

May 6, 2014  
Advisory Meeting

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**OCCUPATIONAL SAFETY  
AND HEALTH STANDARDS BOARD**

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MINUTES OF THE ADVISORY COMMITTEE FOR  
GISO ARTICLE 13, SECTIONS 3441, SECTION 3449, AND  
CRLA RECOMMENDATIONS

May 6, 2014  
Sacramento, CA

Call to Order and Introduction.

The meeting was called to order at 9:03 am by the chair, Maryrose Chan, Senior Safety Engineer, Occupational Safety and Health Standards Board (OSHSB). Michael Manieri served as co-chair. The chairperson was assisted by Bernie Osburn, Staff Services Analyst.

The Division of Occupational Safety and Health (Division) was represented by Eric Berg, Acting Principal Engineer of the Research and Standards Safety Unit and William Krycia, Senior Safety Engineer of the Enforcement Unit.

The chair welcomed attendees and reviewed the role of the advisory committee in the rulemaking process. Chair listed the topics that will be discussed during the meeting:

The Division's Proposal regarding illumination as it relates to agriculture equipment  
Board staff's proposal regarding area lighting  
California Legal Rural Assistance's (CRLA's) recommendations

Discussion on Necessity.

The background information for the discussion was given by Eric Berg. He discussed why night time work is important to farmers. He discussed the importance of providing good lighting in order for employees to see what they are doing and perceive their environment when performing night time agricultural operations. His presentation included a summary of serious or potential serious accidents that were reported to the Division that occurred between sunrise and sunset between 1998 and 2012.

Chris Valadez of California Grape and Tree Fruit League commented that including the harvesting of table grapes as a reason for proposing a change in the standard is incorrect. Table grapes are not harvested at night. Stone fruits, such as peaches, plums, and nectarines are harvested during the daytime.

Members expressed concern that there was an assumption that accidents that occurred during hours of darkness were caused by the lack of illumination. The chair clarified that the summary of accidents is meant to provide information to show the type of activities that occur between sunset and sunrise.

#### Illumination.

- The chair discussed and defined the various terms related to illumination: lumens, lux, and foot-candles and how it relates to existing standards.
- The chair gave various examples of illumination levels.

### **SECTION 3441 (DIVISION'S PROPOSAL)**

The chair gave a subsection by subsection review of the proposed changes.

#### Subsection (g).

The Division's proposal would require trucks to turn on headlights at night.  
Last sentence pertaining to additional lighting requirement will be moved to subsection (h)

#### Subsection (h).

The chair provided the rationale for the proposed 10 foot-candle illumination extending 25 feet distance from the agricultural equipment. The objective of the 25 feet distance is to illuminate the object from the point of detection to the complete stop. The proposed 10 foot-candle illumination level was derived from Section 1523(a) of the Construction Safety Orders.

The chair used a report as reference: NCHRP Report 498, Illumination Guidelines for Nighttime Highway Work by Transportation Research Board. In it is Table 10: Recommended Illuminated Distance, which recommends illuminated distances in the direction of travel for various type of construction equipment (chapter 2, page 18 of the report). It stated that human reaction time is 1.5 seconds. The speed of the agriculture equipment was a critical factor in determining the 25 feet illumination distance.

The chair posed 2 main questions to the AC members:

- At what speeds do agricultural equipment typically operate?
- How appropriate is the 10 foot-candle illumination level for the operations conducted at night?

#### Comments on Subsections (g) and (h).

Illumination is typically provided by light fixtures mounted on tractors or agricultural equipment and personal portable lighting (flashlights and head lamps).

Ryan Metzler of California Wine Grape Growers stated that harvesters travel about 1 mile/hour and tractors operate at a speed of approximately 3-5 miles per hour in the farm fields. Eric Berg stated that equipment on farm roads travel at 10-15 miles per hour.

The question regarding the appropriateness of the proposed illumination level of 10 foot-candles was unanswered. Members of the committee could not visualize the brightness level of 10 foot-candles. Members were encouraged to take light measurements in order to comment on the proposed level. The process of taking measurements of illumination levels for most crops would have to wait until harvest time (August to October), when most of the night time work activities take place.

Some attendees particularly members from the grape industry expressed concern about the requirement to provide lighting alongside the equipment. They felt that lighting should be provided in the direction of travel because employees performing hand labor and machine harvesters travel in a straight forward direction between rows of grapevines.

The chair and other members pointed out that the proposed standard applies to all other crops, including those that do not have rows of vines acting as walls. Anne Katten of CRLAF said lighting is very important in areas where they are growing crops low to the ground. Employees work on the equipment and routinely get on and off equipment.

