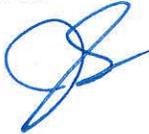


Memorandum

Date: June 10, 2016

To: Marley Hart, Executive Officer
Occupational Safety and Health Standards Board
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833

From: Juliann Sum, Chief
Cal/OSHA



Subject: Division Evaluation of Petition
Scott McAllister, Petition File No. 556

1.0 INTRODUCTION AND BACKGROUND

On March 4, 2016, the Division of Occupational Safety and Health (Cal/OSHA) received Petition 556 to amend the California Code of Regulations, Title 8, subsections 2940.6(b) (Fall Protection) and 8165(g) (Fall Protection). Health and safety consultant Scott McAllister filed the petition.

Mr. McAllister proposes that electric utility and telecommunication workers using elevated work platforms on utility poles be protected by personal fall arrest equipment in addition to work positioning equipment. The Petitioner proposes to make the following bolded-underlined changes to the existing Title 8 regulations:

Title 8 High Voltage Safety Orders:

2940.6(b) Fall Protection. When work is performed at elevated locations more than 4 feet (1.2 meters) above the ground on poles, towers or similar structures, the employer shall require the employees to use either fall arrest equipment, work positioning equipment, or travel restricting equipment, if other fall protection methods have not been provided (e.g., guardrails, safety nets, etc.). The use of body belts for fall arrest systems is prohibited. **Where elevated work platforms utilizing rope for work positioning, a fall arrest system shall also be employed.**

Title 8 Telecommunication Safety Orders

8615(g) Fall Protection. When work is performed at elevated locations more than 4 feet (1.2 meters) above ground on poles, towers or similar structures, the employer shall require the employees to use either fall arrest equipment, work positioning equipment, or travel restricting equipment, if other fall protection methods have not been provided (e.g., guardrails, safety nets, etc.). The use of body belts for fall arrest systems is prohibited. **Where elevated work platforms utilizing rope for work positioning, a fall arrest system shall also be employed.**

2.0 CALIFORNIA CODE OF REGULATIONS, TITLE 8

In addition to Title 8 section 2946.6(b) for electric utility workers and 8615(g) for telecommunications workers provided above, Title 8 section 8615(f)(1) is applicable to platforms on utility poles:

Title 8 Telecommunication Safety Orders

8615(f)(1) Elevated Work Platforms. Unless standard railings meeting the requirements of Section 3209 of the General Industry Safety Orders are provided, personal fall protection devices as specified in subsection (g) shall be used while working on elevated work platforms including aerial splicing platforms, pole platforms, ladder platforms, pole balconies and pole seats.

3.0 FEDERAL OSHA REGULATIONS

Federal OSHA requires fall protection for electrical and telecommunication work on utility poles in the following regulations contained in the Code of Federal Regulations, Title 29:

Electric Power Transmission, Distribution and Generation.

* * * * *

1910.269(g)(2)(iv)(C)(2)

Except as provided in paragraph (g)(2)(iv)(C)(3) of this section, each employee in elevated locations more than 1.2 meters (4 feet) above the ground on poles, towers, or similar structures shall use a personal fall arrest system, work-positioning equipment, or fall restraint system, as appropriate, if the employer has not provided other fall protection meeting Subpart D of this part.

1910.269(g)(2)(iv)(C)(3)

Until March 31, 2015, a qualified employee climbing or changing location on poles, towers, or similar structures need not use fall protection equipment, unless conditions, such as, but not limited to, ice, high winds, the design of the structure (for example, no provision for holding on with hands), or the presence of contaminants on the structure, could cause the employee to lose his or her grip or footing. On and after April 1, 2015, each qualified employee climbing or changing location on poles, towers, or similar structures must use fall protection equipment unless the employer can demonstrate that climbing or changing location with fall protection is infeasible or creates a greater hazard than climbing or changing location without it.

Note 1 to paragraphs (g)(2)(iv)(C)(2) and (g)(2)(iv)(C)(3): These paragraphs apply to structures that support overhead electric power transmission and distribution lines and equipment. They do not apply to portions of buildings, such as loading docks, or to electric equipment, such as transformers and capacitors. Subpart D of this part contains the duty to provide fall protection associated with walking and working surfaces.

