

DEPARTMENT OF INDUSTRIAL RELATIONS  
Occupational Safety and Health Standards Board  
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## TITLE 8. CALIFORNIA CODE OF REGULATIONS

### General Industry Safety Orders Sections 3441 and 3449

#### Outdoor Agricultural Operations During Hours of Darkness

NOTICE IS HEREBY GIVEN that the Occupational Safety and Health Standards Board (Board) proposes to adopt, amend or repeal the foregoing provisions of Title 8 of the California Code of Regulations in the manner described in the Informative Digest, below.

#### PUBLIC HEARING

The Board will hold a public hearing starting at 10:00 a.m. on **April 18, 2019** in the **Auditorium** of the **State Resources Building, 1416 9<sup>th</sup> Street, Sacramento, California**. At this public hearing, any person may present statements or arguments orally or in writing relevant to the proposed action described in the Informative Digest.

#### WRITTEN COMMENT PERIOD

In addition to written or oral comments submitted at the public hearing, written comments may also be submitted to the Board's office. The written comment period commences on **March 1, 2019** and closes at 5:00 p.m. on **April 18, 2019**. Comments received after that deadline will not be considered by the Board unless the Board announces an extension of time in which to submit written comments. Written comments can be submitted as follows:

By mail to Sarah Money, Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833; or

By e-mail sent to [oshsb@dir.ca.gov](mailto:oshsb@dir.ca.gov).

#### AUTHORITY AND REFERENCE

Labor Code Section 142.3 establishes the Board as the only agency in the State authorized to adopt occupational safety and health standards. In addition, Labor Code Section 142.3 requires the adoption of occupational and health standards that are at least as effective as federal occupational safety and health standards.

## **INFORMATIVE DIGEST OF PROPOSED ACTION/POLICY STATEMENT OVERVIEW**

On December 2, 2013 the Division of Occupational Safety and Health submitted a request to amend Section 3441, Operation of Agricultural Equipment. The requested amendments pertained to illumination near agricultural equipment and personal protective equipment to increase the visibility of workers. On February 13, 2014, a letter was submitted by Anne Katten, MPH, and Mark Schacht of the California Rural Legal Assistance Foundation regarding agricultural field operations to supplement requirements for work area lighting near agricultural equipment operations. As a result, the Occupational Safety and Health Standards Board convened advisory committee meetings to discuss hazards associated with outdoor agricultural work during hours of darkness.

This rulemaking is intended to address hazards related to performing outdoor agricultural work during hours of darkness (sunset to sunrise), when illumination or visibility is limited. The decreased natural lighting during hours of darkness affects the employees' ability to perceive and move about their environment. In addition, employees are less visible to others. Adequate lighting will enable employees to avoid visible and recognizable hazards. The increased visibility of employees will help operators of mobile agriculture equipment keep a safe distance away from employees.

The Board evaluated the proposed regulations pursuant to Government Code section 11346.5(a)(3)(D) and has determined that the regulations are not inconsistent or incompatible with existing state regulations. This proposal is part of a system of occupational safety and health regulations. The consistency and compatibility of that system's component regulations is provided by such things as: (1) the requirement of the federal government and the Labor Code to the effect that the State regulations be at least as effective as their federal counterparts, and (2) the requirement that all state occupational safety and health rulemaking be channeled through a single entity (the Standards Board).

### **Anticipated Benefits.**

Working during hours of darkness provides benefits to agricultural industries. It saves the employer the energy cost for cooling down the crop to hold optimum temperature. It allows the employer to harvest at a time that assures them the best quality of crops possible (i.e., minimized bruising, optimum sugar and/or moisture content). In addition, working during hours of darkness usually equates to cooler temperatures and increases employee comfort, which improves the productivity of workers and greatly diminishes the risk of heat illness during the summer months. The proposal helps to provide a safe environment for employees to work during hours of darkness by addressing the hazard presented by limited ambient lighting.

The Board estimates benefits would be about \$36.7 million per year due to prevented accidents. The estimated benefits are based on 2,080 injury cases multiplied by \$17,622, the average workers' compensation medical and indemnity cost of agricultural injury claims.

