

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
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NOTICE OF PROPOSED MODIFICATIONS TO
CALIFORNIA CODE OF REGULATIONS

TITLE 8: Sections 3441 and 3449
of the General Industry Safety Orders

Outdoor Agricultural Operations During Hours of Darkness

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named standards in which modifications are being considered as a result of public comments and/or Board staff consideration.

On April 18, 2019, the Standards Board held a Public Hearing to consider revisions to Title 8, Sections 3441 and 3449, of the General Industry Safety Orders. The Standards Board received oral and written comments on the proposed revisions. The standards have been modified as a result of these comments and Board consideration.

A copy of the text of the standards as originally proposed, with the modifications clearly indicated, is attached for your information. In addition, a summary of all written and oral comments regarding the original proposal and staff responses is included.

Pursuant to Government Code Section 11347.1, notice is also given of the opportunity to submit comments concerning the addition to the rulemaking file of the following document relied upon:

ADDITIONAL DOCUMENTS RELIED UPON

- American Society of Agricultural and Biological Engineers (ASABE), ASAE EP344.4 Jan 2014, Lighting Systems for Agricultural Facilities, Section 8.2, page 17
- American National Standard, ANSI IESNA- RP7-01, Recommended Practice for Lighting Industrial Facilities, Section 2.0, page 2

These documents are available for review during normal business hours at the Standards Board Office located at the address listed below.

Any written comments on these modifications or document relied upon must be received by 5:00 p.m. on October 18, 2019, at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833 or submitted by fax to (916) 274-5743 or e-mailed to oshsb@dir.ca.gov. This proposal will be scheduled for adoption at a future business meeting of the Standards Board.

The Standards Board's rulemaking files on the proposed action are open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Standards Board's office at 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833.

Inquiries concerning the proposed changes may be directed to the Executive Officer, Christina Shupe, at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Date: October 3, 2019

Christina Shupe, Executive Officer

PROPOSED MODIFICATIONS

(Deleted regulatory language is shown in bold strike-out and new regulatory language is shown in bold underline.)

**STANDARDS PRESENTATION
TO**

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4

Amend §3449 to read:

§3449. ~~Ladders (Repealed)~~; **Outdoor Agricultural Operations During Hours of Darkness (Between Sunset and Sunrise)**.

(a) Illumination. Outdoor agricultural operations taking place between sunset and sunrise shall be illuminated at levels no less than the levels stated on Table 1. Illumination levels shall be measured at the task/working surface, in the plane in which the task/work surface is present. **Area lighting shall be measured at approximately 30 inches above the floor.**

Table 1 – Illumination Levels

<u>Foot-candles</u>	<u>Lux</u>	<u>Areas or Tasks</u>
<u>0.09-0.19</u>	<u>1-2</u>	<u>Poultry harvesting or catching operations</u>
<u>3</u>	<u>32.29</u>	<u>Meeting area and meal/rest area.</u>
<u>5</u>	<u>53.82</u>	<u>General safety</u> <u>General movement throughout the space during outdoor agricultural operations.</u> <u>Pathways leading to and around restrooms and drinking water.</u> <u>Inside restroom facilities.</u> <u>Storage areas accessed by employees.</u> <u>Areas within 25 feet of agricultural equipment where workers are present.</u>
<u>10</u>	<u>107.64</u>	<u>Intermittently exposed or exposed point of operation equipment, covered under Group 8. Points of Operation and Other Hazardous Parts of Machinery.</u> <u>Operationally visible moving parts of machinery covered under Group 6. Power Transmission, Prime Movers, and Machine Parts of the General Industry Safety Orders.</u> <u>Task lighting for A</u> <u>active agricultural operations i.e., harvesting and irrigation work.</u>
<u>20</u>	<u>215.30</u>	<u>Task lighting for M</u> <u>aintenance work on equipment.</u>

(1) When needed to comply with subsection (a), the employer shall provide and maintain hands free portable personal lighting in addition to area lighting in order to achieve illumination levels listed in Table 1.

NOTES to Subsection (a):

NOTE 1: Area lighting should be set up in a manner that minimizes glare to the workers (selection of lamps, shielding, proper adjustment of the beam angle, glare avoidance screens).

**STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

**PROPOSED STATE STANDARD,
TITLE 8, DIVISION 1, CHAPTER 4**

NOTE 2: See Non-mandatory appendix for additional information regarding selecting light sources.

EXCEPTION to Subsection (a): In order to prevent glare while vehicles are traveling on farm roads, additional lighting installed to meet Table 1 does not need to be activated.

(b) Safety meetings. Supervisory employees shall conduct a safety meeting at the beginning of each shift to inform employees of the location of the restrooms, drinking water, designated break areas, nearby bodies of water, and high traffic areas.

NOTE to Subsection (b): Safety meetings are part of the implementation of Section 3203(a)(3).

(c) The employer shall provide and require workers to wear Class 2 high visibility garments meeting the requirements of Section 3380(e) and conforming to specifications of American National Standard for High-Visibility Safety Apparel and Accessories, (ANSI/ISEA) 107-2015, which is hereby incorporated by reference, for work activities between sunset and sunrise.

