State of California
Department of Industrial Relations
Division of Occupational Safety and Health

Memorandum

Date: September 29, 2026

To: Millicent Robinette, Executive Officer
Kevin Goddard, Principal Safety Engineer
Occupational Safety and Health Standards Board

From: Victor Copelan, Senior Safety Engineer
Jason Denning, Principal Safety Engineer
Eric Berg, Deputy Chief
Division of Occupational Safety and Health

Subject: Evaluation of Petition No. 615: Fire Emergency Preparedness for Workers Elevated in Aerial Devices and Bucket Trucks

1.0 INTRODUCTION

On June 2, 2026, the Division of Occupational Safety and Health (Cal/OSHA) received a petition from Mr. Landon Dees (Petitioner) proposing adoption of effective emergency procedures, appropriate PPE, rescue planning, and timely access to fire suppression or emergency descent options appropriate to the hazard.

The petitioner is requesting that title 8, California Code of Regulations, Section 3648, Operating Instructions for Aerial Devices be amended to address fire emergency preparedness for aerial-device work.

Labor Code Section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health and requires the Occupational Safety and Health Standards Board (Standards Board) to consider such proposals. California Labor Code section 147 requires the Standards Board to refer to Cal/OSHA for evaluation of any proposed occupational safety and health standard.

2.0 PETITIONER'S PROPOSAL AND BASIS FOR AMENDMENT OF TITLE 8 REGULATIONS

2.1 Non-Prescriptive Language Suggested by the Petitioner

The petitioner requests that California Code of Regulations, title 8, section 3648, Operating Instructions for Aerial Devices be amended to include language requiring that Employers evaluate reasonably foreseeable fire hazards associated with workers performing elevated work from aerial devices.

The petitioner proposes to include the following language in title 8 section 3648.

> Employers who use aerial devices shall evaluate reasonably foreseeable fire hazards associated with elevated work, including hydraulic fluid ignition, electrical arc events, hot work, battery-powered tools, vehicle fires, combustible vegetation, and environmental fire exposure. Where such hazards exist, employers shall ensure employees have effective emergency procedures, appropriate PPE, rescue planning, and timely access to fire suppression or emergency descent options appropriate to the hazard.

2.2 Workers In Aerial Devices Cannot Escape From Fire Hazards

The petitioner states that workers in elevated buckets or aerial platforms are unable to move away from fire hazards as readily as ground-level workers. Movement may be restricted by fall protection, limited bucket space, energized infrastructure, boom position, smoke, heat, equipment damage, or loss of controls. In these events, fire suppression access, emergency descent, rescue coordination, and response time may become life-safety factors within seconds. The petitioner asserts that fire extinguishers are typically available on the aerial device trucks but not readily available to workers in the elevated aerial device basket or elevated scissor lift.

2.3 Fire Hazards in Aerial Devices Are Not Adequately Addressed by Current Title 8 Regulations.

The petitioner asserts that California title 8 contains requirements for elevating work platforms and aerial devices, including vehicle-mounted and self-propelled aerial devices used to position personnel, tools, and materials for work at elevation. Existing rules address equipment design, operating instructions, maintenance, platform equipment, guardrails, fall protection, and safe operation.

However, the petitioner asserts that aerial-device fire emergencies present a distinct operational problem that may not be fully addressed by existing general aerial device requirements, portable fire extinguisher rules, or emergency action planning requirements.

2.4 Hierarchy of Controls Should Be Considered for Worker Protection

The petitioner opines that administrative and engineering controls should remain the first line of defense against workplace hazards. Employers should prevent fires through proper equipment maintenance, hydraulic inspections, electrical hazard assessment, hot-work controls, battery/tool management, job briefings, and emergency planning.

However, if these controls fail to eliminate the hazard, additional layers of protection may be necessary.

For aerial-device fire events, PPE is often the last line of defense against thermal exposure, arc flash, smoke, and burn injury. PPE is essential, but PPE alone may not provide sufficient protection if a worker is trapped in an elevated bucket while fire grows beneath or around them.

For that reason, the petitioner believes that Cal/OSHA should consider whether elevated workers performing utility, electrical, tree care, or line-clearance work have additional options such as:

- Fire-resistant or arc-rated PPE appropriate to the work hazard;
- Emergency descent or controlled lowering procedures;
- Aerial rescue planning and practice;
- Readily accessible fire suppression positioned for the elevated worker or immediate rescue crew;
- Inspection requirements for bucket-truck fire extinguishers;
- Job briefing requirements specific to elevated fire emergencies;
- Employer evaluation of whether ground-based extinguishers are realistically accessible during elevated work;
- Training on what to do if a fire starts in, on, or around the bucket, boom, or aerial device

2.5 Incidents Related to Aerial Device Fire Hazards Identified by the Petitioner

The petitioner identified incidents related to aerial device fire hazards through a search of OSHA accident investigations and media reports. A bibliography/source list is attached to the petition submitted to the Standards Board. The petitioner does not assert that all 100 entries are confirmed bucket-truck bucket fires.

