hazard exists, and shall be responsible for directing the required safety and health programs. LC 7962

(b) An on-site Safety Representative shall be present at underground mines when employees are doing work covered by these Orders. At mines with fewer than 5 miners underground, having an on-site Safety Representative present at the worksite during the main shift and readily available within 15 minutes on subsequent shifts of the same day shall meet the requirements of this section. This exception shall not apply at underground mines classified as Gassy or Extrahazardous, nor at those mines where the Division requires a full-time on-site Safety Representative because of specific hazardous conditions. LC7962

(c) All applicants for certification as a Safety Representative shall meet the following minimum requirements: LC 7999, TSO 8406

(1) Two years experience performing safety-related work in underground mines or equivalent tunnel experience acceptable to the Division.

(2) In lieu of one year of the above experience, applicants may substitute equivalent education or work experience as follows:

(A) Work experience in the capacity of managing or directing underground mining or tunneling safety programs which is acceptable to the Division, or

(B) Formal safety related education degree in safety or certification as a Certified Safety Professional (CSP), Certified Industrial Hygienist (CIH), Professional Safety Engineer (PSE), or similar education acceptable to the Division.

(3) Be able to communicate with affected employees.

(4) Be of such physical condition that it would not interfere with the proper performance of their duties.

(5) Be thoroughly familiar and conversant with all the Mine Safety Orders and other applicable safety orders.

(6) Knowledge of the means and methods of underground mining operations.

(7) The ability to identify and evaluate unsafe conditions; and knowledge of the safeguards required to protect employees from the effect of these hazards.

(8) Pass a written and oral examination administered by the Division.

(e) Where these safety orders require gas testing, the employer shall designate an on-site Gas Tester who shall be qualified to perform the required air and gas testing, hot work monitoring, and ventilation testing, and is certified by the Division. The Gas Tester shall also ensure that air testing equipment is properly maintained, calibrated and operated. The Gas Tester shall perform the required air and ventilation testing, record the findings, and report the results to

the supervisor and/or Certified Safety Representative. The Gas Tester shall have the authority to order an evacuation when required by these Orders. TC 8406 LC 7999

EXCEPTION: The Gas Tester certification requirements shall not apply to Public Fire Departments or off-jobsite mine rescue teams during emergency operations and training, provided that the rescue team is trained in the proper operation, use, and calibration of the ventilation and gas detecting instruments that they use.

(f) All applicants for certification as a Gas Tester shall meet the following minimum requirements:

(1) One year of experience performing underground work in mines or tunnels. Up to six months of underground work experience may be satisfied if the applicant has a formal safety related education degree or certification as a Certified Safety Professional (CSP), Certified Industrial Hygienist (CIH), Professional Safety Engineer (PSE), or similar certification acceptable to the Division.

(2) Be of such physical condition that it would not interfere with the proper performance of their duties.

(3) Be able to communicate with all affected employees.

(4) Knowledge of the gases that may be encountered underground, the hazards they pose, and the safeguards required to protect employees from their effect.

(5) Demonstrate proficiency in the operation, use and calibration of ventilation and gas detection instruments; and the interpretation and documentation of the readings obtained.

(6) Be thoroughly familiar and conversant with all the Mine Safety Orders and other applicable safety orders.

(7) Pass a written and oral examination administered by the Division. LC 7999

(g) Gas Tester and/or Safety Representative Certification – Application and Examination.

(1) The Division shall only certify an individual for the specific types of work for which they are qualified. Every person requesting Gas Tester or Safety Representative Certification shall submit a signed Gas Tester/ Safety Representative Application Form for each certification requested, accompanied by a non-refundable application fee of \$15.00 (fifteen dollars) for each application. The application form may be obtained from any Mining and Tunneling Unit office.

(2) In order to obtain a Gas Tester or Safety Representative Certification, applicants that meet the eligibility requirements shall pass a written and oral examination given by the Division. The examination shall include questions related to the certification requested, and may also include field tests or demonstrations to determine the candidate's qualification to perform the duties of the certification requested. Gas Testers will be required to perform practical tests, including operation and calibration procedures, for air testing equipment.

(3) The Division shall determine any limitations specific to the candidate's knowledge and experience that shall be placed on the certificate.

(4) Candidates who fail the examination process shall wait a minimum of 90 calendar days to re-apply and be re-examined. They shall re-submit a signed Gas Tester/Safety Representative Application Form accompanied by an additional non-refundable application fee of \$15.00 (fifteen dollars) for each application.

(5) A Gas Tester or Safety Representative Certification is not transferable. **LC 7999**

(h) Expiration and Renewal. **LC 8001**

(1) Each Gas Tester or Safety Representative Certification issued under this subsection shall be valid for a period of five years, unless revoked or suspended.

(2) The application process, examination, limitations, and fees for renewal of Gas Tester and/or Safety Representative Certification shall be the same as those required for a new certification, in accordance with subsection (f) of this section.

(i) Suspension or Revocation - Gas Tester's or Safety Representative's Certification. **LC 8003**

(1) The Division shall initiate an investigation to determine the need to suspend a Gas Tester's or Safety Representative's Certification when in the opinion of the Division:

(A) There is a question or doubt as to the competency of the Gas Tester or Safety Representative, or

(B) The Division believes the Gas Tester or Safety Representative has not complied with the requirements, safety orders, or rules of the Division.

(2) The Gas Tester or Safety Representative shall be given a notice of hearing by the Division and a hearing shall be held before suspending or revoking a Gas Tester or Safety Representative Certification.

(3) If the hearing results in the suspension or revocation of the certificate, the Gas Tester or Safety Representative shall be required to surrender the certificate to the hearing officer at the time of the hearing.

(4) Hearings shall be conducted in accordance with Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6-Adjudicative Hearings (Title 8 sections 340.40 through 340.52).

NOTE: Free Technical Assistance Service (Labor Code, Sections 6354 and 6355). **Move to Scope 6955**

In order to encourage voluntary compliance with occupational safety and health regulations, free on-site Technical Assistance service is provided by Cal/OSHA. Employers may request this free on-site Technical Assistance for mines by contacting the Cal/OSHA Mining and Tunneling Unit. Employees and employee groups may also participate at the invitation of the employer,

or may request Technical Assistance away from the job site.

Technical Assistance services include:

(1) Information, advice, and recommendations on specific safety and health problems in the workplace;

(2) providing Providing help to employers in instituting an effective accident and illness prevention program or improving an existing program; and

(3) training Training in good safety and health practices, and in recognition and correction of hazards through on-site surveys.

NOTE: Authority cited: Sections 142.3 and 7997, Labor Code. Reference: Sections 142.3 and 7997, Labor Code.

Article 5. CARE OF INJURED

§6968. First-Aid, CPR, and AED Training.

GENERAL

(a) ~~At underground mines employing more than 5 men, a sufficient number of supervisors and workmen shall be trained in the U.S. Bureau of Mines Manual of First-Aid Instructions so that at least 25 percent of the personnel are so trained.~~

(b) ~~Some person trained in first aid shall be readily available at surface operations where five or more workers are employed at one time.~~

(c) ~~The training should be given by the U.S. Bureau of Mines, or it may be given by an instructor holding an effective first-aid instructor's certificate from the U.S. Bureau of Mines, or by anyone holding an effective Red Cross Instructor's Certificate, or by a licensed physician.~~

(a) At all surface and underground mines, at least 1 employee per 5 employees or portion thereof on a shift, shall be trained in first-aid, cardiopulmonary resuscitation (CPR) and be readily available to provide first-aid. For the purposes of this subsection, if employees are working both aboveground and underground, each location shall be considered separately in determining the number of first-aid providers, unless the locations can readily communicate with each other and quickly provide first-aid.

(b) First-aid providers shall have a valid certificate of first-aid, cardiopulmonary resuscitation (CPR), and automated external defibrillator (AED) training from the American Red Cross, Mine Safety and Health Administration (MSHA), American Heart Association, or equivalent training program that can be verified by documentary evidence.

(c) The required first-aid, cardiopulmonary resuscitation (CPR), and automated external defibrillator (AED) training shall be made available at no cost to all employees. **Ref: 30CFR 56.18010**

30 CFR § 56.18010

First Aid

An individual capable of providing first aid shall be available on all shifts. The individual shall be currently trained and have the skills to perform patient assessment and artificial respiration; control bleeding; and treat shock, wounds, burns, and musculoskeletal injuries. First aid training shall be made available to all interested miners.

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Federal OSHA Requirements

Sudden injuries or illnesses, some of which may be life-threatening, occur at work. The OSHA First Aid standard (29 CFR 1910.151) requires trained first-aid providers at all workplaces of any size if there is no "infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees."

In addition to first-aid requirements of 29 CFR 1910.151, several OSHA standards also require training in cardiopulmonary resuscitation (CPR) because sudden cardiac arrest from asphyxiation, electrocution, or exertion may occur. CPR may keep the victim alive until EMS arrives to provide the next level of medical care. However, survival from this kind of care is low, only 5-7%, according to the American Heart Association. The OSHA standards requiring CPR training are:

- 1910.146 Permit-required Confined Spaces
- 1910.266 Appendix B: Logging Operations – First-Aid and CPR Training
- 1910.269 Electric Power Generation, Transmission, and Distribution
- 1910.410 Qualifications of Dive Team
- 1926.950 Construction Subpart V, Power Transmission and Distribution

If an employee is expected to render first aid as part of his or her job duties, the employee is covered by the requirements of the Occupational Exposure to Bloodborne Pathogens standard (29 CFR 1910.1030). This standard includes specific training requirements.

A few of the medical emergency procedures mentioned in this guide as first aid may be considered **medical treatment** for OSHA recordkeeping purposes. The OSHA Recording and Reporting Occupational Injuries and Illnesses regulation (29 CFR 1904) provides specific definitions of **first aid and medical treatment**. If a medical emergency procedure which is considered by 29 CFR 1904 to be medical treatment is performed on an employee with an occupational injury or illness, then the injury or illness will be regarded as recordable on the OSHA 300 Log.

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TSO 8421 - All supervisors and at least one employee on each crew.
CSO 1512 – A suitable number of appropriately trained persons to render first aid.

§6969. Care of the Injured.

