

EXPRESS TERMS
CALIFORNIA CODE OF REGULATIONS
TITLE 8. INDUSTRIAL RELATIONS
DIVISION 1. DEPARTMENT OF INDUSTRIAL RELATIONS

This document uses strikeout and underline to specify text changes. If using assistive technology, please adjust your settings to recognize underline, strikeout and ellipsis.

Legend:

Text in single underline is proposed new text.

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**** means there is existing text in the section that is not being amended nor repealed; therefore, it is not being included

CHAPTER 4. DIVISION OF INDUSTRIAL SAFETY
SUBCHAPTER 7. GENERAL INDUSTRY SAFETY ORDERS
GROUP 18. EXPLOSIVE MATERIALS
ARTICLE 121. SNOW AVALANCHE BLASTING

1. Amend Section 5349.

§ 5349. Scope.

The provisions found in Article 121, Snow Avalanche Blasting, shall only pertain to snow avalanche control ~~operations~~ activities, and shall take precedence when in conflict with other applicable safety orders.

Note:

Authority cited: Section 142.3, Labor Code.

Reference: Section 142.3, Labor Code.

2. Adopt Section 5349.1.

§ 5349.1. Definitions.

In addition to section 5237, the following definitions shall apply to the orders in Article 121.

Avalanche Blaster ("Blaster"). A person who is licensed by the Division to perform snow avalanche blasting as per section 5237, or a person without a license who is in training and under the direct supervision of a blaster in charge in accordance with section 5357(a)(1).

Avalanche Blaster in Charge ("Blaster in Charge"). The licensed avalanche blaster designated by the employer to be responsible over all phases of preparation, coordination, and placement of charges by the avalanche blasting crew, in accordance with section 5351(c).

Avalanche Blasting Crewmember(s). Employees assigned to an avalanche blasting crew, including the blaster in charge, licensed blaster(s), and trained assistant(s) or blaster(s) in training in accordance with section 5351.

Avalanche Path. The area of land that is or may be affected by the movement of snow, ice, debris, or rock during an avalanche.

Blast. Destructive wave of highly compressed air spreading outward from an explosion.

Deploy. The act of throwing, placing, dropping, tethering or propelling a charge into position for detonation with the intent of producing a blast to reduce avalanche hazards.

Essential Personnel. Individuals directly involved with the arming; deployment of charges; transportation of personnel, equipment, and materials; and site clearing to facilitate avalanche hazard reduction. Essential personnel include avalanche blasting crewmembers and other employees necessary to support avalanche control activities. Non-essential personnel are all other individuals.

Explosive Charge ("Charge"). A measured quantity of explosive material with an initiation device designed to produce a blast for the purpose of reducing snow avalanche hazards.

Position of Safety. A location where an employee is isolated or protected from hazards of blasting or the ensuing avalanche.

Remote Avalanche Control Systems (RACS). Devices that are remotely initiated with the intent of reducing avalanche hazards. RACS typically use a combination of gasses or deploy one or more preinstalled charges to generate a blast at a predesignated location.

Terrain Barrier. A natural or constructed physical obstacle outside of the avalanche path that provides the blaster with protection from a blast and any related hazards (e.g. overpressure, fragments, flying debris).

Note:

Authority cited: Section 142.3, Labor Code.

Reference: Section 142.3, Labor Code.

3. Amend Section 5350.

§ 5350. Training.

(a) The avalanche blasting crewmembers shall be adequately trained in the explosives and the deployment method(s) used.

(b) Training for members of the blasting crew shall ensure competence in the following areas:

(5) Deployment procedures for the type of charge(s) used including:

(C) Procedures for clearing and guarding the ski lifts, blasting areas, slopes, and ~~runout zones the avalanche path~~ pursuant to ~~requirements in Section 5356(c)(5), Section 5357(a)(23), sections 5357(b)(4)(A)–(D), Section 5357(b)(67), and Section 5357(e)(3)~~ where applicable.

(e) Essential personnel, ~~as defined in the Note in Section 5355.1(a), other than avalanche blasting crewmembers,~~ shall be adequately trained and competent in their blasting related duties and in the following:

(2) Clearing adjacent areas pursuant to ~~requirements in Sections 5355.1(a)(1) and (3), Section 5356(c)(5), 5357(a)(2)(3), sections 5357(b)(4)(A)–(D), Section 5357(b)(6)(7) and Section 5357(e)(3)~~ where applicable;

Note:

Authority cited: Section 142.3, Labor Code.

Reference: Section 142.3, Labor Code.

4. Amend Section 5355.1

§ 5355.1. Arming Room.