This estimate is conservative because there are unquantifiable additional costs imposed by the health consequences arising from these injuries for workers, employers, and society. Therefore, the benefits may be much greater than estimated due to the additional implications of related injuries.

The specific changes are as follows:

**Section 3441. Operation of Agricultural Equipment.**

This Section contains requirements for agricultural equipment. The proposed amendments to subsection (g) are:

- Adds trucks as one of the types of vehicles that are required to utilize and maintain functioning headlight(s). Trucks are commonly driven on farm roads.
- Requires headlights of agricultural equipment be utilized from sunset to sunrise instead of one hour after sunset and one hour before sunrise, in order to be consistent with proposed new Section 3449(a) regarding illumination requirements for outdoor work areas, which include areas where employees are working near agricultural equipment.
- Adds a Note to refer the reader to proposed new Section 3449 for illumination requirements for working near agricultural equipment during hours of darkness.

**Section 3449. Agricultural Operations During Hours of Darkness (Between Sunset and Sunrise).**

The proposal adds a new Section 3449 with the title “Agricultural Operations During Hours of Darkness (Between Sunset and Sunrise)” replacing “Ladders (Repealed)”. The following provisions are proposed to be added:

- Subsection (a) requires that the employer provide lighting to illuminate the outdoor work environment. The employer is responsible for determining the combination of lighting: type of lamps, the number of light fixtures, type of fixtures (portable, portable personal hand-free and/or fixed lighting) and the setup needed in order to meet the illumination levels detailed in Table 1. The illumination level is to be measured at the task/working surface, in the plane in which the task/work surface is present. The table provides measurable criteria to determine adequate illumination.

The information used to populate the table was based on the principles of lighting detailed in the documents relied upon and light surveys conducted by Board staff and advisory committee members, which are reflected in the minutes of the advisory committee meetings.

- Subsection (a)(1) was added to clarify that portable personal hands-free lighting shall be provided and used when other sources of lighting cannot meet the required illumination level listed on Table 1.
- Note 1 to subsection (a) was added to inform employers to be mindful of the manner they set up or install lighting to avoid glare. Glare can be blinding and may lead to accidents. The reason text is proposed as a Note and not regulatory language is due to the difficulty of measuring glare in a dynamic environment, making such a requirement unenforceable.

Note 2 to subsection (a) directs the reader to the non-mandatory appendix for additional information regarding selecting light sources.

- An exception to subsection (a) for vehicles traveling on farm roads was added. This is to inform employers that the supplementary lighting installed on mechanical equipment or vehicles to meet the illumination levels of Table 1 does not need to be activated when traveling on farm roads. The additional lighting may direct unwanted light to other vehicles on the road and may cause an accident.
- Subsection (b) requires supervisors to conduct a safety meeting at the beginning of the shift to inform employees of the location of the restrooms, drinking water, designated break area, nearby bodies of water, and high traffic areas. This proposal is to inform employees about the details of their work environment because outdoor agricultural work is not a fixed site and work conditions change.
- A Note to subsection (b) was added to inform the employer of their responsibility to communicate hazards under Section 3203, Injury and Illness Prevention Program.
- Subsection (c) requires employees to wear employer provided Class 2 high visibility garments meeting the requirements of Section 3380(e) in order for them to be more visible at night. The increased visibility of employees will prevent accidents involving motor vehicles and other moving agricultural equipment. Employees often work alongside agricultural fields alongside mobile agricultural equipment. The fields may be located near busy farm roads.
- Note to subsection (c) was added to inform the employer of other provisions related to subsection (c). Section 3380 is about personal protective devices and Section 3383 is about body protection.

These proposed amendments will ensure a safe work environment for employees during hours of darkness by addressing the hazards presented by limited ambient lighting.

#### **Non-Mandatory Appendix to Section 3449.**

The Appendix serves as a guide to employers in selecting light sources or lamps. The Appendix provides some factors to consider such as: wattage, quantity of light or brightness, beam angle, radium, and target, scotopic/photopic ratios, color rendering index, and life expectancy of the light source.

#### **DOCUMENT INCORPORATED BY REFERENCE**

- American National Standard for High-Visibility Safety Apparel and Accessories, (ANSI/ISEA) 107-2015.