(a) The employer shall provide for emergency medical services at all mines covered by these orders. Emergency medical services shall be provided before work begins, and shall include the following:

(1) At least one basket-type stretcher, or equally appropriate type stretcher with straps for securing an injured person in the stretcher, a woolen blanket, a waterproof blanket or equivalent covering, and adequate first-aid materials shall be provided at a central location for surface mines, and near the primary surface access to the underground work area(s) at underground mines.

(2) If more than 25 persons are working at the same time on a shift, an additional stretcher equipped as required in subsection (a)(1) for each 25 persons or fraction thereof shall be provided and located as designated in subsection (a)(1) above.

~~(a) Every mine shall be provided with an approved mine-type stretcher, a woolen blanket or equally warm covering, and a waterproof covering for injured employees unless ambulance service is readily available to all locations in the operation.~~

~~(b) If more than 25 men are working underground at the same time, an additional stretcher, blanket, and waterproof covering for each 25 men or fraction thereof shall be provided.~~

~~Each stretcher shall be provided with at least 20 feet of one-half-inch rope, or equivalent, for securing an injured man in the stretcher.~~

(3) Where work locations may require it, suitable rigging and a safe means for hoisting or lowering stretchers containing injured persons shall be provided.

~~(c) When considered necessary by the Division, stretchers shall be provided with a rope or other safe means for hoisting or lowering.~~

~~(d) Adequate first-aid dressing shall be provided and placed at locations about the mine convenient for treatment of injured employees.~~

~~Note: It is recommended that the employer seek the advice of a medical doctor regarding the type and quantity of first-aid dressings to be placed about the mine.~~

(4) At underground mines an additional stretcher and adequate first-aid materials shall be located within 5 minutes travel time from the working face. If multiple faces are in operation, additional stretchers shall be so located so that the 5 minute travel time to a stretcher is not exceeded. Each stretcher underground shall be equipped as required in subsection (a)(1).

TSO 8420(a)(2)

(5) In addition to the requirements in subsection (a)(1), adequate first-aid materials shall be provided and placed at locations about the mine convenient for treatment of injured employees. At least one adequate first-aid kit shall be provided for each 15 employees or fraction thereof at both aboveground and underground work locations. For the purposes of these safety orders, adequate first-aid materials shall consist of those required for 6 to 15 employees in Section 1512(c)(1) of the Construction Safety Orders, or those determined by an employer-authorized licensed physician, and the following:

(A) six (6) compresses or surgical pads suitable for pressure dressings.

(B) Six (6) triangular bandages.

(C) Suitable splinting material.

(D) Appropriate personal protection devices (CPR masks if mouth-to-mouth CPR is used, nitrile gloves, etc.) for bloodborne pathogens. **TSO 8420(a)(4)**

(6) A recommended method of treatment shall be kept readily available at all times where dangerously poisonous substances are used. A method prescribed by a medical doctor is acceptable. Water or other appropriate neutralizing agents shall be available where corrosive chemicals or other harmful substances are stored, handled, or used. In addition to these requirements, Article 109 Hazardous Substances and Processes of the General Industry Safety Orders shall also apply when hazardous substances and/or processes are used.

(7) First-Aid and rescue equipment and materials required by this section shall be maintained in a dry, sanitary, and usable condition, and shall be readily available to employees. Where blankets are required, they shall be kept in sealed, moisture and dust-proof containers. **TSO 8420(a)(5)**

(c) First-aid kits, boxes, and containers shall be prominently marked to indicate their purpose. **TSO 8420(a)(6)**

(d) Weekly inspections shall be made of all first-aid materials to ensure expended items are replaced. **TSO 8420(a)(7)**

(e) First-Aid materials shall be kept in dry, sanitary, and usable condition, and shall be readily available to employees.

(f) A recommended method of treatment shall be kept readily available at all times where dangerously poisonous substances are used. A method prescribed by a medical doctor is acceptable. Water or neutralizing agents shall be available where corrosive chemicals or other harmful substances are stored, handled, or used.

(e) An effective and reliable means of communication shall be provided for contacting emergency medical services and obtaining assistance in an emergency. The name, address, and contact information of the physician, hospital, ambulance, and helicopter service (if applicable), to be called in an emergency shall be posted on the safety bulletin board and at telephones in all mines, and in the hoist room of underground mines. **TSO 8420(a)(8)**

(f) Arrangements shall be made in advance for obtaining emergency medical assistance and transportation for injured persons. At locations where ambulance response time is more than 30 minutes, the following shall be provided: **TSO 8420(b)**

(1) A designated emergency transportation vehicle properly equipped and maintained so that it can safely transport an injured worker to the hospital in the expected terrain, weather, and road conditions. NOTE: This could be a vehicle normally used for employee transportation, provided that an occupied stretcher can fit within the passenger compartment. The intent of this Order is that there shall be no unnecessary delay in getting seriously injured employees to medical attention. Ambulance service should be utilized where possible, but it is recognized that mines exist in isolated places not possible to reach by ambulance. Therefore, "suitable means of

transportation" means the type of transportation ordinarily used by employees when going to or coming from a mine not possible to reach by ambulance.

(2) A properly maintained automated external defibrillator (AED) and at least two persons trained and available to operate the device and provide cardiopulmonary resuscitation (CPR).

(3) A person with first-aid training meeting the requirements of Section 6968(b) of these orders shall be available and responsible for first-aid care at all times when work is in progress. The first-aid provider shall have access to a licensed physician for consultation.

(4) In addition to the required emergency transportation vehicle, approved emergency medical helicopter service shall be prearranged for remote areas of difficult access where ~~vehicle~~ ground transportation time to the nearest emergency room exceeds \pm one hour.

~~(g) (18-14) Arrangements shall be made in advance for obtaining emergency medical assistance and transportation for injured persons.~~

~~(h) (18-12) The name, address, and telephone numbers of the physician, hospital, and ambulance to be called in an emergency shall be posted on the safety bulletin board and at telephones and in the hoist room of underground mines.~~

~~(i) Some suitable means of transportation shall be readily available where the services of an ambulance cannot be secured in one hour.~~

Article 6. GENERAL SAFETY PRECAUTIONS

§6973. General Safety Precautions.

GENERAL

~~(a) Every reasonable precaution shall be taken to insure the safety of workmen in all cases, whether or not provided for in these orders.~~

(a) The employer shall ensure that every reasonable effort is taken to ensure the safety of workers in all cases, whether or not provided for in these orders. ~~Orders.~~

~~(b) No employee shall be permitted to work in an unsafe place unless for the purpose of making it safe and then only after proper precautions have been taken to protect him while doing such work.~~

(b) No employees shall be permitted to work in a location where identified hazards exist except for the purpose of making it safe and then only after proper precautions have been taken to protect them while doing such work. **8410(d)**

(c) Prior to the beginning of each shift or the start of new work, the employer shall make a thorough survey of the conditions of the work area to determine, so far as practicable, the predictable hazards to employees and the kind and extent of safeguards necessary to perform the work in a safe manner. **TSO 8410(b), CSO 1511(b)**

~~(c) (20-1) Intoxicating beverages and narcotics shall not be permitted or used in or around mines. Persons under the influence of alcohol or narcotics shall not be permitted on the job.~~

(d) Intoxicating beverages or substances shall not be permitted or used in or around mines. Persons under the influence of, or impaired by, intoxicating beverages or substances shall not be permitted on the job site. No employee shall knowingly be permitted or required to work while the employee's ability, vision, or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury.

~~(d) (3-9) Men shall examine their working places before starting work and frequently thereafter, and any unsafe condition shall be corrected.~~

(e) Only a bar blunt on one end shall be used for loading at chutes or for barring down loose rock in any part of the mine.

(f) All spikes, nails, and other sharp objects that protrude and may cause injury shall be bent down or removed.

~~(g) (18-20) (18-25) No employee shall be assigned, or allowed, or be required to perform work alone in any area where hazardous conditions exist that would endanger his safety unless he can communicate with others, can be heard, or can be seen.~~

(g) No employee shall be assigned, or allowed, or be required to work alone unless they can effectively communicate with others, can be heard, or can be seen.

UNDERGROUND

(h) Materials shall not be placed or permitted to remain where they can fall down a shaft, manway, winze, raise, or other opening.

~~(i) Employees shall be warned when others are working above or below them so employees will not be injured by falling rock or materials.~~

(i) Employees shall be warned when others are working above or below them so they will not be injured by falling rock or materials. No tools, equipment, rock, or materials shall be dropped, lowered, or allowed to fall unless employees located below are protected by either an isolated danger area delineated by physical barriers with warning signs or an assigned spotter who shall alert nearby workers and deny entry into the danger area.

~~(j) (3-22) No other work shall be done in a working place until it has been barred down and made safe for work. The roof and sides shall be examined several times during the working shift.~~

(j) No other work shall be done in a working place until it has been barred down, evaluated for proper ground support, and made safe for work. The roof and sides shall be examined for loose rock and ground movement several times during the working shift.

(k) Employees shall be trained to examine their working places before starting work and frequently thereafter, and to correct any unsafe condition they find. If the employees cannot correct the condition, they shall bring the condition to the attention of their supervisor.

(l) Oncoming shifts shall be informed of any accidents, near misses, hazardous occurrences or conditions that have affected or might affect employee safety, including liberation of gas, haulage accidents, equipment failures, earth or rock slides, cave-ins, flooding, fires or explosions. **TSO 8410(o)**

~~(j) (3-22) No other work shall be done in a working place until it has been barred down and made safe for work. The roof and sides shall be examined several times during the working shift.~~

(m) In addition to the requirements of subsection (g) of this section, working alone is prohibited in sinking, enlarging, and maintaining shafts, or while installing and/or maintaining equipment located in a shaft.

§6974. Entry System for Underground Employees.

~~(a) The operator of every mine shall provide and maintain on the surface a check list by which every man shall be checked into and out of the mine on each shift.~~

~~Note: This may be done by several methods, such as the use of time cards, numbered cap lamps, check boards with metal checks, having the employee report to a clerk or timekeeper when he enters or leaves the mine, or any other method acceptable to the Division.~~

~~(b) At the end of the shift the check list shall be examined to see if all men are out of the mine, except men who are authorized to remain therein.~~

~~If the check list indicates that an unauthorized employee remains in the mine, a prompt search shall be made for the missing man.~~

(a) Check-in, Check-out system. A check-in/check-out system shall be provided at the surface to provide an accurate record of the persons underground in the mine. The records shall be on the surface at a location protected from fire, explosion, or other hazards. Every person underground shall carry a positive, durable means of identification.