The chair clarified that the proposal does not require lighting to be provided in a 25 feet radius from the agricultural equipment in areas where employees are not located. If there are no employees then there is no exposure. However, if employees are to get off the equipment and will be walking alongside, then lighting is required.

Rudy Avila of Jaguar Labor Contractor provided details of his operation. The company he represents provides labor for manual hand harvest. Growers provide tractor mounted lights for illumination of work areas. Employees are provided traffic vests, head lamps, and whistles. His company manages about 1,000 employees for wine harvest. Employees use knives for harvesting.

Another concern that was brought up was foliage or other structures that may block light; therefore, the employer would not be able to comply with the prescribed illumination level for certain areas. Those concerns were addressed by the proposed New Section 3449. It contains a provision to provide additional lighting via personal portable lighting.

Ryan Metzler asked for clarification of Section 3441(g) regarding the wording "illuminate the rear of the equipment". He stated, "for the sentence stating providing lighting 50 feet in front, I know we are probably talking about white light". For the wording "one rear light to illuminate equipment at the rear", he asked if a tail light would suffice. For clarification, he posed the following questions: (1) What type of light are we talking about? (2) How far does it have to illuminate? (3) What color? (4) Is there a special light other than the tail light?

The chair and William Krycia answered Mr. Metzler question. Section 3441(g) applies to the tail lights, not intended to provide lighting up to 25 feet at 10 foot- candle illumination. It refers to vehicle safety standards (ASABE-American Society of Agricultural and Biological Engineers).



Section 3441(h) speaks of the proposed supplementary lighting that would provide 10 foot-candles up to a distance of 25 feet.

Discussion regarding suggestions to amend the proposed language of Section 3441.

Mike Meuter of CRLA stated that he believes the intent of (g) was for agriculture equipment to have lights that illuminate to 50 feet and for the light to be turned on. Mr. Meuter proposed to add language stating ...“shall be equipped with at least one headlight which shall be used to illuminate the area in front of the equipment for at least 50 feet”.

Bryan Little of the Farm Bureau stated that 3441(g) wording states that “equipment shall be equipped with at least one headlight that will illuminate the area in front of the equipment at least 50 feet. There shall be at least one rear light to illuminate equipment at the rear..” The words to illuminate imply that the light needs to be used. He asked whether enforcement employees find agricultural equipment with lights not turned on.

Eric Berg stated that the language proposed by Mike Meuter is for clarity and there is no regulatory effect with language change.

Michael Manieri of the Standards Board is in support of clarifying the wording. You have to be clear that the lighting provided should have the capacity to illuminate and it needs to be turned on. The two go together.

Subsection (i).

Requires the employer to provide Class 2 high visibility garments

- The chair shared a comment she received, that additional clothing may add to the risk of heat stress. Chair clarified that employers can select other type of protective clothing instead of vest (e.g. high visibility T-shirt).
- The chair asked the committee to provide the cost information of providing employees with personal protective clothing.

Anne Katten of CRLAF commented that she agreed that there should be flexibility regarding the type of garments because of heat concerns and she suggested language that would say that it should fit in a manner that does not impede work or create a safety problem.

The chair responded to Anne Katten by stating that there already is a separate standard on personal protective equipment selection that addressed her concern, Section 3380. It requires employers to perform a hazard assessment and select the appropriate PPE.

The chair shared the study published in California Agriculture in the January –February 1987 issue. The study was conducted by UC Cooperative Extension researchers with Southern California Edison. The chair shared this information to show how the standard can be implemented and how good quality lighting can benefit the employer by increasing productivity. The illumination levels are different from the proposal, but the concept of the study is the same. This study was conducted about 27 years ago and lighting technology has improved.

### **SECTION 3449 (BOARD STAFF'S PROPOSAL).**

Prior to introduction of Subsection (a), chair posed the following questions to the AC Members:

- What should the illumination level be at night when there is no agricultural equipment within 25 feet?
- What type of work do employees perform and how does that affect illumination levels?
- What about personal portable lighting?

#### **Subsection (a)**

The chair introduced the proposal regarding area lighting. Table 1 contains a prescribed illumination level for a corresponding task or area. The proposal draws upon illumination information from outdoor highway construction. The chair referred to NCHRP Report 498, Illumination Guidelines for Nighttime Highway Work, by Transportation Research Board of the National Academies. The report recommended 5 foot-candles for general illumination where crew movement is expected and for tasks requiring low accuracy, 10 foot candles for general illumination on and around construction equipment and medium accuracy type tasks and 20 foot-candles for task that present higher visual difficulty or greater attention. The proposal is consistent with the lighting principles of the Illuminating Engineering Society, which correlates level of illumination with the level of accuracy required to perform the task.