#### **DISCLOSURES REGARDING THE PROPOSED ACTION**

**Mandate on Local Agencies or School Districts:** None.

**Cost or Savings to State Agencies:** None.

**Cost to any Local Government or School District which must be Reimbursed in Accordance with Government Code Sections 17500 through 17630:** None.

**Cost or Savings in Federal Funding to the State:** None.

**Other Nondiscretionary Cost or Savings Imposed on Local Agencies:** None.

**Cost Impacts on a Representative Private Person Or Business:**

The estimated additional cost to small agricultural business is approximately \$7,651 with an on-going cost of \$6,000. The estimated additional cost to non-small businesses is \$11,716 with an on-going cost of \$6,000.

**Statewide Adverse Economic Impact Directly Affecting Businesses and Individuals: Including the Ability of California Businesses To Compete:**

The Board has made an initial determination that this proposal should not result in a significant, statewide adverse economic impact directly affecting businesses/individuals, including the ability of California businesses to compete with businesses in other states. The estimated cost of \$31.6 million for addressing the hazards associated agricultural operation performed during hours of darkness is offset by estimated benefits of \$36.7 million per year due to prevented accidents.

**Significant Affect on Housing Costs:** None.

### **SMALL BUSINESS DETERMINATION**

California Government Code section 11346.3 defines small businesses as businesses that are independently owned and operated, not dominant in their field of operation, and have fewer than 100 employees. The California Employment Development Department (EDD) reports that 94.4% of the businesses in California's Agriculture, Forestry, Fishing and Hunting Industry (NAICS 11) had fewer than 100 employees in the third quarter of 2016. Calculations assume that a similar percentage of small businesses in the agricultural sectors covered by this proposal will be impacted, resulting in an estimated 3,784 small businesses and 224 typical businesses (non-small businesses) used for this analysis.

To comply with the safety requirements of the proposal, employers must use appropriate lighting and personal protective equipment (PPE) to aid visibility of workers at night. The costs associated with meeting these requirements are listed below.

#### **Costs associated with items required for proposal compliance**

Item	Cost	Reference
Rechargeable battery headlamp	\$24.50	<a href="https://www.walmart.com/search/?query=rechargeable%20battery%20headlamp&amp;cat_id=0">https://www.walmart.com/search/?query=rechargeable%20battery%20headlamp&amp;cat_id=0</a>
AA rechargeable batteries	\$1.50	<a href="https://www.walmart.com/search/?query=rechargeable%20aa%20batteries&amp;cat_id=0">https://www.walmart.com/search/?query=rechargeable%20aa%20batteries&amp;cat_id=0</a>
High-visibility vest	\$10.00	<a href="https://www.walmart.com/ip/2XL-Surveyor-Orange-Two-Tones-Safety-Vest-ANSI-ISEA-107-2015/122387872">https://www.walmart.com/ip/2XL-Surveyor-Orange-Two-Tones-Safety-Vest-ANSI-ISEA-107-2015/122387872</a>

Rechargeable portable generator	\$200.00	<a href="https://www.alibaba.com/showroom/rechargeable-generator-portable.html">https://www.alibaba.com/showroom/rechargeable-generator-portable.html</a>
Bulldog Power Tower portable lighting	\$1,300.00	<a href="http://catalog.lightingspecialties.com/viewitems/bulldog/bulldog-po">http://catalog.lightingspecialties.com/viewitems/bulldog/bulldog-po</a>
Power for generator	\$6,000.00	Assumption based on seasonal harvest, \$1000/month for 6 months of the year [NOTE: Ongoing cost of compliance]

The initial costs for a small business is \$7,651, with an annual on-going cost of \$6,000.

### **RESULTS OF THE ECONOMIC IMPACT ASSESSMENT/ANALYSIS**

Total statewide dollar costs that business and individuals may incur to comply with this regulation over its lifetime are estimated to be \$31.6 million in the first year and ongoing annual costs of \$24 million.