(b) At the end of each shift the check-in/check-out system shall be examined to see that all persons are out of the mine, except those authorized to remain underground. If the system examination indicates an unauthorized person remains in the mine, a prompt search shall be made for that missing person.

(c) Strangers or visitors shall not be allowed to enter any place where these safety orders apply, unless they are accompanied by a person designated by the employer. **TSO 8410(g)**

Article 7. Drinking Water, Change Rooms, and Sanitation

§6975. Drinking Water.

GENERAL

~~(a) Water suitable for drinking shall be available to all employees during working hours.~~

~~This may be accomplished by piping water into the mine and providing drinking fountains or by providing individual canteens or by other sanitary means.~~

~~(b) Common drinking vessels are prohibited.~~

(a) Potable water shall be provided at all active working areas and be available to all employees during working hours. This may be accomplished by piping potable water into the mine and providing drinking fountains or by providing individual canteens or by other sanitary means.

(b) Communal drinking vessels are prohibited.

(c) If single service cups are provided, a sanitary container for unused cups and a receptacle for used cups shall be provided.

(d) When water is cooled by ice, the ice shall be potable or shall not come in contact with the water.

(e) Potable water sources shall be posted. Non-potable water sources shall also be posted, unless a blanket posting concerning non-potable water sources is provided.

(f) Potable water systems shall be constructed to prevent backflow or backsiphonage of non-potable water.

Ref: 30CFR56.20002

~~§6976. Change Rooms.~~ **Replaced Below**

SURFACE

~~(a) Where the lack of such facilities constitutes a hazard to health and safety, the division may require heated change rooms, with shower baths, or other washing facilities; hot and cold water; lavatories; and adequate space for the clothing of employees.~~

~~(b) Change rooms shall be kept clean, orderly and in a sanitary condition.~~

~~(c) Change rooms shall be located at a point convenient to the pit.~~

~~§6977. Change Rooms.~~ **Replaced Below**

UNDERGROUND MINES

The provisions of T8-6977 of Part 6, T-24, are incorporated herein as a part of these regulations and reads as follows:

~~T8-6977. Change Rooms. In addition to the provisions of Part 2, the following shall apply to all mine construction.~~

~~(a) The operator of every mine shall provide a change room for the use of employees for drying clothes and bathing.~~

~~(b) The change room shall be placed in a convenient location for use by employees but, because of the danger of fire, it shall not be nearer than 100 feet from any mine opening, fan house, or hoist house.~~

~~(c) Except as provided in subsection (e) of this section the change room shall be equipped with shower baths having hot and cold water, and shall have at least 1 shower for each 15 men on a shift working in the mine.~~

~~(d) Change rooms shall be provided with adequate means of heating and lighting, and shall be kept in a reasonably clean and sanitary condition.~~

~~(e) Mines which employ fewer than 10 men and which have no suitable water available on the property for washing or bathing need not comply with the shower bath provisions of this section, but shall provide their employees with washing facilities that are reasonably clean and sanitary.~~

~~(f) The change room shall be available to employees at all times when they are going on or coming off shift.~~

~~(g) It is recommended that working clothes be either elevated by suitable means, such as chains, to the upper air of the change house or that separate rooms be used for working and street clothes.~~

6976. Change Houses, Showers, and Washing Facilities.

(a) Change Houses

(1) At surface mines, if the lack of facilities to change clothes or take showers before going home poses a health or safety hazard to employees, the employer shall provide a change house meeting the requirements of this section.

(2) At all underground mines, the employer shall provide a change house meeting the requirements of this section.

(3) Change houses shall provide:

(A) Separate dressing rooms, or a change house that provides for each sex, when applicable; and

(B) Suitable facilities for changing clothes, along with provisions for drying work clothes and storing street clothes; and

(C) Heating and lighting; and

(D) Hand washing facilities; and

(E) Toilet facilities; and

(F) At least one separate shower bath with an adequate supply of hot and cold water for each ten (10) employees or fraction thereof of each sex on a shift.

GISO – shower/10

ee; MSO shower/ 15 ee; TSO shower/ 5ee Ref. TSO 8431

§8431. Change Houses.

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At all tunnels, the employer shall provide separate dressing rooms or a change house that provides for each sex, when applicable, with suitable facilities for changing clothes, located at a convenient place for use by the employees. Such facilities shall be provided with heating and lighting, equipped with at least one (1) shower bath with an adequate supply of hot and cold water for each of the five (5) employees or fraction thereof, along with provisions for drying work clothes and storing street clothes, and maintained in a clean and sanitary condition.

(4) At a mine with 5 or less employees, a dressing room for each sex (if applicable) with a washing facility, a separate shower room, and a separate toilet room with a washing facility shall be accepted as meeting the requirements of this section, provided the dressing rooms, shower room, and toilet room offer full privacy and are lockable from the inside. **New**

(5) Change houses and showers shall be maintained in a clean, orderly, and sanitary condition.

(6) The change house(s) shall be placed in a convenient location for use by employees. At underground mines, they shall be located at least 100 feet from any mine opening, fan house, or hoist house.

(7) The change house(s) shall be available to employees at all times when they are going on or coming off shift. **Existing**

(8) Working clothes shall be elevated by suitable means, such as chains, to the upper air of the change house, or separate rooms for working and street clothes shall be provided, or the employer shall provide equivalent means to dry work clothes and store them separately from street clothes. **Existing**

(a) Showers. When showers are provided, they shall meet the requirements of Section 3366(f) of the General Industry Safety Orders.

(f) Where showering is required by the employer or these orders:

(1) Separate shower rooms shall be provided for each sex. One shower facility with hot and cold water feeding a common discharge line shall be provided for each ten employees, or numerical fraction thereof, who are required to shower during the same shift. When there are less than five employees, the same shower room may be used by both sexes provided the shower room can be locked from the inside. (Title 24, part 5, section 5-910(a)2(F))

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- (2) Body soap or other appropriate cleansing agents convenient to the shower shall be provided.
- (3) Employees who use showers shall be provided with individual clean towels.

(c) Washing Facilities.

(1) General. Washing facilities shall be provided as required by this section and as follows: A minimum of one washing station shall be provided for each ten employees or fraction thereof of each sex on a shift. Washing stations provided to comply with this requirement shall at all times:

(A) Be maintained in a clean, orderly, and sanitary condition;

(B) Have an adequate supply of hot and cold water for effective washing;

(C) Have a readily available supply of soap or other suitable cleansing agent;

(D) Have a readily available supply of single-use towels or a warm-air blower;

(E) Be located and arranged so that any time a toilet is used, the user can readily wash their hands; and

(F) When provided in association with a non-water carriage toilet facility:

1. Provide a sign or equivalent method of notice indicating that the water is intended for hand washing; and

2. Be located outside of the toilet facility and not attached to it.

3. Provide an adequate supply of water for effective hand washing. Ref: TSO 8431(b)

EXCEPTION to subsection (c)(1)(F)(2): Where there are less than 5 employees on a shift, and only one toilet facility is provided, the required washing facility may be located inside of the toilet facility.

EXCEPTION to subsection (c)(1): Mobile crews having readily available transportation to a nearby toilet and hand washing facility.

(2) Washing facilities for hazardous substances. Where employees are engaging in the application of paints or coatings, or in other operations involving substances which may be harmful to the employees, washing facilities shall be provided in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances. Facilities provided to comply with this requirement shall at all times:

(A) Be maintained in a clean, orderly, and sanitary condition;

(B) Have an adequate supply of hot and cold water sufficient for effective removal of the hazardous substance from skin surfaces; and

(C) Have a readily available supply of soap, and where necessary to effect removal, special cleansing compounds designed specifically for removal of the hazardous substance from skin surfaces; and

(D) Have a readily available supply of single use towels or a warm-air blower. Ref: TSO 8431(b)(3,4)

6977. Food Handling and Temporary Sleeping Quarters. Proposed New

(a) Food Handling. All food service facilities and operations shall be maintained in a clean and sanitary condition and shall meet the applicable laws, ordinances, and regulations of the jurisdictions in which they are located

(b) Temporary Sleeping Quarters. When temporary sleeping quarters are provided, they shall be heated, ventilated, and lighted, and maintained in a clean and sanitary condition. They shall also meet the applicable laws, ordinances and regulations of the jurisdictions in which they are located. TSO 8431

Existing

6978. Sanitation. Rewritten Below as Toilet Facilities

(a) An adequate number of dry or water closets shall be provided at convenient locations on the main working levels or on the surface. Ready means of access shall be provided to each closet.

Note: For purposes of this section, "convenient" means within five minutes of travel from any working place.

(b) Means shall be provided for removing the contents of each closet and for cleansing of the closet. The contents shall be removed often enough to prevent the closet from becoming offensive.

(c) Each closet shall be provided with some disinfectant or deodorant to be sprinkled upon the contents thereof.

(d) All men employed at any mine where closets are provided shall be required to use such closets.

6978. Toilet Facilities.

(a) At least one toilet facility shall be provided for each 10 employees or fraction thereof on a shift. Separate toilet facilities shall be provided for each sex. Both toilets and urinals may be provided for male bathrooms, but the number of toilets shall not be less than two-thirds the required number of toilet facilities. Toilet facilities shall be located within easy walking distance

to work locations unless employees have a means of transportation readily available for their use. **CSO 1526**

EXCEPTION: Where there are 5 or fewer employees on a shift, separate toilet facilities for each sex are not required provided the toilet facilities can be locked from the inside and contain at least one toilet.

(b) At underground workplaces, required toilet facilities shall be provided on the main working levels and/or on the surface, but must be located within 5 minutes travel time from any working place. **TSO 8433, existing MSO**

(c) Each toilet facility shall be readily accessible. **Existing**

(d) If ~~water closets~~ fixed toilet facilities are not feasible, non-water carriage disposal facilities shall be provided. Unless prohibited by applicable local regulations, these facilities may include chemical toilets, recirculating toilets, or combustion toilets, except that combustion toilets shall not be used underground. **CSO 1526, existing MSO**

(1) The employer shall provide for the regular removal of waste contents and cleansing of each non-water carriage toilet facility, to prevent them from becoming offensive.