#### **Comments Regarding Subsection (a).**

Members of the AC could not comment on the appropriateness of the proposed illumination levels in Table 1. Members were encouraged to take measurements to see for themselves and determine if the proposed levels are reasonable. According to members of the committee from industry, the process of taking light measurements would have to wait until harvest season (August to October). CRLA raised concerns regarding illumination levels that are only 3 to 5 foot-candles. Anne Katten suggested looking at USDA's recommendations. Mike Meuter commented on the need for more specificity or to further define the areas described.

Rudy Avila commented that the USDA lighting standards are not applicable because employees are not processing food. Harvesting is not processing.

Rudy Avila said that last year he purchased about 40,000 AAA batteries. He had tried to use battery powered light in the restroom, but some (13) were stolen. Employees use headlamps when using the restroom. The outside of the restrooms are solar lit and have reflective lights so that it can be seen. He places cones on hitches. The solar light dims at about 3:00 am.

#### **Discussions regarding amending the proposed language Subsection (a).**

The chair asked for suggestions to improve the description of the various areas and tasks and ranking them by illumination need. The chair asked for suggestions in improving the description of areas that are too vague or open.

There was a consensus:

- To clarify that the section applies to outdoor agricultural operations.
- To conduct light surveys to determine the appropriateness of the proposed illumination levels and to further define the various areas that would require lighting.
- To remove “low activity areas” because it was not clear as to what those areas were. “Meal/rest area” was added to be more specific.
- To change “pathways leading to restroom and drinking water” to “pathways leading to and around restrooms and drinking water”. There was an acknowledgement that pathways to go to the restroom and drinking water may differ from person to person, because each person depending on their location may choose a different path. Restrooms can be moved during the shift to follow the work/employees. It may not be possible to light the pathway via fixed lighting. The lighting of pathways leading to and around the restroom and drinking water can be accomplished by using personal portable lighting.
- To remove “stationary” from “working near stationary agriculture equipment” because the word stationary is not necessary. Lighting must be provided whether equipment is stationary or mobile.

There was no agreement as to what type of areas would require less lighting than “working near agricultural equipment”, but more lighting than “meeting, meal and rest area”. This level of lighting is for activities that support agricultural operations that require a medium level of accuracy.

#### Subsection (b).

Supplemental personal portable lighting required when the employer cannot meet Table 1.

- The chair solicited committee’s input to determine if the language should be specific in requiring that the personal portable lighting be the hands-free type.

#### Comments Regarding Subsection (b).

Brad Goehring said that it should be left open.

Ryan Metzler stated that there are times when employees should use a head lamp and other times use a flashlight.

Eric Berg stated that the proposal does not prohibit the use of a flashlight. Employers can provide hands-free lighting in addition to a flashlight. For using the restrooms, you need to have hands-free. It should be mandated at minimum to provide hands-free and if necessary it can be supplemented by a flashlight.



Subsection (c).

The chair asked for comments regarding adding language similar to Section 1523(b) to the proposed Illumination standard. CRLA advocated for language similar to Section 1523(b) to protect agricultural workers in the same manner construction workers are provided protection. There was an acknowledgement that minimizing glare is important, but enforcing a requirement to minimize glare would be difficult, because lighting and people are mobile, terrain varies, and glare is difficult to measure.

Marley Hart suggested changing the glare provision to a note instead of a subsection.

Eric Berg was asked to research the citation history for Section 1523(b). According to the Division records, Section 1523(b) was cited once in the past 10 years and the penalty was adjusted to 0.

**CRLA's RECOMMENDATIONS.**

Anne Katten introduced CRLA's proposal by summarizing the letter they submitted dated February 13, 2014. She stated that some of the issues were already addressed by proposed amendments to Section 3441 and proposed New Section 3449. The hazards that have not been discussed were dealing with general safety issues listed on page 2, letter (e). She stated that the employer's Injury and Illness Prevention Program (IIPP) should address issues listed in (e).

Clarity was sought as to whether CRLA was proposing to amend Section 3203 or if CRLA was proposing a new standard to address the concerns they listed in their letter. It became clear that CRLA was proposing to affirmatively require employers to address the hazard they listed on page 2, letter (e) of their letter, in the employers Injury and Illness Prevention Program.