According to the National Institute for Occupational Safety and Health website, almost 15 million workers in the U.S. work full time on evening shift, night shift, rotating shifts, or other employer arranged irregular schedules. DIR applied this ratio of workers (10%) to 2016 EDD Market Data to estimate the percentage of California’s agricultural workforce that works at night. There is no data available on the number of establishments that work at night covered by the proposal. But if we assume 25% of the 16,031 establishments covered by the proposal will have employees working at night at some point during the year, the total estimated industry cost for compliance with the proposal’s requirements is [ $\$36$  (cost per employee) \* 42,110 (total number of employees affected)] + [4,008 (number of businesses affected) \* \$7,500 (fixed cost per establishment)] = \$31.6 million.

<b>Description</b>	<b>Total</b>
Cost per worker	\$36
# CA night time agricultural workers	42,110
Estimated Total Cost Per Worker (\$36 x 42,110)	\$1,515,960
Estimated Cost Per Establishment (in addition to cost per worker)	\$7,500
Establishments with employees who work at night (25% of 16,031 assumed)	4,008
Estimated Total Cost Per Establishment (4,008 x \$7,500)	\$30,060,000
Estimated Total Cost (cost per worker and cost per employer) (\$1,515,960 + \$30,060,000)	<b>\$31,575,960</b>

The proposed regulation will not have any effect on the creation or elimination of California jobs, the creation of new businesses, the elimination of existing California businesses, or affect the expansion of existing California businesses. The proposed regulation protects the health and safety of California workers through accident/injury prevention. It does not provide a direct benefit to the state’s environment.

## **BENEFITS OF THE PROPOSED ACTION**

The Board estimates benefits would be about \$36.7 million per year due to prevented accidents. The estimated benefits are based on 2,080 injury cases multiplied by \$17,622, the average workers' compensation medical and indemnity cost of agricultural injury claims in 2013 and 2014.

This estimate is conservative because there are unquantifiable additional costs imposed by the health consequences arising from these injuries for workers, employers, and society. Therefore, the benefits may be much greater than estimated due to the additional implications of related injuries. The proposed regulation will not provide a benefit to the state's environment.

## **CONSIDERATION OF ALTERNATIVES**

In accordance with Government Code Section 11346.5(a)(13), the Board must determine that no reasonable alternative it considered to the regulation or that has otherwise been identified and brought to its attention would either be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law than the proposal described in this Notice.

The Board invites interested persons to present statements or arguments with respect to alternatives to the proposed regulation at the scheduled public hearing or during the written comment period.

## **CONTACT PERSONS**

Inquiries regarding this proposed regulatory action may be directed to Christina Shupe (Executive Officer) or the back-up contact person, Michael Manieri (Principal Safety Engineer) at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833; (916) 274-5721.

## **AVAILABILITY OF STATEMENT OF REASONS, TEXT OF THE PROPOSED REGULATIONS AND RULEMAKING FILE**

The Board will have the entire rulemaking file available for inspection and copying throughout the rulemaking process at its office at the above address. As of the date this notice is published in the Notice Register, the rulemaking file consists of this notice, the proposed text of the regulations, the Initial Statement of Reasons, supporting documents, or other information upon which the rulemaking is based. Copies may be obtained by contacting Ms. Shupe or Mr. Manieri at the address or telephone number listed above.

## **AVAILABILITY OF CHANGED OR MODIFIED TEXT**

After holding the hearing and considering all timely and relevant comments received, the Board may adopt the proposed regulations substantially as described in this notice. If the Board makes modifications which are sufficiently related to the originally proposed text, it will make the modified text (with the changes clearly indicated) available to the public at least 15 days before the Board adopts the regulations as revised. Please request copies of any modified regulations by contacting Ms. Shupe or

Mr. Manieri at the address or telephone number listed above. The Board will accept written comments on the modified regulations for at least 15 days after the date on which they are made available.

**AVAILABILITY OF THE FINAL STATEMENT OF REASONS**

Upon its completion, copies of the Final Statement of Reasons may be obtained by contacting Ms. Shupe or Mr. Manieri at the address or telephone number listed above or via the internet.

**AVAILABILITY OF DOCUMENTS ON THE INTERNET**

The Board will have rulemaking documents available for inspection throughout the rulemaking process on its web site. Copies of the text of the regulations in an underline/strikeout format, the Notice of Proposed action and the Initial Statement of Reasons can be accessed through the Standards Board's website at <http://www.dir.ca.gov/oshsb>.