(e) Toilet facilities shall be kept clean, sanitary, maintained in good working order, designed and maintained in a manner which will assure privacy and provided with an adequate supply of toilet paper. **CSO 1526**

(f) A deodorizing means shall be provided for each toilet facility. **Existing**

(g) All employees at a mine shall be required to use the toilet facilities. **Existing**

(h) All toilet facilities shall have readily available hand washing facilities meeting the requirements of Section 6976(c) of these Orders. **TSO 8433**

(i) The requirements of this section shall not apply to mobile crews having readily available transportation to nearby toilet and hand washing facilities. **CSO 1526**

Article 10. Personal Protection

6979. Work Over or Near Water.

(a) The following safety devices shall be provided for and used by employees at those mine locations where the employees work over or near water:

EXCEPTION: Where employees are continuously protected by standard railings, safety nets, personal fall arrest systems, personal fall restraint systems or positioning systems, or other equally protective provisions of these Orders.

(1) Personal Flotation Devices (PFD). Employees shall be required to wear U. S. Coast Guard approved personal flotation devices that are marked or labeled Type I PFD, Type II PFD, or Type

III PFD, or a U.S. Coast Guard approved Type V PFD that is marked or labeled for use as a work vest for commercial use or for use on vessels.

(2) Ring Buoys. U. S. Coast Guard approved 30-inch ring buoys with at least 150 feet of 600-pound capacity line shall be readily available for emergency rescue operations. Distance between ring buoys buoy stations shall not exceed 200 feet.

(3) Lifesaving Boats. Where practicable, one or more lifesaving boats, either manually or power-operated, shall be provided and readily accessible at all times. Lifesaving boats shall be properly maintained, ready for emergency use and equipped with oars and oarlocks attached to the gunwales, boathook, anchor, a ring buoy with 50 feet of 600-pound capacity line, and two U. S. Coast Guard approved personal flotation devices. Oars are not required on boats that are powered by an inboard motor.

(A) Where, because of swift current, lifeboats cannot be used, a line shall be stretched across the stream with tag lines or floating planks trailing in the water at intervals not to exceed 6 feet. If this is impracticable, some other arrangement for providing effective life lines near the water surface shall be provided.

CSO 1602

(b) When employees work over or near water, the employer shall prepare a water rescue plan based on the actual site conditions. The plan shall discuss the protective measures and/or equipment that shall be used and shall detail how a water rescue, if necessary, shall be accomplished. Affected employees shall be trained in the plan, and the training shall be documented.

(c) The personal flotation devices, ring buoys and lines, rescue boats, and other water rescue equipment shall be kept in usable and clean condition, ready for immediate use when employees are exposed to drowning work over or near water. This protective and rescue equipment shall also be regularly inspected by a qualified person and removed from service if damaged, or if buoyancy or fastening capability is affected. These inspections shall be documented by the employer.

§6980. Personal Protection. Replaced Below

GENERAL

~~(a) Employees shall be safeguarded with personal protective equipment as required by the General Industry Safety Orders.~~

~~(b) (15-2) All persons shall wear suitable hard hats when in or around a mine or plant where falling objects may create a hazard.~~

~~(c) (15-2) Every person underground shall be safeguarded by an approved safety hat or safety cap.~~

~~(d) (15-3) All persons shall wear suitable protective footwear when in or around an area of a mine or plant where a hazard exists which could cause an injury to the feet.~~

~~(e) (15-3) Every employee underground shall be safeguarded by safety boots or safety shoes.~~

~~(f) (15-4) All persons shall wear safety glasses, goggles, or face shields, or other suitable protective devices when in or around an area of a mine or plant where a hazard exists which could cause injury to unprotected eyes.~~

~~(g) (14-14) Face shields or goggles, in good condition, shall be worn when operating a grinding wheel.~~

~~(h) (15-7) Protective clothing or equipment and face shields or goggles shall be worn when welding, cutting, or working with molten metal.~~

~~(i) (15-20) Life jackets or belts shall be worn where there is danger from falling into water.~~

6980. Personal Protection.

GENERAL

(a) Employees shall be safeguarded with suitable personal protective equipment provided and used as required by Article 10 of the General Industry Safety Orders.

(b) All persons shall wear suitable approved head protection (hard hats) when in or around a mine or plant where falling objects may create a hazard. Head protection shall be selected and labeled as required in Sections 3381(b) and 3381(c) of the General Industry Safety Orders.

(c) Every person underground shall be safeguarded by wearing approved head protection (hard hats), selected and labeled as required in subsection (b). The required head protection shall be equipped with a factory-installed cap lamp bracket.

(d) All persons shall wear suitable approved protective footwear when in or around an area of a mine or plant where a hazard exists which could cause an injury to the feet. The protective footwear shall be suitable for the hazard and selected in accordance with Sections 3385(b) and 3385(c) of the General Industry Safety Orders.

(e) Every employee underground shall wear suitable approved protective footwear (steel-toed), selected in accordance with subsection (d).

(f) All persons shall wear eye protection suitable for the hazards they are exposed to. These include approved safety glasses, goggles, or face shields, or other suitable protective devices. Eye protection shall be selected in accordance with Section 3382 of the General Industry Safety Orders.

(g) Approved face shields or goggles, in good condition, shall be worn when operating a grinding wheel.

(h) Suitable protective clothing or equipment and approved face shields or goggles shall be worn when welding, cutting, or working with molten metal.

(i) Clothing appropriate for the work being done shall be worn. Loose sleeves, tails, ties, frills, A ruffled, gathered, or pleated border or projection, such as a fabric edge used to trim clothing lapels, cuffs, or other loose clothing or jewelry shall not be worn around machinery in which it might become entangled.

(1) Clothing saturated or impregnated with flammable liquids, corrosive substances, irritants, or oxidizing agents shall be promptly removed, and shall not be worn until cleaned. CSO 1522

(2) Personal work clothing that may be exposed to fire or flame shall not be treated with fabric softener or other material which may increase flammability. New

(j) Hand Protection. Suitable protection for the hands and other exposed skin areas shall be provided and used where work involves exposure to cuts, burns, corrosives, irritants or other harmful substances.

~~(k) Suitable body protection shall be provided for employees whose work exposes parts of their body, not otherwise protected as required by other orders in this article, to hazardous or flying substances or objects in accordance with Title 8, Section 1522 of the Construction Safety Orders. TSO 8414(f)~~

(k) Unless otherwise protected by personal protective equipment required by other orders of this article, employees shall be provided with suitable body protection when parts of their body are exposed to injurious, hazardous, and/or flying materials.

(l) Where the occupational duties of an employee expose him/her to substances which may be harmful, facilities for proper cleansing of the skin shall be provided in accordance with Sections 6976(c)(2) and 6976(b) of these Orders. Employees shall be trained to wash promptly and thoroughly after exposure to injurious substances. TSO 8414(f)(2)

(m) Suitable rubber boots and rain gear shall be provided and used where wet conditions are encountered. TSO 8414(f)(3)

(n) Hearing Protection. Occupational exposure to noise shall be controlled in accordance with Section 5096 of the General Industry Safety Orders. When noise exposure exceeds the sound levels listed in Section 5096, Table N-1 of the General Industry Safety Orders (An 8-hour-time-weighted-average of 90 decibels or equivalent.), hearing protection shall be provided by the employer and shall be worn by the exposed employee(s). Employees and other persons shall be informed of the work locations where hearing protection is required. Exposure to excessive sound levels shall be eliminated or at least reduced by feasible engineering or administrative controls. TSO 8414(g)

(1) When noise exposure is an 8-hour-time-weighted average of 85 decibels or greater, the employer shall make hearing protectors available to and ensure use by the exposed employees.

(2) Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.

(3) The employer shall provide noise training to all employees who are exposed to noise at or above an 8-hour-time-weighted average of 85 decibels. Employees shall be informed of the following:

(A) The effects of noise on hearing;

(B) The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.

(4) The employer shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

(5) Hearing protectors shall be replaced as necessary.

(o) Hearing Protector Attenuation. **TSO 8414(h)**

(1) The employer shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used. The employer shall use one of the methods described in Article 105, Control of Noise Exposure, Appendix E, Methods for Estimating the Adequacy of Hearing Protector Attenuation, of the General Industry Safety Orders.

(2) Hearing protectors must attenuate employee exposure at least to an 8-hour-time-weighted average of 90 decibels as required by Section 5096(b).

(3) For employees with a known standard threshold shift, hearing protectors must attenuate employee exposures to an 8-hour-time-weighted-average of 85 decibels or below.

(4) The adequacy of hearing protector attenuation shall be reevaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. The employer shall provide more effective hearing protectors where necessary.

(p) Respirator Protection. When it is impracticable to remove harmful dusts, fumes, mists, vapors, or gases or where emergency protection against occasional and/or relatively brief exposure is needed, the employer shall provide, and the employee exposed to such hazard shall use, respiratory protective equipment as prescribed above in Section S(k) Self-Rescue Devices.

(q) Personal protective equipment shall be maintained in good operating and sanitary condition. **TSO 8414(j)**

(r) Protection from electric shock and arc flash/burn.

(1) Work shall not be performed on exposed energized parts of equipment or systems until the following conditions are met: **2320.2 LVEO**

(A) The employer has determined that the work is to be done while the equipment or systems are energized, and this decision is documented; and

(B) Involved employees are trained on the work techniques and hazards involved in working on energized equipment, and this training is documented; and

(C) Suitable personal protective equipment and protective insulating equipment shall be provided and used on or near energized equipment for the protection of employees where there is a recognized hazard of electrical shock or arc flash/burns; and

(D) Suitable barriers or approved insulating material shall be provided and used to prevent accidental contact with energized parts; and

(E) Where required for personnel protection, suitable barriers, tags, or signs are in place; and

(F) The personal work clothing of employees exposed to the hazards of flames or electric arcs shall not contain materials which will increase the extent of injuries (i.e. nylon, rayon, acetate, polyester) unless the fabric has been treated with flame retardant. If employees will work on equipment energized at 300 volts or more, the employer shall consider providing shall provide flame resistant work clothing.