The chair commented that the IIPP standard, Section 3203 already requires the employer to identify and evaluate the hazards. The Employer's IIPP has to be site specific, tailored specific to their operations.

Some committee members were of the opinion that the safety hazards listed in the letter were already addressed in the IIPP standard. Bryan Little commented that many of these things are addressed by the employer's hazard assessment.

The chair commented that Cal/OSHA publishes model programs for the public. It would be helpful to have an updated model IIPP specific to agriculture to provide guidance to employers in writing their site specific IIPP, raising awareness to some of these issues.

Bill Krycia agreed that Cal/OSHA can improve that publication, but is not volunteering to update the publication for Cal/OSHA. He urged the industry to develop a program of best practices for night time agriculture work.

Cynthia Rice of CRLAF commented that night work is remarkably different than what is normally addressed in the IIPP. The written IIPPs that CRLA reviewed did not address the hazards listed in their letter. They proposed that the Board write a standard to mandate that employers address certain hazards unique to night work in their IIPP.

Marley Hart stated that in Section 3395, the Heat Illness Prevention, there is a note "that the measures required here may be integrated into the employer's written Injury and Illness Plan".

### **CRLA's LIST OF RECOMMENDED ITEMS TO INCLUDE IN THE EMPLOYER'S IIPP**

#### **1. Traffic Plan.**

The chair asked the attendees, when is a traffic plan needed and what should be in the traffic plan? The chair commented that the traffic plan in construction speaks of the Manual of Uniform Traffic Control Devices (MUTCD). There was a discussion, but there was no consensus as to what a traffic plan should entail.

Anne Katten stated that a traffic plan is needed when vehicles are going to and from the field for loading and unloading (staging area), when a staging area is at the side of the field where employees are working. She also stated the need to enforce maximum speed on a farm road.

Mike Meuter added that a traffic plan would be needed if a public road was adjacent to the field where the harvest activity is happening.

Some members expressed that traffic hazards are not unique to their operation. They also expressed concerns regarding establishing a written traffic plan. Growers asked how they can create a written traffic plan in their IIPP since they harvest at different places within their property on a given day.

Labor contractors do not have control over the site to be placing signs, directing traffic, and enforcing speed limits.

Eric Berg suggested looking at the marine terminal standard requirements for a traffic plan.

Mike Manieri commented about the reference to Section 3475 traffic control relating to marine terminals. In Section 3475, vehicles have to comply with the traffic plan day or night. The traffic plan talks about complying with posted speed limits and traffic signs. He asked the committee if people that come onto the property are given instructions regarding speed limits.

Rudy Avila replied that in most cases there are speed limits to control the dust. He stated that he does not have a traffic plan, but has an evacuation plan. The staging area varies from ranch to ranch. In Napa, he harvests about 60 ranches and they are all unique. Some of these ranches are large where the areas are more defined. Some ranches are small, near residential areas where there is only one entrance for employees and farm vehicles. How do you write a traffic plan for the 100 different locations?

Mike Manieri asked what the group can envision as a traffic plan. Do you post signs, ( i.e. stop, slow, workers present)?

Cynthia Rice commented that it is obvious that companies establish a plan for all the equipment that they need, allowing for the gondolas to go in and out. All the requirement would say is to apply that methodology or coordination at each location.



Brad Goehring replied to Cynthia Rice and said that they do coordinate, but it is on the fly communication with the dispatcher, communicating where to park, where to meet, etc. It is not something that can be enumerated in a fixed plan.

Cynthia Rice replied that the IIPP can come into compliance if the foreman or supervisor who does the planning also communicates to the crew where they are supposed to park their cars and where they cannot enter. It is the same type of communication but it anticipates the safety of the workers.

Anne Katten added that the traffic plan should specify a safe distance from where the trucks are in relation to the portapotties, where the trucks are turning around.

Brad Goehring replied to Anne Katten that he does not agree with quantifying the distances. He moved on to ask Cynthia Rice if an IIPP that specifies communication among the various players and relaying that information would be adequate.

Cynthia Rice said that the IIPP requires the employer to designate of individuals responsible for safety and communication with crews about the safety measures to address traffic hazards.

Gayle Hayden said that harbors do the same thing; each harbor has a traffic plan. Each harbor is different and yet there are standards.

## 2. Designation of safe areas to gather in the IIPP to start and end work.

The chair asked the AC members if this specific requirement should be added in the IIPP. There was no consensus as to how a designation of safe areas would be implemented.