NOTE to Subsection (c): See Sections 3380, Personal Protective Devices and 3383(b), Body Protection.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

**SUMMARY OF AND RESPONSES TO
WRITTEN AND ORAL COMMENTS**

SUMMARY OF AND RESPONSES TO WRITTEN AND ORAL COMMENTS

I. Written Comments:

1. Ms. Amber Rose, Area Director, OSHA, by letter dated March 5, 2019

Comment:

Ms. Rose stated that the proposal appears to be commensurate with the federal standard.

Response:

The Board thanks Ms. Rose for her comments and participation in the Board's rulemaking process.

2. Mr. Paul Burnett, by e-mail dated March 8, 2019 and March 9, 2019

Comment:

Mr. Burnett commented that the proposal needs to clarify the reference to "sunset to sunrise" in Section 3449. He stated that the official time of sunset and sunrise varies daily. He said there is a difference between the official time of sunset and sunrise versus the actual setting and rising of the sun. The time of sunrise and sunset can be determined by looking up the information from forecasted local weather service.

Mr. Burnett also provided definitions of sunset and sunrise.

Response:

The proposal is meant to address the time period when natural lighting is limited. The Board disagrees with the need to define the terms sunset and sunrise, but thanks Mr. Burnett for his comment and participation in Board's rulemaking process.

3. Mr. Bryan Little, Director, Employment Policy, California Farm Bureau Federation, Agricultural Council of California, California Association of Winegrape Growers, California Chamber of Commerce, California Farm Bureau Federation, California Farm Labor Contractors Association, California Fresh Fruit Association, California League of Food Processors, California Poultry Federation, Grower-Shipper Association of Central California, Grower-Shipper Association of Santa Barbara and San Luis Obispo Counties, Imperial County Vegetable Growers Association, Lodi District Grape Growers Association, Ventura County Agricultural Association, Western Growers Association, Wine Institute, by e-mail dated April 9, 2019

Comment:

Mr. Little and the associations expressed concern about the illumination levels prescribed in Table 1 of Section 3449. They stated that agricultural employees move throughout the fields and the constant movement of people, machinery, and changing landscapes would leave agricultural

employers with specific work that would be in and out of compliance. In addition, the presence of foliage and other obstacles to propagation of light would prove to be problematic in vineyard and orchards.

The commenters state that reliance on hands-free illumination sources would be problematic should an employee’s light drop or slip off.

The commenters referenced field surveys conducted in 2015, by Mr. Bryan Little of California Farm Bureau Federation.

Mr. Little noted the following light levels:

Illumination Level	Description of Operations or Area	Comments
4.8 foot candles	Bin-marshalling yard where forklifts loaded bins in vehicles	Lighting was sufficient, but was less than the 5 foot candles prescribed in proposed Table 1.
0.2 to 0.5 foot candles	Side of the harvesting equipment	Noted no difficulty in seeing moving equipment.
3.8 foot candles	15 feet from rear left quarter of an overhead wine grape machine harvesting machine	Noted no difficulty in seeing equipment.
3.8 foot candles	15 feet ahead of a tractor towing a gondola for the harvester to load harvested wine grapes	Noted no difficulty in seeing equipment.

Response:

The Board acknowledges the challenges in providing uniform lighting throughout the outdoor workspace. Hence, Section 3449, subsection (a)(1) allows the use of portable personal lighting to achieve proposed illumination levels listed in Table 1. The Board reviewed and relied on consensus standards and other publications as listed in the Notice.

Board staff considered the comments by advisory committee members and compared them with published consensus standards and documents. Board staff would like to highlight portions of the documents relied upon on to prescribe illumination levels:

1. ANSI-IES RP-7-1991, Industrial Lighting – page 26, Table 9 to support the proposal.

Table 9 – Illuminance levels for safety*

Hazards requiring visual detection	Slight		High ²	
	Low	High	Low	High
Normal activity level ¹				
Illuminance values				
Lux	5.4	11	22	54
Foot candles	0.5	1	2	5
<p>*Minimum illuminance for safety of people, absolute minimum at any time and at any location on any plane where safety is related to seeing conditions.</p> <p>¹ Special conditions may require different illuminance values. In some cases higher levels may be required as for example where security is a factor, or where certain colors must be identified. In some other cases, greatly reduced levels, including total darkness, may be necessary, specifically in situations involving manufacturing, handling, use or processing of light-sensitive materials (notable in connection with photographic products). In these situations alternate methods of insuring safe operations must be relied upon.</p> <p><i>Note:</i> See specific application reports of the IES for guidelines to minimum illuminances for safety by area.</p> <p>² An obstacle in the path of egress should be considered a high hazard.</p>				

2. ANSI IESNA- RP7-01, Recommended Practice for Lighting Industrial Facilities – page 2, Figure 1(b) to support the proposal.

Figure 1(b) Determination of Illuminance Categories.