(2) When protective insulating equipment (i.e. approved insulating gloves, insulating blankets, insulating equipment, insulated tools, live-line tools) is used for work on energized electrical equipment, it shall be selected, used, approved, maintained, inspected, and tested in accordance with Section 2320.2 of the Low Voltage Safety Orders and Section 2940.6 of the High Voltage Safety Orders depending on the voltage where it is used.

(3) After the authorized work on an energized system or equipment has been completed, the employer shall ensure that temporary protective equipment and barriers are removed and that permanent barriers and/or covers are reinstalled. **2320.2 LVSO**

(s) Self-Rescue Devices for Underground work. A self-rescue device or devices approved by NIOSH/MSHA shall be provided and be immediately available for each person underground. This requirement shall be met by providing the following equipment:

(A) A one-hour rated Self-Contained Self-Rescuer or Filter-Self-Rescuer ; or

(B) Any other NIOSH/MSHA approved self-contained breathing apparatus (SCBA) rated for one-hour or longer.

(2) Selection of self-rescue devices shall be in accordance with Section 5144 of the General Industry Safety Orders and shall consider the mine classification, the presence of naturally occurring toxic air contaminants in the mine, and the limitations of Filter-Self Rescuers (FSRs).

(3) In mines classified as Gassy, self-rescue devices shall be worn or carried by each person underground at all times.

(4) In mines classified as Nongassy, where the wearing or carrying of the self-rescue device is hazardous to an employee, it may be placed in a readily accessible location no more than 1 minute or 25 feet from the employee.

(A) Where a person works on or around mobile equipment, their self-rescue device(s) may be placed in a readily accessible location on such equipment.

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The filter self-rescue device is a small filter-type respirator designed to provide respiratory protection only against carbon monoxide gas for a limited period of time. The device is approved for protection against carbon monoxide, such as may result from underground fires, in concentrations up to 1% by volume (10,000ppm) for a period of up to one hour. As such, the device is to be used for ESCAPE ONLY. It is required that a self-rescue device be provided and available for each worker underground. The filter self rescue device is not a self-contained nor oxygen-supplying respirator and must be used only in oxygen-containing atmospheres. Neither does the device provide protection against toxic gases other than carbon monoxide. Thus it must be emphasized that, in an underground mining emergency, the self rescue device must be used for ESCAPE ONLY.

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The filter self-rescue device must be **carried on the worker, attached to the mobile equipment the worker is operating, or located within 25 feet of the worker**, so that it will be readily available in case of an emergency. When the device is worn in the presence of carbon monoxide, heat is generated within the device, which may become uncomfortable or even painful to the wearer, in such a case, the device must still be kept in place; otherwise, the worker would subject himself/herself to high risk of carbon monoxide poisoning and possibly collapse and death. As indicated above, the self-rescue device is meant for ESCAPE ONLY, and is a single-use unit to be discarded after use or after the seal is broken.

(6) When self-rescue devices are placed in an underground storage location, a sign made of reflective material with the word "SELF-RESCUERS" shall be conspicuously posted at each storage location. Direction signs made of reflective material shall be posted underground leading to each storage location.

(7) Additional caches of self-rescue devices shall be provided underground to allow all persons to escape on foot from work areas to the nearest rescue chamber (if provided) or the surface. These emergency escape caches shall contain sufficient quantities (at least 1 per affected person per cache) of self-rescue devices and shall be so placed along planned escape route(s) that escaping persons are required to travel no more than 5,000 feet to reach a new cache, a refuge chamber (if provided), or the surface. Escape travel distance shall be computed using the formula $\text{Travel Distance} = \text{Horizontal Distance} + 3X(\text{Vertical Distance})$, where the vertical distance is the length of all passageways in the planned escape route(s) with a slope of 20 degrees or more from the horizontal.

(8) All self-rescue devices shall be inspected, tested, and maintained in accordance with the manufacturer's requirements. Particular attention shall be given to ensure the established service life is not exceeded.

(9) Each person entering the mine shall be trained in the proper inspection, use, and limitations of the self-rescue device they will use before being permitted to go underground, with refresher training as recommended by the manufacturer, or at least annually, thereafter. Records of this training shall be maintained on the jobsite in accordance with Section 3203(b) of the General Industry Safety Orders. **TSO 8414k**

(e) Where self-contained oxygen breathing apparatus is required by this section the following shall prevail:

(1) Training for rescue crew members shall be equivalent to the requirements of 30 CFR Part 49.8, except initial training shall consist of at least 24 hours, and the 8-hour refresher training shall be given at least every three months and shall include at least two hours in the wearing and use of self-contained breathing apparatus.

(2) Self-contained oxygen breathing apparatus shall be inspected, tested, maintained, repaired and used in accordance with the manufacturer's recommendations.

(f) A 1-hour self-rescue device approved by MSHA shall be provided and be immediately available for each person underground. Where a person works on or around mobile equipment, self-rescue devices may be placed in a readily accessible location on such equipment.

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(g) In tunnels classified as Gassy or Extrahazardous, self-rescue devices shall be worn or carried by each person underground at all times.

(h) All self-rescue devices shall be inspected, tested and maintained in accordance with the manufacturer's requirements. Particular attention shall be given to insure the established service life is not exceeded.

(i) ***Each person shall be trained in the proper inspection, use and limitations of the self-rescue device before being permitted to go underground and at least every three months thereafter.*** Records of this training shall be maintained on the job site in accordance with Section 3203(b) of the General Industry Safety Orders.

30 CFR § 57.15030

Provisions and maintenance of self-rescue devices.

A 1-hour self-rescue device approved by MSHA and NIOSH under 42 CFR part 84 shall be made available by the operator to all personnel underground. Each operator shall maintain self-rescue devices in good condition.

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30 CFR 57.15031

Location of self-rescue devices.

(a) Except as provided in paragraph (b) and (c) of this section, self-rescue devices meeting the requirements of standard 57.15030 shall be worn or carried by all persons underground.

(b) Where the wearing or carrying of self-rescue devices meeting the requirements of

standard 57.15030 is hazardous to a person, such self-rescue devices shall be located at a distance no greater than 25 feet from such person.

(c) Where a person works on or around mobile equipment, self-rescue devices may be placed in a readily accessible location on such equipment.

We are proposing to move this following deleted requirement (Section 6981) to new Section 6983 "Bins, Bunkers, and Bulk Storage of Loose Material."

~~§6981. (15-5). Safety Belts and Life Lines.~~

~~(a) Safety belts and lines shall be worn when men work where there is danger of falling.~~

~~No employee shall be permitted to enter any bin, bunker, or other storage place containing materials which may cave or run unless he is provided with and is wearing a safety belt with life line attached. He shall be attended by another workman, who shall keep the life line reasonably taut at all times.~~

~~(b) Life lines shall be of three-fourths inch diameter Manila rope or equivalent.~~

~~(c) Life lines subject to excessive fraying or rock damage shall be protected or shall have wire center rope. Seriously worn or damaged rope shall be promptly removed from service.~~

~~(d) Safety belts and life lines shall be inspected by a qualified person before each use. When fiber ropes show serious abrasion, broken fibers, cuts, fraying, or other defects, such defects shall be reported to the person in charge.~~

~~(e) When in use, the life line shall be secured so as to prevent it from being accidentally loosened or dislodged.~~

~~(f) Safety belts shall be of a type approved by the Division.~~

§6981. Guardrails and Fall Protection.

(a) Employees at elevated work locations exposed to falling over 30 inches to the floor, ground, or level underneath shall be prevented from falling by guardrails, a personal fall arrest/fall restraint/positioning system, or other positive means providing equivalent protection and safety. If guardrails are used to satisfy this requirement, they shall be provided on all open sides and ends of unenclosed elevated work locations such as landings, balconies or porches, runways, walkways, ramps, platforms, or working levels. Where overhead clearance prohibits installation of a 42-inch guardrail, a lower rail or rails shall be installed. The railing shall be provided with a toeboard where the work location is above places where employees work or pass and the lack of a toeboard could create a hazard from falling tools, materials, or equipment.

Guardrail exceptions:

1. Runways used exclusively for oiling, adjusting or otherwise maintaining shafting or other machinery may have the guardrail on the side adjacent to the machinery omitted provided that the gap between the platform and the machinery where a person could fall is 10 inches or less and the machinery guarding requirements of the General Industry Safety Orders are complied with.

2. Portions of loading or storage platforms located next to railroad cars or trucks and used primarily for loading or unloading railroad cars or trucks; or waterside dock edges used for cargo loading and handling.

3. Open sides of storage platforms less than four feet wide which are loaded and unloaded exclusively by means of stackers or lift trucks handling palletized loads, where employees are not exposed to the falling hazard.

(b) Where the guardrail requirements of subsection (a) are impracticable due to machinery requirements or work processes, an alternate means of protecting employees from falling, such as a personal fall arrest/fall restraint/positioning system shall be used.

(c) When they are required, guardrails and toeboards shall meet the requirements of Section 3209 of the General Industry Safety Orders.

(1) If materials, tools, parts, and/or equipment for repairs, servicing, and/or maintenance are piled or stored on elevated work locations to such height that a standard toeboard does not provide protection, paneling or screening from floor to intermediate rail or top rail shall be provided. Where such paneling or screening extends to the toprail, midrails may be omitted.

(d) Openings in guardrails for ladderway access shall be protected as required by Section 3212(a)(2)(A) of the General Industry Safety Orders, which requires a swinging gate or equivalent protection to protect the opening.

(e) Appropriate personal ~~Personal~~ fall arrest, personal fall restraint and positioning systems shall be approved, used, and meet the requirements of Section 1670 of the Construction Safety Orders.

(f) Personal fall arrest, personal fall restraint and positioning systems shall be inspected by a qualified person before each use. This inspection shall meet the manufacturer's requirements. When ropes, lifelines, webbing, lanyards, harnesses, belts, or other components show abrasion, broken fibers, cuts, fraying, or other defects, such defects shall be reported to the supervisor and the defective components removed from service until inspected by a qualified person and found safe to use. This removal and inspection shall be documented by the employer.