2.6 Costs Associated with Aerial Device Fire Incidents

The petitioner asserts that a serious aerial device fire event may affect others besides the injured worker. Known and unknown costs include the following:

- Medical treatment
- Burn care and rehabilitation
- Workers' compensation
- Lost workdays
- Crew downtime
- Emergency response
- Incident investigation
- Safety stand-downs
- Corrective-action meetings
- Retraining
- Equipment replacement
- Bucket truck or boom repairs
- Damaged tools and PPE
- Insurance premium increases
- Legal fees
- Court costs
- Settlements or judgments
- Personnel replacement
- Lost productivity
- Lost bids due to higher incident rates or insurance costs
- Reputational damage
- Emotional trauma to coworkers and families

These costs reinforce the importance of prevention, preparedness, and response-time reduction.

3.0 APPLICABLE TITLE 8 REGULATIONS

California Code of Regulations, title 8 Section 1920 of the Construction Safety Orders addresses fire protection programs and the availability of fire extinguishers. Subsection 1920(a) requires there to be no delay in providing necessary fire protection. This regulation only applies to construction work.

> Subchapter 4. Construction Safety Orders
> Article 36. Fire Protection and Prevention
>
> Section 1920. General Requirements
> (a) The employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction work; and he shall provide for the fire fighting equipment as specified in this Article. As fire hazards occur, there shall be no delay in providing the necessary fire protection and/or prevention equipment.
> NOTE: In cases where orders of local jurisdiction are more restrictive, those orders shall prevail.
> (b) A safe and unobstructed access to all available fire fighting equipment shall be maintained at all times.
> (c) All fire fighting equipment, provided by the employer, shall be conspicuously located or the location conspicuously marked.
> (d) All fire fighting equipment shall be maintained in operating condition. Defective equipment shall be immediately replaced

California Code of Regulations, title 8 addresses the provision of fire extinguishers in section 6151 of the General Industry Safety Orders. Subsection 6151(c) requires approved fire extinguishers be readily accessible to employees without subjecting them to injury, and maintained fully charged and in operable condition. Subsection 6151(c) does not apply if an employer has an emergency action plan, a fire protection plan, and does not intend for employees to use fire extinguishers.

> Subchapter 7. General Industry Safety Orders
> Group 27. Fire Protection
> Article 157. Portable Fire Extinguishers
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> Section 6151. Portable Fire Extinguishers
>
> (a) Scope and Application. The requirements of this Section apply to the placement, use, maintenance, and testing of portable fire extinguishers provided for the use of employees. Section (d) of this section does not apply to extinguishers provided for employee use on the outside of workplace buildings or structures. Where extinguishers are provided but are not intended for employee use and the employer has an emergency action plan and a fire prevention plan which meet the requirements of Sections 3220 and 3221 then only the requirements of Sections (e) and (f) of this Section apply.
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> *****
>
> (c) General Requirements.
>
> (1) The employer shall provide portable fire extinguishers and shall mount, locate and identify them so that they are readily accessible to employees without subjecting the employees to possible injury.
>
> (2) Only approved portable fire extinguishers shall be used to meet the requirements of this section.

(3) The employer shall not provide or make available in the workplace portable fire extinguishers using carbon tetrachloride or chlorobromomethane extinguishing agents.

(4) The employer shall assure that portable fire extinguishers are maintained in a fully charged and operable condition and kept in their designated places at all times except during use.

(5) The employer shall permanently remove from service by January 1, 1982, all soldered or riveted shell self-generating soda acid or self-generating foam or gas cartridge water type portable fire extinguishers which are operated by inverting the extinguisher to rupture the cartridge or to initiate an uncontrollable pressure generating chemical reaction to expel the agent.

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California Code of Regulations title 8 section 3646 of the General Industry Safety Orders includes operating instructions for the use of elevating work platforms. Subsection 3646(l) requires operators of elevating work platforms to be instructed by a qualified person in the safe use of the work platform. This instruction must be in accordance with the manufacturer's operating instructions, and Section 3203, Injury and Illness Prevention Program and must include the nature of hazards associated with the equipment, including electrical hazards, fall hazards and falling object hazards.