<i>Orientation and simple visual tasks.</i> Visual performance is largely unimportant. These task are found in public spaces where reading and visual inspection are only occasionally performed. Higher levels are recommended for tasks where visual performance is occasionally important.		
A	Public Spaces	30 lx (3 fc)
B	Simple orientation for short visits	50 lx (5 fc)
C	Working spaces where simple visual tasks are performed	100 lx (10 fc)
<p><i>Common visual tasks.</i> Visual performance is important. These tasks are found in commercial, industrial and residential applications.</p> <p>Recommended illuminance levels differ because of the characteristics of visual task being illuminated. Higher levels are recommended for tasks with critical elements of low contrast or small size.</p>		

D	Performance of visual tasks of high contrast and large size	300 lx (30 fc)
E	Performance of visual tasks of high contrast and small size, or visual tasks of low contrast and large size	500 lx (50 fc)
F	Performance of visual tasks of low contrast and small size	1000 lx (100 fc)
<p><i>Special visual tasks.</i> Visual performance is of critical importance. These tasks are very specialized, including those with very small or very low contrast critical elements. Recommended illuminance levels should be achieved with supplementary task lighting. Higher recommended levels are often achieved by moving the light source closer to the task.</p>		
G	Performance of visual tasks near threshold	3000-10,000 lx (300-1000 fc)

*To account for both uncertainty in photometric measurements and uncertainty in space reflections, measured illuminance should be within ± 10 percent of the recommended value. It should be noted, however, that the final illuminance may deviate from these recommended values due to other lighting design criteria.

3. NCHRP Report 498, Illumination Guidelines for Nighttime Highway Work – page 2-15, Table 7 to support the proposal.

The transportation industry has extensive experience in providing outdoor lighting during hours of darkness. Board staff relied on the rationale used in prescribing illumination levels based on the type of activity.

Table 7 Recommended minimum illuminance levels and categories for nighttime highway construction and maintenance

Category	Minimum Illuminance level lx (fc)	Area of Illumination	Type of Activity	Examples of Areas and Activities to be Illuminated
I	54 (5 fc)	general illumination throughout spaces	performance of visual task of large size; or medium contrast; or low desired accuracy; or for general safety requirements	<ul style="list-style-type: none"> • Excavation • Sweeping and cleanup • Movement area in the work zone • Movement between two tasks
II	108 (10 fc)	general illumination of tasks and around equipment	performance of visual task of medium sizes; or low to medium contrast; or medium desired	<ul style="list-style-type: none"> • Paving • Milling • Concrete work • Around paver, miller, and

			accuracy; or for safety on and around equipment	other construction equipment
III	216 (20 fc)	illuminance on task	performance of visual task of small sizes; or low contrast; or desired high accuracy and fine finish	<ul style="list-style-type: none"> • Crack filling • Pot filling • Signalization of similar work requiring extreme caution and attention

The Board thanks Mr. Little and the associations for their comments and participation in the Board’s rulemaking process.

4. Mr. Eric Berg, Deputy Chief of the Research and Standards Unit, Division of Occupational Safety and Health, by letter dated April 11, 2019

Comment:

The Division fully supports the proposal to protect employees who work at night from many hazards. He stated that adequate fixed or portable hands-free lighting is necessary for employees to see the hazards in their tasks and their environments, as well as make employees visible to operators of mobile equipment and drivers of vehicles.

Response:

The Board thanks Mr. Berg for his comments in support of the proposal and participation in the Board’s rulemaking process.

5. Mr. Roger Isom, President/CEO of California Cotton Ginner & Growers Association, African American Farmers of California, American Pistachio Growers, California Citrus Mutual, California Fresh Fruit Association, Milk Producers Council, Nisei Farm League, Western Agricultural Processors Association, by letter April 12, 2019

Comment:

The coalition of organizations listed above oppose the proposal for the following reasons:

- Current regulations are sufficient to protect agricultural workers during nighttime operations.
- The lighting requirements for active agricultural operations for harvesting and irrigation work of 10 foot candles is highly restrictive and impossible to achieve without robust lighting provided by substantial lighting towers.
- The cost figures provided are woefully inadequate and inappropriate for the task identified.
- They disagree with the rating of the “rechargeable generator”.

In conclusion the coalition states, if the Board sees the need to address the hazards of working during hours of darkness, the proposed changes should be limited to the requirement for reflective vests in Section 3449, subsection (c).

Response:

Please see the Board's responses to comments from Mr. Little (See No. 3).

The proposal does not require the employer to use a portable generator. For some employers, the lighting provided by mobile agricultural equipment and portable lighting is sufficient. If the employer needs additional lighting powered by generator to comply, the employer can purchase or rent the generator that suits their needs.

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Mr. Isom and the organizations for their comments and participation in the Board's rulemaking process.