(a) Location of Arming Room.

(3) Only ~~authorized and~~ essential personnel authorized to the operation participate in the arming procedure shall be allowed within the arming room and within the equivalent distance to occupied structures required by the Table of Distances for the amount of explosives present.

~~NOTE: Essential personnel are those individuals directly involved with the arming, the deployment of charges, transportation and site clearing to facilitate transportation. Non-essential personnel are all other individuals.~~

Note:

Authority cited: Section 142.3, Labor Code.

Reference: Section 142.3, Labor Code.

5. Amend Section 5357.

§ 5357. Snow Avalanche Control Blasting.

(a) General Requirements.

(1) The employer shall develop and implement effective, written procedures for all avalanche control blasting activities to ensure the safety of avalanche blasting crewmembers.

(A) The employer shall review and update all procedures as often as necessary to reflect current industry practices.

(B) The procedures shall include at a minimum:

1. Identifying avalanche and blasting hazards;

2. Methods to determine when a safety fuse is lit and burning to comply with subsection (a)(7) (e.g. smoke, heat, smell, and visual indicators);

3. Access to deployment areas;

4. Communication among avalanche blasting crewmembers;

5. Pre-selection of position(s) of safety and terrain barrier(s);

6. Handling, arming, and deploying of explosives;

7. Required personal protective equipment (PPE); and

8. Emergency response and rescue.

(C) The employer shall allow avalanche blasting crewmembers the option to effectively participate in the development of procedures for safe avalanche control blasting.

(D) The employer's written procedures shall specify the method(s) used to ensure that all avalanche blasting crewmembers are competent in the avalanche control blasting procedures required for their assigned duties.

(E) The employer shall provide effective training on the avalanche control blasting procedures to avalanche blasting crewmembers at least annually.

1. The training shall be conducted prior to the first blasting operation of each avalanche control season.

2. The employer shall provide an opportunity for interactive questions and answers on avalanche blasting procedures with a licensed avalanche blaster knowledgeable and experienced with the procedures.

(42) All avalanche blasting shall be conducted under the attended supervision of the blaster in charge ~~who is a licensed avalanche blaster, certified by the Division to perform such blasting activities.~~

(23) When avalanche blasting is deemed necessary, slopes and trails in the potential avalanche path (~~runout zone~~) and ski lifts shall be closed to the public and non-essential personnel, ~~and not be opened~~ shall remain closed until the work is completed.

(34) To ~~insure~~ ensure a dry powder train is exposed to the igniter, at least one (1) inch of the fuse shall be cut ~~from the fuse~~ prior to attaching the igniter. A cutter with sharp blades shall be used to prevent smearing of tar over the powder train.

(45) Charges shall be deployed ~~placed, thrown or propelled to the desired location from a safe position of safety~~ by one of the following methods:

(E) Deployed from ~~such remote~~ avalanche control devices systems (RACS) ~~accepted by the Division as providing equivalent safety to the remote control devices allowed under~~ pursuant to subsection (ef).

(56) Avalanche blasting shall be conducted during daylight hours, except as provided in subsection (f) or during an emergency operations in accordance with employer's written procedures, as required by subsection (a)(1)(B)(8).

(67) Avalanche blasting shall ~~not only~~ be conducted during conditions where the blaster cannot:

(A) determine whether the fuse is lit ~~charge is initiated;~~ or and

(B) clearly identify the location of the target area for the detonation of the charge; or

(C) deploy charges using a RACS in accordance with subsection (f), using system controls or other reliable means to verify charge initiation and the selected target area for detonation of the charge.

(b) Hand Deployed Charges (handcharges).

(4) Before attaching the igniter, the blaster shall:

(A) ~~Determine the deployment target;~~ location where the handcharge is intended to land;

(B) ~~Check the runout zone for personnel;~~ Determine a pre-selected position of safety as follows:

1. A terrain barrier; or

2. If a terrain barrier is not available, a position of safety at least 100 feet from both the location where the handcharge is intended to land and the location from where the blaster deploys the charge.

Exception to subsection (b)(4)(B)(2): If moving to the pre-selected position of safety creates a greater hazard, blasters may deploy charges from any position of safety that is 100 feet or more from the location of detonation.

(C) ~~Ensure there are no~~ ~~Check the blast area for personnel;~~ in locations that could be affected by deployment of the handcharge, including, but not limited to the blast area and the avalanche path.

(D) Orally alert all affected crewmembers each time a charge will be deployed.