Subchapter 7. General Industry Safety Orders
Group 4. General Mobile Equipment and Auxiliaries
Article 24. Elevating Work Platforms and Aerial Devices
Section 3646. Operating Instructions (Elevating Work Platforms).
* * * *
(l) Employees shall be instructed by a qualified person in the safe use of the work platform in accordance with the manufacturer's operating instructions, and Section 3203, Injury and Illness Prevention Program.
(1) Instruction for employees who erect, disassemble, move, operate, use, repair, maintain, or inspect elevating work platforms shall include, but not be limited to, training in:
(A) The provisions of this section.
(B) The correct procedures for performing their assigned duties.
(C) The nature of hazards associated with the equipment, including electrical hazards, fall hazards and falling object hazards in the work area and correct procedures for dealing with those hazards.
(D) The safe operation and use of elevating work platforms and the proper handling of materials on the work platform.
(E) The maximum load capacity of the work platform based upon installed configuration.

California Code of Regulations title 8 section 3648 of the General Industry Safety Orders includes requirements for the use of aerial devices. Subsection 3648(c) requires only authorized persons to operate aerial devices. Additionally, subsection 3648(k) requires that the insulating properties of an insulated aerial device boom shall not be altered when required to perform work that involves electrical hazards. Finally, Subsection 3648(l) restricts the movement of the aerial device when employees are elevated.

Subchapter 7. General Industry Safety Orders
Group 4. General Mobile Equipment and Auxiliaries
Article 24. Elevating Work Platforms and Aerial Devices

Section 3648 Operating Instructions (Aerial Devices)

* * * *(c) Only authorized persons shall operate an aerial device.
* * * *(k) When an insulated aerial device is required, the aerial device shall not be altered in any manner that might reduce its insulating value.
(l) An aerial device truck shall not be moved when the boom is elevated in a working position with employees in the basket or platform except when all of the following are complied with:
(1) The equipment is specifically designed for this type of operation in accordance with the provisions of Section 3638.
(2) All controls and signaling devices are tested and are in good operating condition.
(3) An effective communication system shall be maintained at all times between the basket or platform operator and where applicable, the vehicle operator.
(4) The route to be traveled is surveyed immediately prior to the work trip, checking for overhead obstructions, traffic, holes in the pavement, ground or shoulder, ditches, slopes, etc., for areas other than paved, a survey should be made on foot.
(5) The speed of the vehicle does not exceed three (3) miles per hour.
(6) Only one employee is in the basket.
(7) Both the driver and/or the elevated employee have been specifically trained for this type of work (towering) in accordance with the manufacturer's recommendations.

California Code of Regulations title 8 section 2940.11 of the Electrical Safety Orders includes requirements for protection from flames and electric arc flash.

Subchapter 5. Electrical Safety Orders
Group 2. High-Voltage Safety Orders
Article 36. Work Practices and Operating Procedures

Section 2940.11 Protection From Flames and Electric Arcs

Scope: This section covers the construction, operation, and maintenance of electric power generation, control, transformation, transmission, and distribution lines and equipment. This includes related equipment for the purpose of communication or metering that are accessible only to qualified employees.
(a) Hazard Assessment.
(1) The employer shall assess the workplace in accordance with GISO, Section 3203 to identify employees exposed to hazards from flames or from electric arcs.

(2) For each employee exposed to hazards from electric arcs, the employer shall make a reasonable estimate of the incident heat energy to which the employee would be exposed.
NOTE 1 to subsection (a)(2): Appendix D to this article provides guidance on estimating available heat energy. The Division of Occupational Safety and Health will deem employers following the guidance in Appendix D to this article to be in compliance with subsection (a)(2) of this section. An employer may choose a method of calculating incident heat energy not included in Appendix D to this article if the chosen method reasonably predicts the incident energy to which the employee would be exposed.
NOTE 2 to subsection (a)(2): This subsection does not require the employer to estimate the incident heat energy exposure for every job task performed by each employee. The employer may make broad estimates that cover multiple system areas provided the employer uses reasonable assumptions about the energy-exposure distribution throughout the system and provided the estimates represent the maximum employee exposure for those areas. For example, the employer could estimate the heat energy just outside a substation feeding a radial distribution system and use that estimate for all jobs performed on that radial system.
(b) Selection and Prohibited Clothing. The employer shall select the apparel based on the hazard assessment in subsection (a)(2) and shall ensure that each employee who is exposed to hazards from flames or electric arcs is provided suitable apparel in accordance with the requirements of Section 2940.6(k). The employer shall not select the apparel that could melt onto the employee's skin or that could ignite and continue to burn when exposed to flames or the heat energy estimated under subsection (a)(2) of this section.
(1) Flame-resistant clothing. The employer shall ensure that the outer layer of clothing worn by an employee, except for clothing not required to be arc rated under subsections (b)(2)(A-E) of this section, is flame resistant under any of the following conditions:
(A) The employee is exposed to contact with energized circuit parts operating at more than 600 volts,
(B) An electric arc could ignite flammable material in the work area that, in turn, could ignite the employee's clothing,
(C) Molten metal or electric arcs from faulted conductors in the work area could ignite the employee's clothing, or
EXCEPTION: Subsection (b)(1)(C) does not apply to conductors that are capable of carrying, without failure, the maximum available fault current for the time the circuit protective devices take to interrupt the fault.
(D) The incident heat energy estimated under subsection (a)(2) of this section exceeds 2.0 cal/cm^2.
(2) Arc rating. The employer shall ensure that each employee exposed to hazards from electric arcs wears protective clothing and other protective equipment with an arc rating greater than or equal to the heat energy estimated under subsection (a)(2) of this section whenever that estimate exceeds 2.0 cal/cm^2. This protective equipment shall cover the employee's entire body, except as follows:
(A) Arc-rated protection is not necessary for the employee's hands when the employee is wearing rubber insulating gloves with protectors or, if the