6. Ms. Amber Baur, Executive Director, United Food and Commercial Workers (UFCW) Union, Western States Council, by letter dated April 15, 2019

Comment #1:

The UFCW Western States Council supports the adoption of the proposed regulation for Outdoor Agricultural Operations During the Hours of Darkness for the following reasons:

- They have locals that represent workers who harvest crops from 10pm to 7am.
- Night time harvesting of certain crops has become common.
- General safety regulations don't specify minimum levels of lighting to allow for safe outdoor agricultural work at night.
- Lack of adequate light exposes workers to hazards.
- Inadequate lighting of bathroom, break and parking areas put workers at risk of workplace violence.

Response #1:

The Board thanks Ms. Baur for her comments in support of the proposal.

Comment #2:

Ms. Baur suggested the following modifications to improve the proposed regulation:

- Add a requirement for lighting the parking areas
- Make the requirement to select and position lighting to prevent glare enforceable
- Add a requirement for night safety plan includes a system for accounting for location of workers and hazards specific to night work

Response #2:

There was no finding of necessity to light parking areas while employees are working in the agricultural fields. Employees typically park in the same area and leave at the end of their shift at the same time. The provision to provide high visibility vest and portable hands free lighting appear to be sufficient to allow employees to see and be seen walking back to and from their vehicles.

The issue of glare was discussed during the advisory committee meeting. Glare is position sensitive. What could be causing glare to one person can be lighting the work for another employee. For example if you are facing the headlights of the vehicle, it could be causing glare to a pedestrian, but headlights illuminate the road for the driver.

There was no finding of necessity to provide a system to account for the location of their workers.

The Board is not persuaded to add additional requirements but thanks Ms. Baur for her comments and participation in Board's rulemaking process.

7. Mr. Shane Gusman and Mr. Matt Broad, Broad and Gusman, on behalf of the California Teamsters Public Affairs Council by letter dated April 15, 2019

Comments:

Mr. Gusman and Mr. Broad share the same comments as Ms. Baur of UFCW. (See No. 6).

Response:

Please see the Board's responses to Ms. Baur's comments (See No. 6).

The Board thanks Mr. Gusman and Mr. Broad for their comments in support of the proposal and participation in the Board's rulemaking process.

8. Mr. Bill Mattos, President, California Poultry Federation, by letter dated April 16, 2019

Comment 1:

Mr. Mattos recommended excluding poultry agricultural operations or changing the wording so as not to require the constant use of lighting based on 344l(g) and excluding poultry agricultural operations from 3449(a) and the subsequent lighting table

Response 1:

The Board is not persuaded to add an exemption.

Comment 2:

Mr. Mattos opposes the need for the regulation stating the proposal would cause major animal welfare injury in birds, thus affecting workers who must deal with agitated birds in lighting that does not meet our nation and state animal welfare standards.

Animal welfare standards require catching at night to minimize the birds' fear reaction and aid in the human catching of animals. Calm animals also protect employees from injury caused by animals flapping or running and greatly reduces the ergonomic risks to employees when handling animals.

The normal operation inside the houses and catching machinery operate at less than 1 foot candle with nominal house lighting at less than 0.5 foot candle. The Moffet illuminates the module inside the house for loading at less than 2.5 foot candle at 5 feet and less than 1.5 foot candle at less than 15 feet to prevent disturbing the animals leaving the nominal housing lighting at less than 0.5 foot candle.

Outside areas are not lit when animals are loaded into modules outside the house for the same reasons they are caught in low light inside the houses. Since employees must catch in low light situations, their scotopic vision is paramount to safe operations. If the light were increased to the proposed level, employees would experience dramatic decreases in their visual acuity cause by the continual transition from dark to light. Mr. Mattos also expressed concern about lighting that could affect residences and roadways.

Response 2:

The Board is persuaded by Mr. Mattos comments and will modify the proposal to address poultry harvesting or catching operations.

The Board is not persuaded by the comment regarding unintended consequences, because of the level of lighting required by the proposal and there is no requirement that additional lighting must reach 50 feet. While the agricultural equipment is traveling on the road, including private country roads, the agricultural equipment is not required to turn on additional lighting beyond the headlights and other lights required by the Department of Transportation. Furthermore, if the employer does experience complaints from the City then, the employer can apply for a variance from the Board.

The Board thanks Mr. Mattos for his comments and participation in the Board's rulemaking process.

9. Mr. Doug Parker, Executive Director*, Worksafe, by letter dated April 17, 2019

Comments:

Mr. Parker has the same comments as Ms. Baur of UFCW (See No. 6).

Response:

Please see the Board's response to Ms. Baur's comments (See No. 6).

The Board thanks Mr. Parker for his comments in support of the proposal and participation in the Board's rulemaking process.

*As of August 16, 2019, Doug Parker stepped down from policy work with Worksafe and is now the Chief of the Division of Occupational Safety and Health.