(g) When in use, life lines shall be secured so as to prevent them from being accidentally loosened or dislodged.

(h) Any lanyard, safety belt, harness, dropline, lifeline or other component subjected to in-service loading shall be immediately removed from service and shall not be used again for employee safeguarding.

Article 11. Materials--Storage and Handling

§6982. Materials Storage and Handling.

GENERAL

~~(a) Materials shall be stored in conformance with the Housekeeping and Maintenance Standards of the General Industry Safety Orders.~~

~~(b) (16-3) Hazardous materials shall be stored and handled in conformance with Hot, Flammable, Poisonous, Corrosive, and Irritant Substances Standards of the General Industry Safety Orders.~~

~~(c) (16-4) Hazardous materials shall be labeled in conformance with the Labeling of Injurious Substances Standards of the General Industry Safety Orders.~~

~~(d) (4-18) (16-5) Compressed and liquid gas cylinders shall be stored and/or secured in conformance with the General Industry Safety Orders.~~

~~(e) (16-6) Valves on compressed gas cylinders shall be protected by covers when being transported or stored, and by a safe location when the cylinders are in use.~~

~~(f) (16-9) Men shall stay clear of suspended loads.~~

~~(g) (16-14) (16-15) Cranes and hoisting equipment for materials shall be constructed, operated, and maintained in conformance with the Cranes and Other Hoisting Equipment Standards of the General Industry Safety Orders.~~

~~(h) (16-11) Men shall not ride on loads being moved by cranes or derricks, nor shall they ride the hoisting hooks unless such method eliminates a greater hazard and the man is secured by a safety belt or equivalent.~~

(a) Material, wherever stored, shall not create a hazard. It shall be limited in height and shall be piled, stacked, or racked in a manner designed to prevent it from tipping, falling, collapsing, rolling or spreading. Racks, bins, planks, sleepers, bars, strips, blocks, sheets, shall be used where necessary to make the piles stable.

(b) The designed live load of an elevated floor or portion thereof of a commercial or industrial building, or of an elevated load carrying platform, shall be conspicuously posted using a durable metal sign, which shall not be defaced or removed. The designed live load shall not be exceeded.

(c) The buildings, structures, foundations, and fastenings of all prime movers, machines, and equipment shall be maintained to support safely and without dangerous vibration the loads imposed upon them.

(d) Storage racks shall be designed to safely support their intended loads and shall not be loaded in excess of their design capacity as recommended by the manufacturer.

(e) In addition to the requirements of these Orders, hazardous materials at mines shall be stored and handled in conformance with Article 109 and Group 20 of the General Industry Safety Orders.

(f) Hazardous materials at mines shall be labeled in conformance with Articles 109 and 135 of the General Industry Safety Orders.

(g) Compressed and liquid gas cylinders shall be used, stored and/or secured in conformance with Articles 76 and 78 of the General Industry Safety Orders, and Article 32 of the Construction Safety Orders.

(h) Valves on compressed gas cylinders shall be protected by valve protection devices when being transported or stored, and by being placed in a safe location and being secured in a special truck or rack, or being otherwise secured from falling or being knocked over when the cylinders are in use.

(i) Personnel ~~Men~~ shall stay clear of suspended loads. Loads shall be controlled by tag or restraint lines or other means if rotation of the load is ~~is~~ may be hazardous.

(g) Cranes and hoisting equipment for materials shall be constructed, operated, and maintained in conformance with the crane and hoisting equipment requirements of Group 13 Cranes and Other Hoisting Equipment of the General Industry Safety Orders.

(h) Personnel ~~Men~~ shall not ride on loads being moved by cranes or derricks, nor shall they ride the hoisting hooks. Hoisting of employees at mines with cranes or derricks shall be in accordance with Section 5004 of the General Industry Safety Orders; however Section 5004(c) shall not apply. **TSO 8495**

(i) All high lift trucks, forklifts, and similar lift trucks shall be constructed, used, operated, and maintained in accordance with Article 25 of the General Industry Safety Orders.

(j) When working with molten metal, in addition to the personal protection requirements of Section 6980, a suitable warning shall be given before molten metal is poured and before a container of molten metal is moved.

(k) Equipment and supplies shall be loaded, transported, and unloaded in a manner that minimizes the hazards of falling or shifting equipment or materials. Effective work procedures and/or devices shall be used to minimize hazards to employees. **Also see 7021 and 7025 – duplication? general vs specific ? MSHA 56.9201 TB**

§6983. Bins, Bunkers, and Bulk Storage of Loose Material. **Replaces §6981. Guardrails and Fall Protection**

(a) Employees at elevated work locations exposed to falling over 30 inches to the floor, ground, or level underneath shall be prevented from falling by guardrails, a personal fall arrest/fall restraint/positioning system, or other positive means providing equivalent protection and safety. If guardrails are used to satisfy this requirement, they shall be provided on all open sides

and ends of unenclosed elevated work locations such as landings, balconies or porches, runways, walkways, ramps, platforms, or working levels. Where overhead clearance prohibits installation of a 42-inch guardrail, a lower rail or rails shall be installed. The railing shall be provided with a toeboard where the work location is above places where employees work or pass and the lack of a toeboard could create a hazard from falling tools, materials, or equipment.

Guardrail exceptions:

1. Runways used exclusively for oiling, adjusting or otherwise maintaining shafting or other machinery may have the guardrail on the side adjacent to the machinery omitted provided that the gap between the platform and the machinery where a person could fall is 10 inches or less and the machinery guarding requirements of the General Industry Safety Orders are complied with.

2. Portions of loading or storage platforms located next to railroad cars or trucks and used primarily for loading or unloading railroad cars or trucks; or waterside dock edges used for cargo loading and handling.

3. Open sides of storage platforms less than four feet wide which are loaded and unloaded exclusively by means of stackers or lift trucks handling loads secured on pallets, where employees are not exposed to the falling hazard.

(b) Where the guardrail requirements of subsection (a) are impracticable due to machinery requirements or work processes, an alternate means of protecting employees from falling, such as a personal fall arrest/fall restraint/positioning system shall be used.

(c) When they are required, guardrails and toeboards shall meet the requirements of Section 3209 of the General Industry Safety Orders.

(1) If materials, tools, parts, and/or equipment for repairs, servicing, and/or maintenance are piled or stored on elevated work locations to such height that a standard toeboard does not provide protection, paneling or screening from floor to intermediate rail or top rail shall be provided. Where such paneling or screening extends to the toprail, midrails may be omitted.

(d) Openings in guardrails for ladderway access shall be protected as required by Section 3212(a)(2)(A) of the General Industry Safety Orders, which requires a swinging gate or equivalent protection to protect the opening.

(e) Personal fall arrest, personal fall restraint and positioning systems shall be approved, used, and meet the requirements of Section 1670 of the Construction Safety Orders.

(f) Personal fall arrest, personal fall restraint and positioning systems shall be inspected by a qualified person before each use. This inspection shall meet the manufacturer's requirements. When ropes, lifelines, webbing, lanyards, harnesses, belts, or other components show abrasion, broken fibers, cuts, fraying, or other defects, such defects shall be reported to the supervisor

and the defective components removed from service until inspected by a qualified person and found safe to use. This removal and inspection shall be documented by the employer.

(g) When in use, life lines shall be secured so as to prevent them from being accidentally loosened or dislodged.

Article 12. Ground Control

~~56984. (3-1). Face or Bank of Pit.~~

SURFACE —

THIS SECTION WAS REWRITTEN AND COMBINED IN ARTICLE 12

~~(a) All reasonable precautions shall be taken to free the face or bank of the pit from loose materials that may be dangerous to employees.~~

~~(b) Where practicable, the face of the pit shall be given a slope so as to minimize the danger of rock falling on employees.~~

~~(c) (3-3) Whenever the employer and/or the Division considers that the height and condition of the face constitutes a serious hazard to employees, it may require the installation of a bench or other suitable method of working. employees shall be protected by the installation of a bench or other suitable methods of working which provide equivalent protection shall be adopted..~~

~~(d) When a bench or multiple bench method of operation is required, a setback of at least one-half the height of the single face or bank for each section of the face or bank shall be required. Additionally, 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.~~

30 CFR § 56.3130

Wall, bank, and slope stability.

MINING METHODS

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.

30 CFR § 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.

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Article 12. Ground Control – Surface and Underground

6984. -Ground Control - General

~~(a) All reasonable precautions shall be taken to free the face or bank of the pit from loose materials that may be dangerous to employees.~~

Ground Movement Hazards. Mining methods shall be used that will not expose any employee to the hazards of unplanned ground movements in the portal, back/roof, face ribs and other workings of underground mines, and the highwalls, banks, benches, and slopes of open pit/quarry surface mines. **MSHA 56.3130**

~~(b) Where practicable, the face of the pit shall be given a slope so as to minimize the danger of rock falling on employees.~~

Ground Control - General.

~~(1) Where practicable, the face of the pit any open pit/quarry or mine portal shall be sloped so as to minimize the danger of rock falling on employees. remove the danger of face instability.~~

MSO

~~(2) Whenever the division considers that height and/or condition of the face or portal constitutes a serious hazard to employees, it may require the installation of a benching and/or sloping system or equivalent protection shall be provided. or other suitable method of working.~~

MSO

~~(3) When a bench or multiple-bench method of operation is required used, a setback of at least one-half the height of the single face or bank for each bench section shall be required provided or equivalent protection measures shall be established. **MSO**~~

(A) When determining the maximum permitted slope of the face and/or bench width and spacing, the ground control plan shall include and consider the following information: **MSO**

1. Nature of the material being excavated.

2. Extent to which the material is cemented or consolidated.

3. Height of the face.

4. Type and size of equipment used for cleaning the benches, or for scaling walls, banks, and slopes, and for mining at the face; and the amount of protection this equipment affords the operator.