estimated incident energy is no more than 14 cal/cm^2, heavy-duty leather work gloves with a weight of at least 407 gm/m^2 (12 oz/yd^2).
(B) Arc-rated protection is not necessary for the employee's feet when the employee is wearing heavy-duty work shoes or boots,
(C) Arc-rated protection is not necessary for the employee's head when the employee is wearing head protection meeting GISO, Section 3381 if the estimated incident energy is less than 9 cal/cm^2 for exposures involving single-phase arcs in open air or 5 cal/cm^2 for other exposures,
(D) The protection for the employee's head may consist of head protection meeting GISO, Section 3381 and a faceshield with a minimum arc rating of 8 cal/cm^2 if the estimated incident-energy exposure is less than 13 cal/cm^2 for exposures involving single-phase arcs in open air or 9 cal/cm^2 for other exposures, and
(E) For exposures involving single phase arcs in open air, the arc rating for the employee's head and face protection may be 4 cal/cm^2 less than the estimated incident energy.
(3) Dates.
(A) The requirement in subsection (a)(2) of this section for the employer to make reasonable estimates of incident energy commences October 1, 2018.
(B) The requirement in subsection (a)(1)(D) of this section for the employer to ensure that the outer layer of clothing worn by an employee is flame-resistant when the estimated incident heat energy exceeds 2.0 cal/cm^2 commences October 1, 2018.
(C) The requirement in subsection (b)(2) of this section for the employer to ensure that each employee exposed to hazards from electric arcs wears the required arc-rated protective equipment commences October 1, 2018.
(c) Fuse Handling. When an employee must install or remove fuses with one or both terminals energized at more than 300 volts, or with exposed parts energized at more than 50 volts, the employer shall ensure that the employee uses tools or gloves rated for the voltage. When an employee installs or removes expulsion-type fuses with one or both terminals energized at more than 300 volts, the employer shall ensure that the employee wears eye protection meeting the requirements of Section 3382, uses a tool rated for the voltage, and is clear of the exhaust path of the fuse barrel.
(d) Energized Covered (Noninsulated) Conductors. The requirements of this section that pertain to the hazards of exposed live parts also apply when an employee performs work in proximity to energized covered (noninsulated) wires.
(e) Non-Current-Carrying Metal Parts. Non-current-carrying metal parts of equipment or devices, such as transformer cases and circuit-breaker housings, shall be treated as energized at the highest voltage to which these parts are exposed, unless the employer inspects the installation and determines that these parts are grounded before employees begin performing the work.
(f) Opening and Closing Circuits Under Load. The employer shall ensure that devices used by employees to open circuits under load conditions are designed to interrupt the current involved and the devices used by employees to close circuits under load conditions are designed to safely carry the current involved.

California Code of Regulations title 8 section 2946 of the General Industry Safety Orders includes

provisions to prevent accidents due to proximity to high-voltage overhead lines.

Subchapter 5. Electrical Safety Orders
Group 2. High-Voltage Electrical Safety Orders
Article 37. Provisions for Preventing Accidents Due to Proximity to Overhead Lines

Section 2946. Provision for Preventing Accidents Due to Proximity to Overhead Lines