10. Ms. Marielena Puente, by letter dated April 17, 2019

Comment:

Ms. Puente shared from her experience and that of her sister and brother, stating:

- Snakes are difficult to see at night due to low lights and the protective eyewear makes it even more difficult to see.
- Better lighting would make it easier to get off moving equipment and use the restrooms. The location of the restrooms are sometimes a distance from the employees. It depends on where and when the moving equipment stops so employees can take a break.
- We need appropriate vests to be seen at night because we are not visible at night in our plain clothes.
- We need headlamps and helmets with light in order to see and avoid snakes and bee hives.
- It is difficult to carry both a lamp and water pipe, causing you to walk in the dark. A helmet equipped with lights would be practical for us to use and perform our work.
- My brother Jose Luis did not see a beehive and was attacked by bees. He was taken to the emergency room and was hospitalized as he was allergic to stings.

In summary, it is very important for this regulation to pass. Good lighting would facilitate our work. Many accidents and deaths can be avoided. These regulations are for the safety and health of any farm worker who works at night. Ms. Puente provided photographs.

Response:

The Board thanks Ms. Puente for her comments in support of the proposal and participation in the Board's rulemaking process.

12. Ms. Irena Asmundson, Chief Economist, California Department of Finance, by letter dated April 18, 2019

Comment:

Ms. Asmundson and the Department of Finance (Finance) staff identified additional labor data from the Bureau of Labor Statistics that indicates Board overestimates the number of impacted establishments and workers. As a result, the original Board estimates for total economic cost and benefits were also overestimated and a SRIA was improperly indicated.

Ms. Asmundson offered Finance's assistance with applying corrected methodologies for a revised economic impact assessment. If after the correct methodology is applied to the proposed regulation and it does not meet the major regulations threshold of \$50 million, a new economic impact assessment should be included in a follow-up public comment period.

Should the Board staff choose not to revise the economic impact assessment, Finance offered, if possible, to expedite the review of the subsequent SRIA so the regulatory process can proceed.

Response:

The Board is persuaded by Finance staff to review the economic cost and benefits of the proposed regulation.

In this matter, Board staff is not persuaded that the smaller number of establishments indicated by labor data from the federal Bureau of Labor Statistics should replace the data from the California EDD Labor Market Information Division (LMID) originally used to estimate the number of impacted establishments and workers. The LMID data used reflects detailed and specific industry information for the State of California, which in this case may more accurately indicate the estimated total economic costs and benefits of the proposed regulation.

As discussed with Finance subsequent to the submittal of their public comment letter, a review of public comments from Labor and Management stakeholders show that Board staff overestimated the number of months that night time work is likely to occur for establishments. Originally, Board estimates showed 6 months for typical crop harvests, where labor and management stakeholder comments reflect 3 months as typical for crop harvests.

The Board, in consultation with the Department of Finance, is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year with ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Ms. Asmundson for her comments and participation in the Board's rulemaking process.

13. Mr. Juvenal Solano, Community Organizer, Mixteco/Indigena Community Organizing Project, by letter dated April 18, 2019

Comment:

Mr. Solano has the same comments as Ms. Baur of UFCW. (See No. 6).

Response:

Please see the Board's responses to Ms. Baur's comments (See No. 6).

The Board thanks Mr. Solano for his comments in support of the proposal and participation in the Board's rulemaking process.

14. Ms. Anne Katten, Pesticide and Work Safety Project Director, California Rural Legal Assistance (CRLA) Foundation, Ms. Esmeralda Zendejas, Regional Director of Advocacy, Migrant Unit, CRLA, Inc., Mr. Blaz Guttierrez, Director of Coachella Migrant Unit Office, CRLA, Inc., by letter dated April 18, 2019

Comment #1:

The letter was submitted in support of the proposal but requested the following revisions:

- Section 3449(a) Table 1 should add "parking areas" where 3 foot candle levels are required.
- Section 3449 (a)(1) should be changed to read:
 - When needed to comply with subsection (a) the employer demonstrates that it is infeasible to meet the illumination levels required by subsection (a) with area

- lighting, the employer shall provide and maintain hands free portable personal lighting in addition to area lighting in order to achieve illumination levels listed in Table 1.
- Minimum quality and lighting requirements for hands free portable lighting should be specified.
 - Add a requirement for prevention of glare, rather than a note.
 - Add the requirement for the employer to provide gaiters appropriate for protection from snake bites for night work in desert areas.
 - Require employers to have a “night safety plan” that identifies emergency medical facilities that are available at night, high traffic areas, nearby bodies of water, and a system for accounting for the location of workers.
 - Require employers to create a traffic plan.

Comment #2

CRLA is of the opinion that the economic impact analysis/assessment was overestimated, stating that:

- Estimates essentially assume that work is currently performed in the dark and do not take into account amount of money spent on lighting that is already being supplied;
- Most night harvest activities last only 2 to 3 months, not 6 months a year;
- Many labor intensive crops including table grapes, raisins, strawberries, citrus and fresh market stone fruit are rarely or never harvested at night.
- The 25% of work estimate is based on an extrapolation of night work performed in other industries that operate on a 12 month basis and includes the service industry and other industries that operate on a 24 hour basis. That is not the case for agriculture.