(5) When the blast area and ~~runout zone~~ ~~avalanche path~~ are clear of personnel, the blaster ~~igniter~~ shall be attached to the igniter onto the safety fuse, and immediately activated ~~it~~ and the charge deployed the charge within 20 seconds of attaching the ~~igniter onto the fuse~~.

(6) ~~Avalanche blasting crewmembers shall seek a position of safety behind a pre-selected terrain barrier or a position not less than 100 feet from the ignited charge. A~~ handcharge shall only be ignited or deployed by a licensed avalanche blaster, or a person trained pursuant to subsection (a)(1)(D) who is being directly supervised by an avalanche blaster.

(7) Prior to any handcharge being ignited, avalanche blasting crewmembers not involved in igniting or deploying the handcharge shall be behind the pre-selected terrain barrier or remain in a position of safety as described in subsection (b)(4)(B).

(A) Each crewmember shall orally report to the blaster in charge the crewmember's position of safety. The blaster in charge shall respond orally to acknowledge the crewmember's report, or, when necessary, re-direct the crewmember to another position of safety.

(8) Immediately following the deployment of a charge, the avalanche blasting crewmember responsible for deploying the charge shall move behind the pre-selected terrain barrier or to the other position of safety described in subsection (b)(4)(B)

(79) At the completion of ~~individual~~ ~~each~~ avalanche control ~~routes~~ activity, any unused charges shall be deployed or disarmed pursuant to ~~Subsections~~ §5358(h)(42)-(4) and all components transported and returned to approved storage magazines pursuant to requirements in Article 121.

Exception to subsection (b)(9): Unused charges that are immediately required for deployment at another location.

(f) Remote avalanche control system (RACS) use requirements.

(1) Personnel authorized by the employer and trained in accordance with the manufacturer's instructions shall be the only personnel allowed to operate RACS.

(2) RACS that do not expose employees to explosive hazards from the handling, storage, or deployment of explosive materials shall be installed, maintained, serviced, and repaired according to manufacturer's instructions and shall be excluded from the requirements of subsection (f)(3), e.g., gas-based systems.

(3) RACS that may expose employees to explosive hazards shall comply with the following requirements:

(A) The loading, arming, and deployment of explosives for a RACS shall be done by or under the direct supervision of an avalanche blaster who is qualified to perform each operation.

(B) All equipment and components shall be in good working condition, and shall be assembled, maintained, repaired and operated in accordance with the manufacturer's instructions.

(C) The explosives and related components shall be inspected by an avalanche blaster to ensure proper working condition and are free from damage, obstructions, dirt and debris as follows:

1. Before transport to the RACS site; and

2. Immediately prior to loading or installing into the RACS.

(D) Defective RACS explosives and related components shall not be used and shall be properly disposed of or returned to the manufacturer.

(E) Deployment of charges using a RACS shall only be conducted when personnel are not in any area where they could be injured by avalanche control activities, including but not limited to the blast area and the avalanche path.

(F) Without putting personnel at risk of injury, the RACS and its components shall be locked and secured according to the manufacturer's instructions; and applicable requirements of the federal, state, or local regulatory authorities.

Exception to section 5357(f)(3)(F): A RACS and its components may be unlocked only while being loaded, serviced, or repaired by a qualified person. All initiation and deployment functions shall be disabled in accordance with the manufacturer's instructions.

(G) A copy of the employer's written procedures for all RACS operations, and the names of the RACS manufacturer and supplier, shall be available onsite for the Division to review and copy.

(H) The employer shall obtain from the manufacturer or supplier documentation identifying the minimum distance required to protect employees from the blast and fragmentation for each charge used.

1. When documentation is not available, a blast analysis prepared by a licensed blaster or other qualified person shall be obtained by the employer in order to establish the minimum distance required to protect employees from the blast and fragmentation.

2. The documentation shall be made readily available to all affected employees.

(I) The blaster in charge shall designate an avalanche blasting crewmember to be an observer during the handling and preparation of explosive charges with an initiation system attached, including but not limited to: loading or unloading such charges from a RACS; and attaching, connecting, adjusting, or otherwise configuring explosive charge components. The observer shall:

1. Monitor for ignition of a fuse or other indication of initiation; and

2. Notify the blaster in charge if ignition is observed or suspected.

(J) The employer's written procedures required by subsection (a)(1) shall include procedures addressing accidental or suspected initiation of an explosive charge with an initiation system attached, during the handling, preparation, or loading into or unloading from a RACS, in accordance with subsection (f)(3)(I).

Note:

Authority cited: Section 142.3, Labor Code.

Reference: Sections 142.3 and 6710, Labor Code.