Note 2 to paragraphs (g)(2)(iv)(C)(2) and (g)(2)(iv)(C)(3): Until the employer ensures that employees are proficient in climbing and the use of fall protection under paragraph (a)(2)(viii) of this section, the employees are not considered "qualified employees" for the purposes of paragraphs (g)(2)(iv)(C)(2) and (g)(2)(iv)(C)(3) of this section. These paragraphs require unqualified employees (including trainees) to use fall protection any time they are more than 1.2 meters (4 feet) above the ground.

1910.269(g)(2)(iv)(D)

On and after April 1, 2015, work positioning systems shall be rigged so that an employee can free fall no more than 0.6 meters (2 feet).

1910.269(g)(2)(iv)(E)

Anchorage for work-positioning equipment shall be capable of supporting at least twice the potential impact load of an employee's fall, or 13.3 kilonewtons (3,000 pounds-force), whichever is greater.

Note to paragraph (g)(2)(iv)(E): Wood-pole fall-restriction devices meeting American Society of Testing and Materials *Standard Specifications for Personal Climbing Equipment*, ASTM F887-12^{e1}, are deemed to meet the anchorage-strength requirement when they are used in accordance with manufacturers' instructions.

* * * * *

Telecommunications.

1910.268(g)(1)

General. Safety belts and straps shall be provided and the employer shall ensure their use when work is performed at positions more than 4 feet above ground, on poles, and on towers, except as provided in paragraphs (n)(7) and (n)(8) of this section. No safety belts, safety straps or lanyards acquired after July 1, 1975 may be used unless they meet the tests set forth in paragraph (g)(2) of this section. The employer shall ensure that all safety belts and straps are inspected by a competent person prior to each day's use to determine that they are in safe working condition.

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1910.268(n)(7)

Outside work platforms. Unless adequate railings are provided, safety straps and body belts shall be used while working on elevated work platforms such as aerial splicing platforms, pole platforms, ladder platforms and terminal balconies.

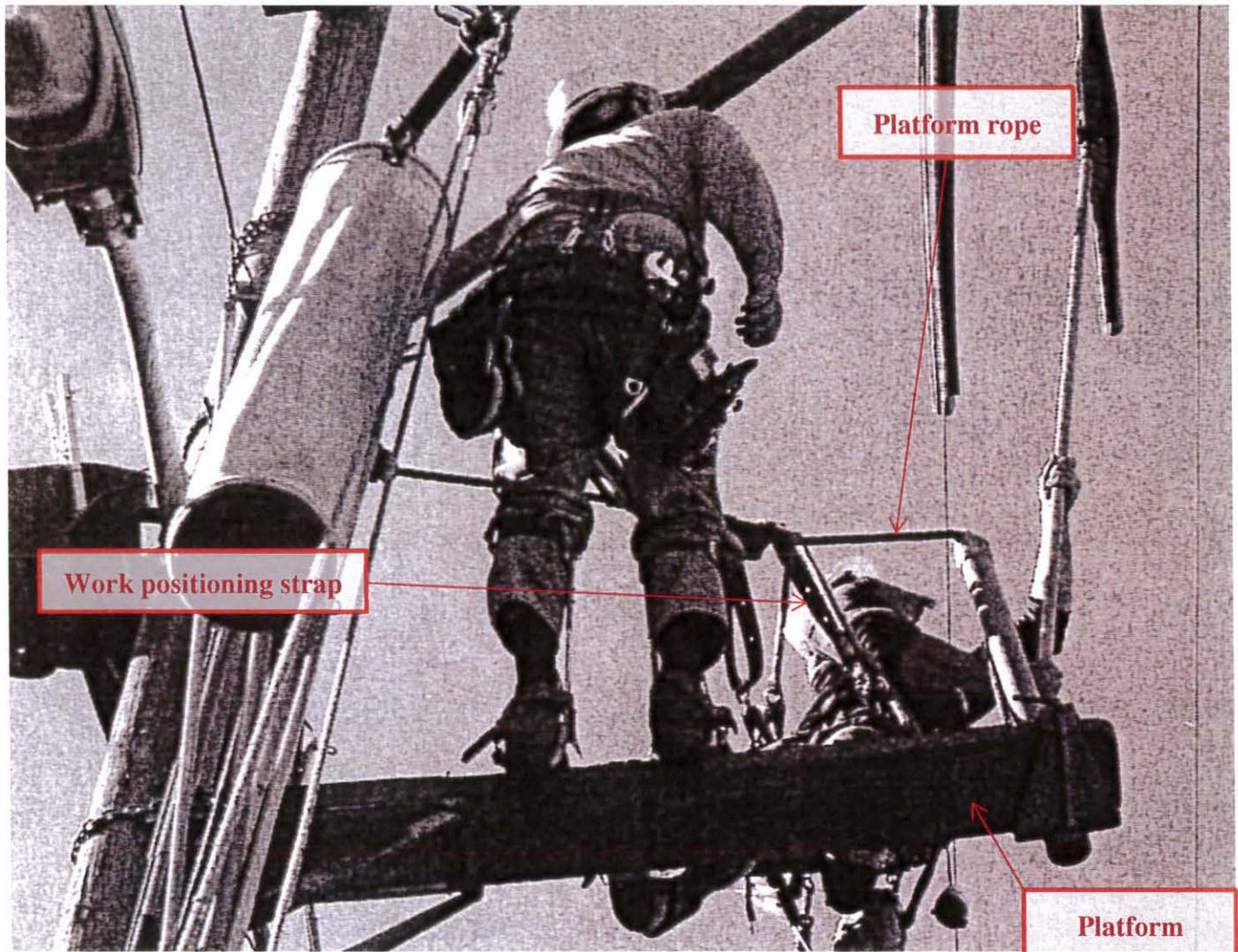
1910.268(n)(8)