Furthermore CRLA offered supplemental information for the Initial Statement of Reasons affecting the cost, such as:

- The types of crops that are transplanted and harvested at night
- Farm labor contractor is a category of employer, not an agricultural job
- The estimate of 10% of the agricultural workforce working at night and 25% of California agricultural establishments being impacted may be high

In addition, CRLA provided declarations and photos from CRLA staff and farmworkers which provide detailed first-hand observations of night-time agricultural work.

Response #1:

There was no finding of necessity to light parking areas while employees are working in the agricultural fields. Employees typically park in the same area and leave at the end of their shift at the same time. The provision to provide high visibility vest and portable hands free lighting appear to be sufficient to allow employees to walk back to their vehicles. The Board will not add additional requirements.

Response #2:

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The

reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Ms. Katten, Ms. Zendejas, and Mr. Gutierrez, for their comments in support of the proposal and their participation in the Board's rulemaking process.

15. Mr. Craig Ledbetter, Vice President/Partner Vino Farms, LLC, by letter dated April 18, 2019

Comment:

Vino Farms is urging the Board to revise proposed Section 3449 to delete its subsection (a) and Table 1. Vino Farms is of the opinion that the proposed lighting requirements would weaken their current safe practices. Their Injury and Illness Prevention Program includes effective safe night work practices as shown by their low injury rate. They currently provide pre-shift training, personal hands-free lighting, field and equipment lighting, bathroom lighting and high-visibility clothing which are effective in preventing workplace injuries in their operations.

They disagree with the estimated cost of the proposal stating that additional costs were not accounted for such as, personal hand-held flashlights, front and rear lighting from harvesters, and the cost of lighting the inside and outside of portable restrooms. Vino Farms also disagrees with cost for generator, tower lights, and the cost to power a generator.

Vino Farms believes that increased lighting does not necessarily improve safety security the amount of light proposed will create safety related risks such as:

- Glare
- Shadows
- Depth perception
- Eye sensitivity
- Attracting insects

Response:

Please see the Board's response to comments from Mr. Little (See No. 3). As stated in the notice of rulemaking, the proposal is intended to improve visibility by providing adequate lighting and employers have the responsibility to set-up their lighting to reduce or prevent glare to the extent possible.

The proposal does not require the employer to use a portable generator. For some employers, the lighting provided by mobile agricultural equipment and portable lighting is sufficient. If the employer needs additional lighting powered by generator to comply, the employer can purchase or rent the generator that suits their needs.

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Mr. Ledbetter for his comments and participation in the Board's rulemaking process.

16. Duff Bevill, Managing Partner, Bevill Vineyard Management LLC, by letter dated April 18, 2019

Comment #1:

Mr. Bevill urges the Board to revise proposed Section 3449 by deleting subsection (a) and Table 1. Mr. Bevill stated that there is no established need for this proposal because there is no data to support that there are increased issues of workplace safety by vineyard workers working at night. The Injury and Illness Prevention Plans already include provisions for nighttime safety. He supports the requirements for hands-free personal lighting to meet minimum illumination standards and for providing high visibility clothing to employees working at night.

He expressed concerns the levels of night illumination in working areas keyed to specific task types in proposed Section 3449(a) will be impossible to obtain and maintain as the agricultural workplace changes during a work shift. Due to changes in terrain, heights of vines, and curves in rows of vines, for some vineyards to comply with this regulation, there would need to be several towers of lights, lighting up the vineyard like a football field. Additionally, those lights would be powered by several generators. This is more light than is needed, and may put the grower out of compliance with local regulations dealing with light pollution, noise, and air emissions.

He also stated that it would be virtually impossible to comply with this proposed regulation while also complying with local ordinances and air emissions standards at the same time. Foot candles and lux are not the proper metric for determining how bright a task/working surface area will be.

Mr. Bevill also commented on the 2015, field surveys conducted by the California Farm Bureau Federation. (Please refer to the comments from Mr. Little (See No. 3).

Comment #2

Mr. Bevill believes that the cost of the proposal is greatly underestimated:

- The cost estimate does not include labor costs for moving generators, lighting towers, refueling generators, or maintenance of generators and lighting towers and does not include the future cost of replacement.
- The cost estimate seems to indicate the need for only one generator.
- The costs of the generators themselves are understated in the estimate.
- The cost estimate seems to indicate the need for only one tower.
- The cost estimate of the towers themselves are understated in the estimate.
- The cost estimate appears to be based on the most inexpensive generators and light towers on the market.

Mr. Bevill questions the estimated benefits of the proposal, because of the limited data available to estimate the benefits.

Response #1:

Employers are not required to light up the entire field. Employers are required to provide lighting in areas where there is employee exposure, areas where employees are working. The proposal does not prescribe the type of lamp and how the employer elects to set-up lights.

Board staff had an opportunity to observe lighting conditions in a vineyard while employees were hand harvesting. In this operation, portable headlamps were critical in supplementing the overhead fluorescent light mounted on industrial trucks and light fixture mounted on the gondola. Board staff is of the opinion that it is feasible to achieve 5 foot candles for hand harvesting of grapes.