5. Safety of exposed employees who are not protected by such equipment.

(4) Where the face is composed of loose or unstable materials, the slope of the face shall not exceed 50 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used. **MSO**

(5) Where the face is composed of moderately compacted materials that are not firmly cemented or consolidated but which experience indicates will stand well in place, the slope shall not exceed 65 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used. **MSO**

(6) Where the face is composed of firmly cemented or consolidated materials that experience indicates do not ~~shall spall~~ or cave readily, the slope shall not exceed 80 degrees where the

height is greater than can be reached by the dipper or bucket of the excavator or loader being used. As an alternative to sloping in hard compact soil, benching is permitted provided that a slope ratio of 3/4 horizontal to 1 vertical (53.1° from the horizontal) or flatter is used. **MSO CSO**

(7) Excavations in sand, gravel, or other material (such as stockpiles) shall be sloped to an angle at which employees will not be endangered by falling or sliding materials. **MSO**

(c) Ground Control Plan. Each employer shall establish and follow a ground control plan at every surface and underground mine where employees are exposed to the hazards of ground movement and falling rocks. The plan shall be prepared by a qualified person, shall be in writing, shall be consistent with prudent engineering design, and shall insure safe working conditions. **NEW MSHA 77.100 75.220**

30 CFR § 75.220

Roof control plan.

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(a)(1) Each mine operator shall develop and follow a roof control plan, approved by the District Manager, that is suitable to the prevailing geological conditions, and the mining system to be used at the mine. Additional measures shall be taken to protect persons if unusual hazards are encountered.

(2) The proposed roof control plan and any revisions to the plan shall be submitted, in writing, to the District Manager. When revisions to a roof control plan are proposed, only the revised pages need to be submitted unless otherwise specified by the District Manager.

(b)(1) The mine operator will be notified in writing of the approval or denial of approval of a proposed roof control plan or proposed revision.

(2) When approval of a proposed plan or revision is denied, the deficiencies of the plan or revision and recommended changes will be specified and the mine operator will be afforded an opportunity to discuss the deficiencies and changes with the District Manager.

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(3) Before new support materials, devices or systems other than roof bolts and accessories, are used as the only means of roof support, the District Manager may require that their effectiveness be demonstrated by experimental installations.

(c) No proposed roof control plan or revision to a roof control plan shall be implemented before it is approved.

(d) Before implementing an approved revision to a roof control plan, all persons who are affected by the revision shall be instructed in its provisions.

(e) The approved roof control plan and any revisions shall be available to the miners and representative of miners at the mine.

(1) The ground control plan shall be in compliance with the provisions of this Article and shall address falling rock hazards and ground movement protection systems. It shall insure ground control stability suitable to the prevailing geological conditions and the mining system(s) to be used at the mine. It shall also address the additional measures that shall be taken to protect persons if unusual hazards are encountered.

(2) The ground control plan shall be kept current and updated quarterly and whenever ground conditions, ground control hazards, or operating conditions change. Changes to the ground control plan shall be designed and approved by a qualified person.

(3) The ground control plan shall include an inspection and testing procedure appropriate to the ground control system(s) used.

(4) The ground control plan shall be posted or be readily available to employees from their supervisors. The Plan shall be provided to the Division upon request.

(5) All employees affected by the ground control plan shall be instructed in its requirements. Such training shall be documented by the employer.

(d) Pits/Quarries Perimeter Walls

(1) No person shall be permitted under a face or bank where stripping operations constitute a hazard. **MSO**

(2) Where employees are endangered by materials rolling or sliding down the slopes above a pit/quarry, they shall be protected by removal from the danger area or by barriers, baffle boards, screens, or other devices that afford equivalent protection. **MSO**

(3) In locations where persons work or travel in performing their assigned tasks, loose, unconsolidated material shall be sloped to the angle of repose or stripped back for a safe distance, but in no case less than of at least 10 feet from the top of pit or quarry walls, and the loose, unconsolidated material shall be sloped to the angle of repose **MSO**

Section 6985 has already been incorporated into 6984 (above).

Section 6986 has been incorporated into Section 6984 (above).

~~**§6985. (3-1). Excavations of Sand, Gravel and Similar Material.**~~

~~(a) Excavations in sand, gravel, or other material shall be sloped to an angle at which employees will not be endangered by falling or sliding materials.~~

~~(b) When determining the maximum permitted slope of the face, consideration shall be given to:~~

~~(1) Nature of the material being excavated.~~

~~(2) Extent to which the material is cemented or consolidated.~~

~~(3) Height of the face.~~

~~(4) Type and size of equipment used at the face and amount of protection this equipment affords the operator.~~

~~(5) Safety of employees who are not protected by such equipment.~~

~~(c) Where the face is composed of loose or unstable materials, the slope of the face shall not exceed 50 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used.~~

~~(d) Where the face is composed of moderately compacted materials that are not firmly cemented or consolidated but which experience indicates will stand well in place, the slope shall not exceed 65 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used.~~

~~(e) Where the face is composed of firmly cemented or consolidated materials that experience indicates do not shall or cave readily, the slope shall not exceed 80 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used.~~

56985. Excavations of Sand, Gravel, and Similar Materials. Scaling and Support.

~~(a) Excavations in sand, gravel, or other material shall be sloped to an angle at which employees will not be endangered by falling or sliding materials~~

Ground Condition Examinations. The employer shall designate competent person(s) to A competent person shall examine and test ground conditions daily in work areas prior to work commencing, after blasting, and as ground conditions warrant during the shift at all surface and underground mines. Additionally, underground haulageways and travelways and surface area highwalls and banks adjoining travelways shall be examined weekly or more often if changing ground conditions warrant. Records of these examinations shall be maintained for one year. **MSHA 56.3401**

30 CFR § 56.3401

Examination of ground conditions.

Persons experienced in examining and testing for loose ground shall be designated by the mine operator. Appropriate supervisors or other designated persons shall examine and, where applicable, test ground conditions in areas where work is to be performed prior to work commencing, after blasting, and as ground conditions warrant during the work shift. Highwalls and banks adjoining travelways shall be examined weekly or more often if changing ground conditions warrant.

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~~(b) When determining the maximum permitted slope of the face, consideration shall be given to:~~

~~(1) Nature of the material being excavated.~~

~~(2) Extent to which the material is cemented or consolidated.~~

~~(3) Height of the face.~~

~~(4) Type and size of equipment used at the face and amount of protection this equipment affords the operator.~~

~~(5) Safety of employees who are not protected by such equipment.~~

Corrections of Hazardous Conditions. Ground support shall be used where ground conditions, or mining experience in similar ground conditions in the mine, indicate that it is necessary. Ground conditions that create a hazard shall be taken down or supported before other work or travel is permitted in the affected area. Until made safe, the area shall be posted with warnings

against entering and, if left unattended, barricaded to prevent unauthorized entry. **MSHA**

56.3200

30 CFR § 56.3200

Correction of hazardous conditions.

SCALING AND SUPPORT

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.

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(c) ~~Where the face is composed of loose or unstable materials, the slope of the face shall not exceed 50 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used. Location to Perform 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.~~ **MSHA 56.3201**

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30 CFR § 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.

(d) ~~Where the face is composed of moderately compacted materials that are not firmly cemented or consolidated but which experience indicates will stand well in place, the slope shall not exceed 65 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used. Scaling Tools. Where manual scaling is performed, a scaling bar shall be provided. This bar shall be blunt on one end and of a length and design that will allow the removal of loose material without exposing the person performing this work to injury.~~ **MSHA 56.3202**

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30 CFR § 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.

(e) ~~Where the face is composed of firmly cemented or consolidated materials that experience indicates do not shall or cave readily, the slope shall not exceed 80 degrees where the height is greater than can be reached by the dipper or bucket of the excavator or loader being used. Rock Fixtures. Rock bolts shall be installed by competent persons with a thorough knowledge of existing ground conditions and support systems.~~ **MSHA 57.3203**

30 CFR § 57.3203

Rock fixtures.

(a) When rock bolts and accessories addressed in ASTM F432-83, "Standard Specification for Roof and Rock Bolts and Accessories", are used for ground support, the mine operator shall--

(1) Obtain a manufacturer's certification that the material was manufactured and tested

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in accordance with the specifications of ASTM F432-83; and,

(2) Make this certification available to an authorized representative of the Secretary.

(b) Fixtures and accessories not addressed in ASTM F432-83 may be used for ground support provided they--

(1) Have been successful in supporting the ground in an area with similar strata, opening dimensions and ground stresses in any mine; or

(2) Have been tested and shown to be effective in supporting ground in an area of the affected mine which has similar strata, opening dimensions, and ground stresses as the area where the fixtures are expected to be used. During the test process, access to the test area shall be limited to persons necessary to conduct the test.

(c) Bearing plates shall be used with fixtures when necessary for effective ground support.

(d) The diameter of finishing bits shall be within a tolerance of plus or minus 0.030 inch of the manufacturer's recommended hole diameter for the anchor used. When separate finishing bits are used, they shall be distinguishable from other bits.

(e) Damaged or deteriorated cartridges of grouting material shall not be used.

(f) When rock bolts tensioned by torquing are used as a means of ground support,

(1) Selected tension level shall be--

(i) At least 50 percent of either the yield point of the bolt or anchorage capacity of the rock, whichever is less; and

(ii) No greater than the yield point of the bolt or anchorage capacity of the rock.

(2) The torque of the first bolt, every tenth bolt, and the last bolt installed in each work area during the shift shall be accurately determined immediately after installation. If the torque of any fixture tested does not fall within the installation torque range, corrective action shall be taken.

(g) When grouted fixtures can be tested by applying torque, the first fixture installed in each work place shall be tested to withstand 150 foot-pounds of torque. Should it rotate in the hole, a second fixture shall be tested in the same manner. If the second fixture also turns, corrective action shall be taken.

(h) When other tensioned and nontensioned fixtures are used, test methods shall be established and used to verify their effectiveness.

(i) The mine operator shall certify that tests were conducted and make the certification available to an authorized representative of the Secretary.

(1) Plans and specifications of the rock bolting installation, and the manufacturer's certification of the rock bolts compliance to ASTM F432-95, shall be available to the Division at the job site.

(2) Fixtures and accessories not addressed in ASTM F432-95 "Standard Specification for Roof and Rock Bolts and Accessories," may be used for ground support provided they:

(A) Have been successful in supporting the ground in an area with similar strata, opening dimensions and ground stresses in any mine; or

(B) Have been tested and shown to be effective in supporting the ground in an area of the affected mine which has similar strata, opening dimensions and ground stresses as the area where the fixtures are expected to be used. During the test process, access to the test area shall be limited to persons necessary to conduct the test.