Brad Goehring replied that it is a moving target as to where that location is.

The chair asked if employers already inform their employees where to gather when they establish their harvest schedule.

Marley Hart asked if it is necessary to include it in the IIPP.

Eric Berg said that the employer needs to communicate to workers where vehicles would be present so that they know that the hazards are in that particular area.

Anne Katten said that her intention was for the process of selecting safe areas for people to gather. The intent is for the employer to survey the area ahead of time to think of the area where it would be safe and traffic would be safe.

Rudy Avila commented, once we have a traffic plan then we will be able to designate a safe area. Right now, we have an evacuation plan and we tell them where to park. We don't have to worry about the bathroom location because it is specified in Section 3457.

## 3. System for Accounting for Employees.

Rudy Avila commented that he likes the idea, but does not know if it should be in a standard.

Bryan Little commented that it is not clear why this should be in the standard for illumination.

Brad Goehring commented that the meeting was intended to cover illumination.

Chair stated that the agenda included the discussion of the letter from CRLA.

Marley Hart commented that maybe it should be located in a separate section. A standard called illumination containing text regarding locating their employees might be confusing. The location of the standard may be confusing, not the text.

Eric Berg suggested that the section pertaining to illumination can be retitled.

Brenda suggested creating a guidance document that contains recommendations to add to an employer's IIPP instead of adding it in the regulations. Then wait and see how employers are implementing it.

Victor Duraj commented that some of the items on the list are appropriate for night time work because it is marking or lighting of things that may not be visible during the day. Others seem to fall into the category that night time work is a little bit more dangerous than day time work. There are unique hazards that need to be addressed and possibly be addressed by best management practices to assist employers to identify some of these hazards. These are hazards that do not have to be listed in the standards or hazards employers do not readily recognize. There should be recognition that some things are more dangerous at night and the IIPP should account for that.

The chair asked for Victor Duraj's opinion as to which items should be included?

Victor replied, lighting or marking of water hazards and pest and wild animal awareness could be included, but how can you cover everything that is different at night? We can start making a huge list, but he does not know how helpful that would be. Recognition that it is different at night would be a step forward.

Rudy Avilla said that the current IIPP already talks about recognizing the hazard and communicating it to the employees. It is already in Section 3203.

Michael Manieri stated that vermin hazards and snakes are already recognized hazards. It may be a duplication of the standard.

Marley Hart commented that language stating that hazards unique to night work should be identified in the employer's IIPP. This way it allows the employer to identify hazards that are unique to their operation and not limit their hazard assessment to what is on the list.

Cynthia Rice said many of these things CRLA has looked at, like accounting for location of workers, lighting or marking of waters. These items should have been addressed as a standard, as things that should have been imposed on you all, but in recognition of the fact that these work locations are unique and we thought it is better to address them in the IIPP. It is important the employer should have the obligation to look at these operations differently. Workers are being subjected to different hazards and in our experience they are not instituting safety precautions that

would compensate for those hazards; so it should be in either the IIPP or another standard. The general IIPP standard is not going to cover the hazards that are unique at night.

Marley Hart suggested language, "any potential safety issues unique to night time work need to be explicitly identified and communicated to employees. Consideration shall be given to: 1. [List some of CRLA's recommendations]". There is a possibility that OAL will raise an issue that this provision is duplicative of the IIPP.

#### Outstanding Issue.

1. Light survey information for refinement of the proposed illumination levels and description to task and areas in Table 1.
2. Cost information.

#### Conclusion.

The chair thanked everyone for participating and informed attendees that minutes will be sent out to all who attended. As part of the package that will be sent out, the chair will be asking for an estimate of the total cost of complying with proposed amendments to Section 3441 and new Section 3449. The cost estimate should include the meter, batteries, protective clothing, training, light fixtures, lamps, etc. This information is needed to write the economic impact analysis. The chair will also provide instruction for the light survey. She encouraged the growers/employers to take light measurements. The study discussed during the AC (study conducted the UC Davis Cooperative Extension) will be sent as guidance.

Marley Hart asked for a contact person who will be able to help us determine the cost of the proposal.

Bill Krycia referred Paul Lee of UC Davis who has statistics about the number of agricultural workers in various sectors.

The meeting adjourned at approximately 4:30 pm.