(a) General. No person, firm, or corporation, or agent of same, shall require or permit any employee to perform any function in proximity to energized high-voltage lines; to enter upon any land, building, or other premises and there engage in any excavation, demolition, construction, repair, or other operation; or to erect, install, operate, or store in or upon such premises any tools, machinery, equipment, materials, or structures (including scaffolding, house moving, well drilling, pile driving, or hoisting equipment) unless and until danger from accidental contact with said high-voltage lines has been effectively guarded against.
(b) Clearances or Safeguards Required. Except where overhead electrical distribution and transmission lines have been de-energized and visibly grounded, the following provisions shall be met:
(1) Over Lines. The operation, erection, or handling of tools, machinery, apparatus, supplies, or materials, or any part thereof, over energized overhead high-voltage lines shall be prohibited.
Exception 1: Aircraft over energized overhead high-voltage lines operating in conformance with:
(A) Applicable regulations administered by the Federal Aviation Administration, and/or
(B) Helicopter Operations, Article 35, Construction Safety Orders, California Administrative Code, Title 8.
Exception 2: Tower cranes (Hammerhead) installed not closer than the minimum clearances set forth in Table 2, whereon the trolley or boom travel is controlled by limit switches which will prevent carrying a load over energized overhead high-voltage lines or within a horizontal distance closer than the minimum clearances set forth in Table 2.
(2) The operation, erection, handling, or transportation of tools, machinery, materials, structures, scaffolds, or the moving of any house or other building, or any other activity where any parts of the above or any part of an employee's body will come closer than the minimum clearances from energized overhead lines as set forth in Table 1 shall be prohibited.
Exception: Amusement rides or attractions shall not be located under or within 15 ft. (4.57 m) horizontally of conductors operating in excess of 600 volts.
Operation of boom-type equipment shall conform to the minimum clearances set forth in Table 2, except in transit where the boom is lowered and there is no load attached, in which case the distances specified in Table 1 shall apply.

TABLE 1

General Clearances Required from Energized Overhead High-Voltage Conductors

Nominal Voltage (Phase to Phase)		*Minimum Required Clearance (Feet)*
600	50,000	6
over 50,000	345,000	10
over 345,000	750,000	16
over 750,000	1,000,000	20

(3) Boom-type lifting or hoisting equipment. The erection, operation or dismantling of any boom-type lifting or hoisting equipment, or any part thereof, closer than the minimum clearances from energized overhead high-voltage lines set forth in Table 2 shall be prohibited.
(4) Storage. The storage of tools, machinery, equipment, supplies, materials, or apparatus under, by, or near energized overhead high-voltage lines is hereby expressly prohibited if at any time during such handling or other manipulation it is possible to bring such tools, machinery, equipment, supplies, materials, or apparatus, or any part thereof, closer than the minimum clearances from such lines as set forth in Table 2.
(c) The specified clearance shall not be reduced by movement due to any strains impressed (by attachments or otherwise) upon the structures supporting the overhead high-voltage line or upon any equipment, fixtures, or attachments thereon.
(d) Any overhead conductor shall be considered to be energized unless and until the person owning or operating such line verifies that the line is not energized, and the line is visibly grounded at the work site.

TABLE 2

Material Storage and Boom-type lifting or hoisting equipment clearances required from energized overhead high-voltage lines.

Nominal Voltage (Phase to Phase)		*Minimum Required Clearance (Feet)*
600	50,000	10
over 50,000	75,000	11
over 75,000	125,000	13
over 125,000	175,000	15
over 175,000	250,000	17

over 250,000	370,000	21
over 370,000	550,000	27
over 550,000	1,000,000	42

(e) A person shall be designated to observe clearance of the equipment and give timely warning for all operations where site conditions or crane configurations make it difficult for the operator to maintain the desired clearance by visual means.
(f) Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not alter the requirements of any other section of these Safety Orders even if such device is required by law or regulation.

Article 88 of the title 8 General Industry Safety Orders addresses fire prevention for welding operations. Subsection 4848(a) requires an employer to establish fire prevention and suppression procedures for welding and cutting operations whenever gas welding and cutting operations occur on the employer's property

Subchapter 7. General Industry Safety Orders
Group 10. Gas Systems for Welding and Cutting
Article 88. Fire Prevention in Welding and Cutting Operations

Section 4848. Fire Prevention and Suppression Procedures.

(a) The employer shall establish a fire prevention and suppression procedure whenever any of the operations and processes covered by Sections 4794(a) and 4850(a) are conducted on its property. The employer shall issue and implement instructions on fire prevention and suppression procedures based upon the requirements contained in American National Standards Institute (ANSI/ASC) Z49.1-94, Safety In Welding, Cutting and Allied Processes, Chapters 3 and 6 and National Fire Protection Association (NFPA) 51B-2009, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, Chapters 3-7, which are hereby incorporated by reference.

Title 8 regulations address the hazards of hot work in section 5550 of the General Industry Safety Orders. This section requires an inspection of the work area and use of safe procedures for hot work, use of spark-producing tools or chipping operations.

Subchapter 7. General Industry Safety Orders
Group 20. Flammable Liquids, Gases and Vapors
Article 142. Industrial Plants

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Section 5550. Repairs to Equipment

Hot work, such as welding or cutting operations, use of spark-producing
power tools, and chipping operations shall be permitted only under
supervision of a qualified person. The individual in charge shall make an
inspection of the area to be sure that it is safe for the work to be done
and that safe procedures will be followed for the work specified.
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4.0 APPLICABLE FEDERAL OSHA REGULATIONS

Federal OSHA regulations address fire protection and access to firefighting equipment in construction in 29 CFR section 1926.150. Subsection 1926.150(a)(1) includes requirements for employers to develop fire protection plans.