Lux and foot-candles are the units for recommended light level. These units are used in multiple consensus standards such as the American Society of Biological Engineers (ASABE), ASAE EP344.4, Lighting Systems for Agricultural Facilities, USDA Lighting Improvement Code 370, and ANSI IESNA- RP7-01, Recommended Practice for Lighting Industrial Facilities.

Please see the Board's response to comments from Mr. Little (See No. 3).

Response #2

The proposal does not require the employer to use a portable generator. For some employers, the lighting provided by mobile agricultural equipment and portable lighting is sufficient. If the employer needs additional lighting powered by generator to comply, the employer can purchase or rent the generator that suits their needs.

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Mr. Bevill for his comments and participation in the Board's rulemaking process.

17. Michael Müller, Director of Government Relations, California Association of Wine Grape Growers (CAWG), by letter dated April 18, 2019

Mr. Müller expressed the same concerns brought up by Mr. Bevill (See No. 16).

Response:

Please see the Board's responses to comments from Mr. Bevill (See No.16).

The Board thanks Mr. Müller for his comments and participation in the Board's rulemaking process.

II. Oral Comments:

Oral comments received at the April 18, 2019, Public Hearing in Sacramento, California.

1. Anne Katten, (CRLA)

Comment:

Ms. Katten's oral comments were similar to her written comments. (See Written Comment No. 14).

Ms. Katten stated the proposal was needed to specify minimum levels of lighting needed for the following reasons:

- Workers to be seen by machine operators and truck drivers;
- Safe worker use of tools such as clippers and knives;
- Avoid tripping on uneven ground or slippery plant material;
- Avoid falling into ditches;
- Avoid dangerous insects, spiders and snakes.

Ms. Katten stated that her organization supports this proposal, and she hopes that the Board will also support this proposal and consider the revisions that her organization is recommending.

Response:

Please see the Board's response to written comments from Ms. Katten (Written Comments No. 14).

The Board thanks Ms. Katten for her comments in support of the proposal and participation in the Board's rulemaking process.

2. Jora Trang, Worksafe

Comment:

Ms. Trang stated the Worksafe is in agreement with the comments of Ms. Katten. Furthermore, she stated that there are several reports and studies that show many agricultural workers who work at night are sexually assaulted and experience workplace violence. She said that it is very important that this proposal contain language to require adequate lighting in the parking areas, as well as a night safety plan that accounts for the location of workers and hazards specific to night work.

Response:

Please see the Board's response to written comments from Ms. Katten (Written Comments No. 14).

The Board thanks Ms. Trang for her comments in support of the proposal and participation in the Board's rulemaking process.

3. Bill Mattos, California Poultry Federation

Comment:

Mr. Mattos's oral comments were similar to his written comments. (See Written Comment No. 8).

California Poultry Federation is very concerned about how this proposal will affect their operations when it comes to moving their poultry from the barn to the conveyor that loads them into the truck. He recommended excluding poultry and egg operations from the regulation, or changing the wording regarding the use of constant lighting in Section 3441(g) and excluding poultry agricultural operations from 3449(a) and the subsequent lighting table.

He stated that his organization is happy to provide the Board staff with further information if needed.

Response:

Please see the Board's response to Mr. Mattos written comments. (Written Comments No. 8)

The Board thanks Mr. Mattos for his comments and participation in the Board's rulemaking process.

4. Roger Isom, CA Cotton Ginners and Growers Association and the Western Agricultural Processors Association

Comment:

Mr. Isom's oral comments were similar to his written comments. (See Written Comment No. 5). Mr. Isom stated that CA Cotton Ginners and Growers Association and the Western Agricultural Processors Association do not see a need for this regulation. He said that the accidents that the Division cited during the advisory committee process happened over 15 years ago, and one occurred because there were riders on the equipment, which is illegal.

He stated that the cost estimate in the proposal completely underestimates what is necessary to achieve the lighting levels required, and the lighting standards require employers to provide more lighting than they usually do.

He said that in order to achieve the lighting levels required in the proposal, employers would have to use diesel fire generator-type lighting that is similar to what CalTrans uses. He stated that some folks in his organizations tried bringing those types of lights to some of their operations to measure the lighting and find out what the levels would be, but they found out that doing so creates other issues.

He said that they were informed that in order to bring that type of lighting to a permanent facility, the employer must get a permit. They also found that the engines in these lights did not meet the latest tier, which would be another violation. He stated that these things are far more expensive than the few hundred dollars mentioned in the cost estimate. He said that his

organizations do agree that it is important for employers to provide their employees with reflective clothing.

Response:

The proposal does not require the employer to use a portable generator. For some employers, the lighting provided by mobile agricultural equipment and portable lighting is sufficient. If the employer needs additional lighting powered by generator to comply, the employer can purchase or rent the generator that suits their needs.

Please see the Board's response to Mr. Isom's written comments. (Written Comment No. 5)

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Mr. Isom for his comments and participation in the Board's rulemaking process.