(3) Bearing plates shall be used with fixtures when necessary for effective ground support.

(4) The diameter of finishing bits shall be within a tolerance of plus or minus 0.030 inch of the manufacturer's recommended hole diameter for the anchor used. When separate finishing bits are used, they shall be distinguishable from other bits.

(5) Damaged or deteriorated cartridges of grouting material shall not be used.

(6) When rock bolts tensioned by torquing are used as a means of ground support:

(A) Selected tension level shall be:

1. At least 50 percent of either the yield point of the bolt or anchorage capacity of the rock, whichever is less; and

2. No greater than the yield point of the bolt or anchorage capacity of the rock.

(B) The torque of the first bolt, every tenth bolt, and the last bolt installed in each work area during the shift shall be accurately determined immediately after installation. If the torque of any fixture tested does not fall within the installation range, corrective action shall be taken.

(7) When grouted fixtures can be tested by applying torque, the first fixture installed in each work place shall be tested to withstand 150 foot-pounds of torque. Should it rotate in the hole, a second fixture shall be tested in the same manner. If the second fixture also turns, corrective action shall be taken.

(8) When other tensioned and non-tensioned fixtures are used, test methods shall be established to verify their effectiveness.

(9) The mine operator shall certify that tests required by this section were conducted and make the certification available to an authorized representative of the Division.

§6986. Overburden. Ground support- Underground Only.

(a) Sufficient mapping or exploratory drilling shall be performed to locate dangerous underground excavations. Ground Support Use. When ground support is necessary, the support system shall be designed, installed and maintained to control the ground in places where persons work or travel in performing their assigned tasks. Damaged, loosened, or dislodged timber used for ground support which creates a hazard to persons shall be repaired or replaced prior to any work, or travel in the affected area. **MSHA 57.3360**

30 CFR § 57.3360

Ground support use.

SCALING AND SUPPORT--UNDERGROUND ONLY

Ground support shall be used where ground conditions, or mining experience in similar ground conditions in the mine, indicate that it is necessary. When ground support is necessary, the support system shall be designed, installed, and maintained to control

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Only*

the ground in places where persons work or travel in performing their assigned tasks. Damaged, loosened, or dislodged timber use for ground support which creates a hazard to persons shall be repaired or replaced prior to any work or travel in the affected area.

~~(b) Dangerous underground excavations shall be backfilled or otherwise controlled to prevent workers or mobile equipment from falling into such excavations. All miners shall be supplied at all times with the timbers or other adequate ground support materials which are necessary to keep their working places supported in a safe condition.~~ ~~(c) If for any cause reason such necessary timbers such materials are not available, work at that place shall cease until timbers the necessary materials are supplied.~~ **MSO**

~~(c) Loose, unconsolidated material shall be stripped for a safe distance, but in no case less than 10 feet from the top of pit or quarry walls, and the loose, unconsolidated material shall be sloped to the angle of repose. It is recommended that wood preservatives be used. If preservatives are used to increase the useful life of mine timbers, such preservatives should shall be of a type which will not irritate the skin create a harmful exposure to employees or increase the flammability of the timbers.~~ **MSO**

~~§6987. Floors of Pits and quarries. Precautions- Surface and Underground Only Secondary Breakage~~

~~(a) Sufficient mapping or exploratory drilling shall be performed to locate dangerous underground excavations. Prior to secondary breakage operations, the material, to be broken, other than hanging material, shall be positioned or blocked to prevent movement which would endanger persons in the work area. Secondary breakage shall be performed from a location which does not expose persons to danger.~~ **MSHA 56.3400**

30 CFR § 56.3400

Secondary breakage.

PRECAUTIONS

Prior to secondary breakage operations, material to be broken, other than hanging material, shall be positioned or blocked to prevent movement which would endanger persons in the work area. Secondary breakage shall be performed from a location which would not expose persons to danger.

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~~(b) Dangerous underground excavations shall be backfilled or otherwise controlled to prevent workers or mobile equipment from falling into such excavations.~~

~~§6988. (3-8). Face Inspection and Control. Precautions- Surface Only~~

~~(a) A daily inspection shall be made of faces and banks where men are exposed to falling or rolling materials. The inspection shall be made by a competent person who shall dislodge or make safe any material dangerous to employees, or shall cause such material to be dislodged or made safe.~~

Persons shall not work or travel between machinery or equipment and the highwall or bank if they are within the danger area from falls or slides or where the machinery or equipment may hinder escape from falls or slides of the highwall or bank. When feasible, operators shall move equipment or machinery a safe distance away from the highwall or bank before dismounting.

The danger area shall extend a horizontal distance from the highwall or bank equal to the vertical height of the highwall. **MSHA 57.3430**

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30 CFR § 57.3430

Activity between machinery or equipment and the highwall or bank.

Precautions--Surface Only

Persons shall not work or travel between machinery or equipment and the highwall or bank where the machinery or equipment may hinder escape from falls or slides of the highwall or bank. Travel is permitted when necessary for persons to dismount.

(b) ~~(3-9) No person shall be permitted to work near a face made unsafe by primary blasting, rains, freezing or thawing weather, or earthquakes, until the face has been inspected and made safe.~~

Floors of Pits and Quarries.

(1) Where underground workings or excavations, or dangerous subsurface conditions could be encountered during surface pit or quarry excavation or blasting, the employer shall use appropriate methods, such as records searches, on-site inspections and potholing, exploratory drilling, underground mapping, magnetometer surveys, and/or ground penetrating radar to detect these conditions prior to excavation or blasting. Blasthole drillers shall be trained to immediately report any voids encountered.

(2) When underground workings or excavations, or dangerous subsurface conditions are detected, the employer shall take positive safety measures to eliminate or control the hazards. Dangerous underground excavations shall be backfilled or otherwise controlled to prevent workers or mobile equipment from falling into such excavations.

(c) Faces of Pits and Quarries

(1) No person shall be permitted to work near a face made unsafe by primary blasting, **excavation**, rains, freezing or thawing weather, or earthquakes, until the face has been inspected and made safe. **MSO MSHA 56.3401**

30 CFR § 56.3401

Examination of ground conditions.

Persons experienced in examining and testing for loose ground shall be designated by the mine operator. Appropriate supervisors or other designated persons shall examine and, where applicable, test ground conditions in areas where work is to be performed prior to work commencing, after blasting, and as ground conditions warrant during the work shift. Highwalls and banks adjoining travelways shall be examined weekly or more often if changing ground conditions warrant.

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(2) At least once a week, or ~~often~~ more frequently if necessary, a competent person shall inspect the top of the face or bank for cracks that may indicate a the imminence of slides or movement of the face. **MSO**

(3) Overhanging banks in pits are forbidden, except in: **MSO**

(A) Pits where material is moved away from the face by mechanical equipment having controls located at a safe distance so that no employee is required to approach the face in the course of normal operations.

(B) Hydraulic pits where the bank is undercut with a stream of water and the monitor is located at a safe distance from the bank.

(4) Where necessary, a watchman shall be employed at the face, to give warning when loose rock or other materials are about to fall. The watchman shall be provided with a whistle, siren, or other device that will give adequate warning to employees in the pit. The watchman shall have no other work to distract his attention from his duties as a watchman. **MSO**

(5) Work shall not be permitted on or near any bank or face at night unless the bank or face is illuminated to make any movement of rock or other material readily observable. **MSO**

(6) Provision shall be made to keep employees away from dangerous areas that are not working places. Signs shall be posted warning employees to keep away, or such dangerous areas shall be ~~barricaded~~ marked by barriers or otherwise guarded. **MSO**

(7) No work shall be permitted above or below men at the face if such work endangers their safety.

(8) Employees shall approach from above loose rock and areas to be scaled and shall scale from a safe location. **MSO**

(9) Safe means for scaling pit banks shall be provided. Hazardous banks shall be scaled before other work is performed in the hazardous bank area. **MSO**

(10) Workers at the face shall be protected as follows: **MSO**

(A) On top of the bank, by fencing with standard guard rails or equivalent ~~ropes~~, by using railed platforms, or by using approved personal fall arrest, personal fall restraint and positioning systems in accordance with Section 1670 of the Construction Safety Orders. ~~by using safety belts and life lines~~. This does not apply where the bank is less than ~~20~~ 7-1/2 feet high, or the slope below is less than 50 degrees from the horizontal **but what if the bank is 50 feet high?**, or where no work is performed within 10 feet of the edge.

(B) On the face, by removing loose rock from over the working place, ~~and by the use of safety belts and life lines, portable staging, boatswain chair, or skips especially designed for use at pit faces~~. When the removal of loose rock requires the use of ropes to access the working face area, the employer shall perform the work in accordance with Section 3270.1, Use of Rope Access Equipment, of the General Industry Safety Orders. If a boatswain chair is used, the employee shall be attached thereto with a safety belt and life line. When necessary for safety, two or more persons shall be employed in cooperation with each other in drilling, blasting or removing loose rock.

1. A wire rope or manila rope with a steel core shall be used when suspending workers on the face during scaling operations. **MSO This is current requirement, but may not be compatible with 3270.1 ????? Rope must be approved???** TB

(C) At the foot of the bank by removing loose rock from above the working place, and maintaining a ready way of exit to a place of safety. **MSO**

6989. Precautions – Underground Only.

(a) Ribs. Persons shall not work between machinery or equipment and ribs unless the area has been inspected, tested, and made safe.

(b) Rock Bursts:

(1) Operators of mines which have experienced a rock burst shall:

(A) Within twenty-four hours report to the nearest Division office each rock burst which:

1. Causes persons to be withdrawn; or

2. Impairs ventilation; or

3. Impedes passages, passageways; or

4. Disrupts mining activity for more than one hour.

(B) Develop and implement a rock burst control plan within 90 days after a rock burst has been experienced.

(2) The plan shall include:

(A) Mining and operating procedures designed to reduce the occurrence of rock bursts; and

(B) Monitoring procedures where detection methods are used; and

(C) Other measures to minimize exposure of persons to areas which are prone to rock bursts.

(3) The plan shall be updated as conditions warrant.

(4) The plan shall be available to the Division and to miners or their representatives.

NEW

§6990. Timbering--General.

UNDERGROUND