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Safety and Health Regulations for Construction
1926 Subpart F
Fire Protection and Prevention
Standard Number 1926.150
General Requirements

1926.150(a)(1)
The employer shall be responsible for the development of a fire protection
program to be followed throughout all phases of the construction and
demolition work, and he shall provide for the firefighting equipment as
specified in this subpart. As fire hazards occur, there shall be no delay in
providing the necessary equipment.

1926.150(a)(2)
Access to all available firefighting equipment shall be maintained at all
times.

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Federal OSHA regulations require access to portable fire extinguishers inside general industry workplace buildings and structures in 29 CFR section 1910.157, which is nearly identical to title 8 section 6151 described above in part 3.0 of this evaluation.

Federal OSHA regulations address use powered work platforms in 29 CFR Subpart F of the General Industry Safety Orders. Section 1910.67 includes operating rules powered platforms, manlifts, and vehicle-mounted work platforms.

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Occupational Safety and Health Standards
1910 Subpart F
Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms
Standard Number 1910.67
Vehicle-mounted elevating and rotating work platforms.
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1910.67(c)(2)(ii)
Only trained persons shall operate an aerial lift.
1910.67(c)(2)(iii)
Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.
1910.67(c)(2)(iv)
Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
1910.67(c)(2)(v)
A personal fall arrest or travel restraint system that meets the requirements in subpart I of this part shall be worn and attached to the boom or basket when working from an aerial lift.
1910.67(c)(2)(vi)
Boom and basket load limits specified by the manufacturer shall not be exceeded.
1910.67(c)(2)(vii)
The brakes shall be set and outriggers, when used, shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline.
1910.67(c)(2)(viii)
An aerial lift truck may not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation in accordance with the provisions of paragraphs (b)(1) and (b)(2) of this section.
1910.67(c)(2)(ix)
Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

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Federal OSHA regulations provide operating rules for aerial devices in construction in 29 CFR section 1926.453 of Subpart L.

Safety and Health Regulations for Construction
1926 Subpart L
Scaffolds
Standard Number 1926.453
Aerial Lifts

1926.453(a)
General requirements.

1926.453(a)(1)
Unless otherwise provided in this section, aerial lifts acquired for use on or after January 22, 1973 shall be designed and constructed in conformance with the applicable requirements of the American National Standards for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before January 22, 1973 which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they shall have been modified so as to conform with the applicable design and construction requirements of ANSI A92.2-1969. Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground:

1926.453(a)(1)(i)
Extensible boom platforms;
1926.453(a)(1)(ii)
Aerial ladders;
1926.453(a)(1)(iii)
Articulating boom platforms;
1926.453(a)(1)(iv)
Vertical towers; and
1926.453(a)(1)(v)
A combination of any such devices. Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated; and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.
1926.453(a)(2)
Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in conformity with all applicable provisions of ANSI A92.2-1969 and this section and to be at least as safe as the equipment was before modification.

1926.453(b)
Specific requirements -

1926.453(b)(1)
Ladder trucks and tower trucks. Aerial ladders shall be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

1926.453(b)(2)
Extensible and articulating boom platforms.

1926.453(b)(2)(i)
Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.
1926.453(b)(2)(ii)
Only authorized persons shall operate an aerial lift.
1926.453(b)(2)(iii)

Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.
1926.453(b)(2)(iv)
Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
1926.453(b)(2)(v)
A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

Note to paragraph (b)(2)(v): As of January 1, 1998, subpart M of this part (§ 1926.502(d)) provides that body belts are not acceptable as part of a personal fall arrest system. The use of a body belt in a tethering system or in a restraint system is acceptable and is regulated under § 1926.502(e).

1926.453(b)(2)(vi)
Boom and basket load limits specified by the manufacturer shall not be exceeded.
1926.453(b)(2)(vii)
The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.
1926.453(b)(2)(viii)
An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation in accordance with the provisions of paragraphs (a) (1) and (2) of this section.

1926.453(b)(2)(ix)
Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
1926.453(b)(2)(x)
Climbers shall not be worn while performing work from an aerial lift.
1926.453(b)(2)(xi)
The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.
1926.453(b)(2)(xii)
Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position except as provided in paragraph (b)(2)(viii) of this section.

Federal OSHA standards establish minimum approach distances for aerial devices from high-voltage conductors in 29 CFR section 1910.333 of Subpart S. Subsection 1910.333 includes requirements for work on energized electrical equipment, overhead lines and minimum approach distances for employees working from vehicular and mechanical equipment including aerial devices.