5. Marielena Puente, farmworker

Comment:

Ms. Anne Katten and Ms. Juanita Antiveros, (CRLA) read a letter into the record from Marielena Puente, who is a farm worker. Ms Puente's comments were similar to her written comments. (See Written Comment No. 10).

Response:

Please see the Board's response to Ms. Puente's written comments. (Written Comment No. 10)

The Board thanks Ms. Puente for her comments in support of the proposal and participation in the Board's rulemaking process.

6. Carl Borden, CA Farm Bureau Federation

Mr. Borden stated that most of the provisions in the proposal are reasonable and acceptable, including:

- Requiring employees to wear high visibility clothing.
- Employees should be informed of the location of things at the worksite, such as rest areas and water hazards, prior to starting their shift.
- Requiring certain types of lighting to be used on agricultural machines.

However, he was concerned about the general area lighting requirement to provide area lighting instead of portable, hands-free lighting that can be worn by employees. He stated that there are instances where area lighting is not reasonable. For example, trellised crops such as grapes, can block light. He stated that in cases like this, the proposal does allow the employer to supplement

using portable personal lighting, but his organization is still concerned that this proposal provides a one-size-fits-all approach for providing area lighting.

He also made a comparison between construction and agriculture. He stated that unlike surface areas where construction workers use large area lights during their night work, agricultural fields are vast places that can have soft surface areas on which it would be difficult to put this type of lighting. He also stated that employees working in the fields are moving over a number of acres, and when they move, the lighting will have to be repositioned.

Aside from his concerns regarding the lighting requirement, he believes the cost estimate in the proposal is grossly underestimated. The cost estimate assumes that an employer will only need one \$1,200 Bulldog light and one rechargeable generator. One light will not be enough, even if it is for a small work area, because the employer will need at least one additional light and generator to use as a backup in case the first one malfunctions. He stated that the lowest cost generator that he could find was \$500, not \$200 like it was stated in the cost estimate.

He also stated that a rechargeable generator would not work with a Bulldog light because it has metal halide lights. He stated that metal halide lights are brighter than LED lights, but they use more power and are less expensive. He stated that an internal combustion engine would be required to operate the generator that would work with the Bulldog lights.

He recommends that the standard be performance-based where enough light is provided for employees to do their work safely in a safe environment. Providing personal portable lighting, in addition to high visibility clothing, will help improve the visibility of employees to operators. He also stated that the table of mandated lighting levels should be removed or moved to a non-mandatory section to provide guidance to employers as to what the aspirational levels of illumination should be.

Response:

Please see the Board's response to written comments from Mr. Little (Written Comments No. 3) and Board's response to oral comments from Mr. Isom (Oral Comments No. 4).

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Mr. Borden for his comments and for his participation in the rulemaking process.

7. Michael Miiller, CA Association of Winegrape Growers

Mr. Miiller stated that this proposal will have a tremendous effect on winegrape growers because it will make it impossible for them to harvest grapes at night. He stated that there is no established or demonstrated need for this regulation, and vineyards are already providing

adequate lighting for their workers to do their jobs. There is not a large number of injuries that have occurred due to nighttime work.

Mr. Miiller stated that the Board staff's estimate of the costs associated with this regulation are grossly understated. He said that towers and generators are the biggest cost for employers because these lights must light up an area the length of a football field to comply, and employers will have to buy high grade equipment that complies with the flux and lumens measurements in the proposal with pinpoint accuracy. He stated that generators will need to have the lowest emissions possible in order to comply with local air emissions requirements. He also said that this proposal will create a lot of bleed-over light. Mr. Miiller stated that many vineyards are located near neighborhoods that don't want bleed-over light and in counties that have ordinances regarding light pollution that the vineyards must comply with. This proposal will make it impossible for them to comply with these regulations.

He also stated that the benefits of the regulation are overstated and manufactured, and his organization feels that the Board staff has not done an adequate job looking at alternatives to the regulation. He said that the best way to address these issues is to take a look at the IIPP requirements and make sure that there is a plan in place to deal with local vineyard issues relative to nighttime harvesting and light issues.

Mr. Miiller also stated that this proposal requires a measure of the light being produced by foot candles, lumens, and flux. He said that this is not the proper method for determining how bright a surface area will be. It will only determine how much total light the specific instrument or fixture is producing at a specific moment in time, and when several instruments are combined, they affect the brightness of the working area.

Mr. Miiller stated that this proposal would require vineyards to put up a row of tower lights that reach every inch of the vineyard, even though employees may only be in one spot for just a few minutes, and it is not practical to constantly move the towers of light to meet the standard.

Response:

Please see the Board's response to written comments from Mr. Little (Written Comments No. 3) and Board's response to Mr. Isom's oral comments (Oral Comments No. 4).

The Board in consultation with the Department of Finance is submitting a revised 399 stating the estimated cost businesses and individuals may incur to comply with this regulation over its lifetime are \$7.85 million in the first year and ongoing annual costs of \$4.92 million. The reduction in cost is due to the decrease in the number of months night time work is estimated to occur.

The Board thanks Mr. Miiller for his comments and participation in the Board's rulemaking process.