Other elevated locations. Safety straps and body belts shall be worn when working at elevated positions on poles, towers or similar structures, which do not have adequately guarded work areas.

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4.0 DESCRIPTION OF THE PLATFORM AND ITS INSTALLATION

Platforms that are the subject of the petition consist of temporary portable platforms secured to utility poles by workers to enable them to work while electrically isolated from the poles. The platforms consist of a flat board made of fiberglass or other insulating material which is secured to the utility pole with tightened chains or similar method. Some platforms have a platform rope at the end of the platform which attaches to the pole. See the photo below for an example of a utility pole platform.



The installation of the platform consists of the following:

1. The worker climbs the utility pole, raises the platform with a rope or rope/winch and attaches the platform to the pole at the needed location. The worker is protected from falls during this process by a positioning strap wrapped around the pole and connected to a positioning belt worn by the worker.

2. Once the platform is attached to the pole, the employee next attaches the platform rope (a component of the platform which is connected to the platform) to the pole. The employee attaches their secondary positioning strap to the platform rope prior to disconnecting their primary positioning strap from the pole.
3. The employee works on the platform and is protected from falls by their positioning strap attached to the platform rope.

5.0 RATIONALE FOR PETITION

5.1 Hazard created by the platform rope

In October 2008, an instructor with PG&E suffered a serious injury after falling from a utility pole platform similar to the platform described and shown in the photo above. The accident occurred when the positioning strap of the injured employee was connected to the platform rope, the employee leaned back to tension the positioning system, and the platform rope broke, causing the employee to fall to the ground. The platform rope had been visually inspected prior to the accident and no problems were detected. The platform was used in accordance with PG&E policy.¹

The platform rope is hazardous to employees because employees cannot determine from a visual inspection if the rope is in acceptable condition and of sufficient strength to serve as an anchor point for positioning systems.

5.2 Solution proposed by the petitioner

The petitioner proposes to require that employees who are using platform ropes as an anchor for a positioning system also be protected by a personal fall arrest system. The petitioner proposes to require personal fall arrest as a secondary or back-up system in the event the platform rope fails.