Occupational Safety and Health Standards
1910 Subpart S
Electrical
Standard Number 1910.333
Selection and Use of Work Practices

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1910.333(c)(2)

Work on energized equipment. Only qualified persons may work on electric circuit parts or equipment that have not been deenergized under the procedures of paragraph (b) of this section. Such persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

1910.333(c)(3)

Overhead lines. If work is to be performed near overhead lines, the lines shall be deenergized and grounded, or other protective measures shall be provided before work is started. If the lines are to be deenergized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating, or insulating are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

Note: The work practices used by qualified persons installing insulating devices on overhead power transmission or distribution lines are covered by § 1910.269 of this part, not by §§ 1910.332 through 1910.335 of this part. Under paragraph (c)(2) of this section, unqualified persons are prohibited from performing this type of work.

1910.333(c)(3)(i)

Unqualified persons.

1910.333(c)(3)(i)(A)

When an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

1910.333(c)(3)(i)(A)(1)

For voltages to ground 50kV or below - 10 ft. (305 cm);

1910.333(c)(3)(i)(A)(2)

For voltages to ground over 50kV - 10 ft. (305 cm) plus 4 in. (10 cm) for every 10kV over 50kV.

1910.333(c)(3)(i)(B)

When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given in paragraph (c)(3)(i)(A) of this section.

Note: For voltages normally encountered with overhead power lines, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

1910.333(c)(3)(ii)
Qualified persons. When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table S-5 unless:

1910.333(c)(3)(ii)(A)
The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed), or

1910.333(c)(3)(ii)(B)
The energized part is insulated both from all other conductive objects at a different potential and from the person, or

1910.333(c)(3)(ii)(C)
The person is insulated from all conductive objects at a potential different from that of the energized part.

Table S-5 - Approach Distances for Qualified Employees - Alternating Current

Voltage range (phase to phase)	Minimum approach distance
300V and less	Avoid contact.
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm).
Over 750V, not over 2kV	l ft. 6 in. (46 cm).
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm).
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm).
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm).
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm).

Table S-5 - Approach Distances for Qualified Employees - Alternating Current

Voltage range (phase to phase)	Minimum approach distance
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm).

1910.333(c)(3)(iii)
Vehicular and mechanical equipment.

1910.333(c)(3)(iii)(A)
Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:

1910.333(c)(3)(iii)(A)(1)
If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage.

1910.333(c)(3)(iii)(A)(2)
If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.

1910.333(c)(3)(iii)(A)(3)
If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced to the distance given in Table S-5.

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Federal OSHA standards address fire prevention and protection for welding, cutting and brazing operations In 29 CFR section 1910.252 of Subpart Q. Subsection 1910.252(a) includes basic fire hazards precautions, guards, combustible materials, fire extinguisher, and fire watch requirements.

Occupational Health and Safety Standards
1910 Subpart Q
Welding, Cutting and Brazing

Standard Number 1910.252
General Requirements

1910.252(a)
Fire prevention and protection -
1910.252(a)(1)
Basic precautions. For elaboration of these basic precautions and of the special precautions of paragraph (a)(2) of this section as well as a delineation of the fire protection and prevention responsibilities of welders and cutters, their supervisors (including outside contractors) and those in management on whose property cutting and welding is to be performed, see Standard for Fire Prevention in Use of Cutting and Welding Processes, NFPA Standard 51B, 1962, which is incorporated by reference as specified in § 1910.6. The basic precautions for fire prevention in welding or cutting work are:
1910.252(a)(1)(i)
Fire hazards. If the object to be welded or cut cannot readily be moved, all movable fire hazards in the vicinity shall be taken to a safe place.
1910.252(a)(1)(ii)
Guards. If the object to be welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards shall be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards.
1910.252(a)(1)(iii)
Restrictions. If the requirements stated in paragraphs (a)(1)(i) and (a)(1)(ii) of this section cannot be followed then welding and cutting shall not be performed.

1910.252(a)(2)
Special precautions. When the nature of the work to be performed falls within the scope of paragraph (a)(1)(ii) of this section certain additional precautions may be necessary:
1910.252(a)(2)(i)
Combustible material. Wherever there are floor openings or cracks in the flooring that cannot be closed, precautions shall be taken so that no readily combustible materials on the floor below will be exposed to sparks which might drop through the floor. The same precautions shall be observed with regard to cracks or holes in walls, open doorways and open or broken windows.
1910.252(a)(2)(ii)
Fire extinguishers. Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use. Such equipment may consist of pails of water, buckets of sand, hose or portable extinguishers depending upon the nature and quantity of the combustible material exposed.