6.0 ANALYSIS

6.1 Title 8 is currently less effective than federal OSHA requirements

Pursuant to 29 CFR 1910.268(g)(2)(iv)(E), anchorages for work-positioning equipment must be capable of supporting at least twice the potential impact load of an employee's fall, or 3,000 pounds, whichever is greater. This requirement is applicable to work on electric power transmission, distribution and generation equipment. The corresponding Title 8 regulations in the High Voltage Safety Orders do not have such a requirement and are therefore not as effective as the federal OSHA regulation. (In contrast, the requirements for work-positioning anchorages in Title 8 section 1670 do meet the federal OSHA standards.)

¹ Accident investigation details available at https://www.osha.gov/pls/imis/establishment.inspection_detail?id=311867097

6.2 Fall arrest is not recommended

Employees on utility poles currently use positioning systems to protect against falls and do not normally use fall arrest systems. This current practice should not be changed because positioning systems are inherently safer than fall arrest systems due to the amount of force allowed on employees, as shown in the table below:

Table 1: Fall distances and forces on employees Fall arrest vs. Work positioning

	Fall arrest equipment	Work positioning equipment
Allowed free fall distance	Up to 6 feet	Not more than 2 feet
Maximum arresting force allowed on employee	1,800 pounds	900 pounds

In addition, fall arrest anchorages are frequently not available on elevated platforms and poles in locations that can be utilized. It would also be difficult to install a fall arrest system that ensures employees would not strike the pole after falling due to the small dimensions of the platform.

6.3 Effective positioning systems are recommended

Requiring a secondary fall protection system because the primary fall protection system is unreliable, as proposed by the petitioner, is not an acceptable method of protecting employees. The primary fall protection system should be sufficiently reliable that an employee does not need to depend on a secondary fall protection system.

A positioning system in compliance with the Title 8 Construction Safety Orders section 1670 will protect employees from falls and the use of inferior equipment. If the platform rope used during the accident of October 2008 had met the requirements of section 1670, the rope would not have failed and the employee would not have fallen. Section 1670 requires anchor points for positioning systems to meet the following:

Title 8 Construction Safety Orders

§1670. Personal Fall Arrest Systems, Personal Fall Restraint Systems and Positioning Devices.

* * * * *

(c) Positioning device systems.

(4) Anchorage points for positioning device systems shall be capable of supporting two times the intended load or 3,000 pounds, whichever is greater.

The accident of October 2008 occurred because the platform rope was of insufficient strength. The High Voltage and Telecommunication Safety Orders are deficient in that they do not contain any minimum strength requirements for fall protection systems and should be changed to incorporate such requirements to prevent future accidents.

7.0 CONCLUSION

Having an effective primary fall protection system is more protective than requiring all workers to use fall arrest equipment as a back-up to an ineffective primary fall protection system. It is recommended that the petition be granted to amend the High Voltage and Telecommunication Safety Orders to reference section 1670 of the Construction Safety Orders as follows (bold underlines font indicates the recommended additions):

Title 8 High Voltage Safety Orders

2946(b) Fall Protection. When work is performed at elevated locations more than 4 feet (1.2 meters) above the ground on poles, towers or similar structures, the employer shall require the employees to use either fall arrest equipment, work positioning equipment, or travel restricting equipment, if other fall protection methods have not been provided (e.g., guardrails, safety nets, etc.). The use of body belts for fall arrest systems is prohibited. Fall protection anchorages, personal fall arrest systems, personal fall restraint systems, and positioning devices shall meet the requirements of section 1670 of the Construction Safety Orders.

Title 8 Telecommunication Safety Orders

8615(g) Fall Protection. When work is performed at elevated locations more than 4 feet (1.2 meters) above ground on poles, towers or similar structures, the employer shall require the employees to use either fall arrest equipment, work positioning equipment, or travel restricting equipment, if other fall protection methods have not been provided (e.g., guardrails, safety nets, etc.). The use of body belts for fall arrest systems is prohibited. Fall protection anchorages, personal fall arrest systems, personal fall restraint systems, and positioning devices shall meet the requirements of section 1670 of the Construction Safety Orders.

cc: Eric Berg, Deputy Chief
Larry McCune, SSE