1910.252(a)(2)(iii)
Fire watch.
1910.252(a)(2)(iii)(A)
Fire watchers shall be required whenever welding or cutting is performed in locations where other than a minor fire might develop, or any of the following conditions exist:
1910.252(a)(2)(iii)(A)(1)

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Appreciable combustible material, in building construction or contents,
closer than 35 feet (10.7 m) to the point of operation.
1910.252(a)(2)(iii)(A)(2)
Appreciable combustibles are more than 35 feet (10.7 m) away but are easily
ignited by sparks.
1910.252(a)(2)(iii)(A)(3)
Wall or floor openings within a 35-foot (10.7 m) radius expose combustible
material in adjacent areas including concealed spaces in walls or floors.
1910.252(a)(2)(iii)(A)(4)
Combustible materials are adjacent to the opposite side of metal partitions,
walls, ceilings, or roofs and are likely to be ignited by conduction or
radiation.
1910.252(a)(2)(iii)(B)
Fire watchers shall have fire extinguishing equipment readily available and
be trained in its use. They shall be familiar with facilities for sounding
an alarm in the event of a fire. They shall watch for fires in all exposed
areas, try to extinguish them only when obviously within the capacity of the
equipment available, or otherwise sound the alarm. A fire watch shall be
maintained for at least a half hour after completion of welding or cutting
operations to detect and extinguish possible smoldering fires.

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5.0 APPLICABLE CONSENSUS STANDARDS

5.1 National Fire Protection Association NFPA 10

The National Fire Protection Association addresses portable fire extinguishers in NFPA 10 standard. Subsection 6.1.3.1 of the 2026 edition of NFPA 10 requires fire extinguishers to be readily available.

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NFPA 10 Standard for Fire Extinguishers
2026 Edition

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6.1.3.1
Fire extinguishers shall be conspicuously located where they are readily
accessible and immediately available in the event of fire.

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5.2 American National Standards Institute ANSI SAIA A92

The American National Standards Institute (ANSI) addresses the use of mobile elevated work platforms (MEWP) in the ANSI SAIA A92 standards. Section 6.1 of the 2021 edition of ANSI SAIA A92 includes requirements for the identification and control of hazards related to work MEWPs.

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ANSI SAIA A92
2021 Edition

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6.1.1 General
It is the user's responsibility to ensure MEWP risk assessment is performed by qualified personnel consistent with the provisions within section 6.1

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6.1.2.3 Assess the Risks Associated with the Task
The risks associated with the task specific to MEWP shall be identified. These might be associated with the location where the work is to be carried out, the nature of the MEWP or the personnel, materials and equipment to be carried.

6.1.2.4 Identify Control Measures
Once the hazards and risks involved in the task have been identified, the procedures and measures required to control them shall be identified and implemented.

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6.0 CAL/OSHA ANALYSIS

6.1 Existing Title 8 Standards Effectively regulate Fire Prevention but not Fire Response

Although existing Title 8 regulations address fire prevention through requirements related to electrical safety, hot work, fire extinguishers, equipment maintenance and operation, employee training, and other requirements, they generally assume that employees can remove themselves from a hazardous environment when an emergency occurs.

Workers elevated in aerial devices present a unique circumstance because their ability to self-evacuate is often severely restricted due to their location in a small basket elevated many feet above the ground. Movement may be further limited by fall-protection systems, boom position, energized conductors, equipment malfunction, smoke, heat, or loss of controls.

Current regulations do not specifically require employers to evaluate fire-response measures for employees who may become stranded in the air during a fire emergency, nor do they address emergency descent capabilities, aerial rescue procedures, coordination with ground personnel, or other response measures intended to facilitate rapid evacuation from elevated work locations. As a result, while existing standards contain numerous provisions intended to prevent fires from occurring, they do not comprehensively address emergency response for workers who cannot readily escape from an aerial device if a fire or thermal event occurs. For example:

- Under section 6151, fire extinguishers are not required if the employer establishes an emergency action plan and fire prevention plan and determines employees will not use extinguishers. If an extinguisher is required, it must be "readily accessible," but section 6151(c)(1) does not expressly state that a fire extinguisher is required in an aerial basket.
- Lack of Egress and Rescue Protocols: Section 3648 regulates how aerial devices are operated, but it does not provide requirements regarding emergency descent procedures, aerial rescue coordination, or specialized fire-resistant mitigation for workers trapped in the air.

6.2 Review of the OSHA Accident Investigations Submitted by Petitioner

The petitioner compiled numerous historical incidents and OSHA investigations involving elevated fires and burn injuries. These events demonstrate that when hydraulic failures, electrical faults, or environmental fires occur around aerial equipment, the inability to quickly escape or suppress the fire at height frequently escalates equipment failures into catastrophic life-threatening events.

7.0 CONCLUSION

Cal/OSHA recommends that Petition 615 be granted to the extent that the Standards Board staff convene an advisory committee to consider the proposed changes from the Petitioner.

cc: Debra Lee, Cal/OSHA Chief