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Occupational Safety and Health Standards Board  
Post Advisory Committee Meeting Roster  
Section 3441 and 3449, CRLA Recommendations  
May 6, 2014

Article 13 – Agricultural Operations

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March 27, 2015  
Advisory Meeting

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**ADVISORY COMMITTEE MEETING MINUTES**

California Code of Regulations, Title 8, General Industry Safety Orders, Article 13,  
Sections 3441 and Section 3449

March 27, 2015  
Sacramento, CA

**Call to Order**

The meeting was called to order at 9:45 AM by the Chair, Maryrose Chan, Senior Safety Engineer, Occupational Safety and Health Standards Board (OSHSB). Michael Manieri, Principal Engineer (OSHSB) served as co-chair. The chairperson was assisted by Leslie Matsuoka, Associate Governmental Program Analyst.

The Division of Occupational Safety and Health (Division) was represented by Eric Berg, Principal Engineer of the Research and Standards Safety Unit and William Krycia, Senior Safety Engineer of the Enforcement Unit.

The chair welcomed attendees and reviewed the role of the advisory committee in the rulemaking process. The chair presented a brief review of the May 6, 2014 advisory committee meeting.

**Review of May 6, 2014 Advisory Committee Meeting**

- Illumination (units, Section 3317, Section 1523)
- Necessity:
  1. Reviewed accidents that were investigated by Cal/OSHA
  2. Adequate lighting is necessary for employees to be able to see their task and their environment
  3. There is a necessity for employees to be seen. They need to be visible to other employees who operate mobile equipment and drivers of vehicle on roads.
- Discussion of the proposal by:
  1. Division (illumination relating to agricultural equipment, high visibility clothing)
  2. Board staff (illumination: area and task lighting)
  3. CRLA letter date February 2014
    - a) Traffic plan for mobile equipment, vehicles, and pedestrian traffic (CRLA new proposed text)

- b) Designation of safe areas for employees to gather to start and end work, take breaks, and for location of sanitary facilities where traffic exposures is minimized (CRLA new proposed text)
- c) Pest and wild animal awareness & hazard prevention
- d) System for accounting for location of employees
- e) Lighting and marking of water hazards (CRLA new proposed text)
- f) Waterproof boots and garments
- g) Personal lighting
- Conclusion
  1. Determined that there is a need to conduct light surveys or at least be familiar with the illumination levels in order to comment on the proposed illumination levels listed in the proposal.
  2. Board staff needs more information regarding the cost of complying with the proposal.

### **Presentation of the Results of the Light Survey**

1. The Chair shared the results of the joint (Division and Board Staff) light survey conducted on October 17, 2014 in Napa, California. The light survey was made possible by Jaguar Farm Contracting Company. Employees of Jaguar Farm Labor Contracting Company were hand harvesting grapes in the hills of Napa.

During the presentation, Board staff presented photos and video clips showing hand grape harvesting at night.

- Photo of the meeting area: Wide open area where employees temporarily park their vehicles prior to the caravan, to park at another site near the harvest area. Employees were wearing high visibility vests and were equipped with headlamps. Right before sunset vehicles travel in a convoy to a designated parking area. Then collectively employees hike up the hill to their designated work areas. Employees are wearing their headlamps and high visibility clothing.
- Photo of the grape knives and headlamp.
- Photo of the light source: Long light fixture mounted on the tractor. The lamps used were fluorescent tubes. The height of the light fixture is approximately 11 feet above the ground. The light fixture opens up like arms providing overhead lighting across and above the rows of grapes.
- Photo of the industrial trucks that haul the gondolas to the staging area. Employees who operate the mobile equipment work for a different employer (not Jaguar). The industrial trucks are equipped with headlights.
- Video clip of the nighttime operations: The light fixture mounted on the tractor provided overhead area lighting. The headlamps provided task lighting so that the employees can see the edge of their grape knives. Directly below the light fixture, the illumination levels ranged from 15-20 fc. Illumination levels at approximately 7 to 14 feet away from the light source ranged from 3 to 7 fc. Headlamps provided between 15 to 20 fc depending on where it was measured. The closer to the light source, the higher the intensity of light. Headlamps have a light profile, more intense lighting at the center.

- Video clip showing how the employee uses a headlamp for task lighting. The light was sufficient to enable the worker to see the edge of his knife.
- Photo of restroom facility. The restroom has a beacon light. The measurements in the vicinity of restroom area were less than 1 fc. As agreed upon from the previous meeting, Chair walked inside the restroom using a headlamp. The light provided by headlamp was sufficient to use the restroom.
- Video clip of the staging area. The staging area is where the industrial trucks drop off their harvest. Industrial trucks are equipped with headlights that provided lighting for them to maneuver in the staging area. There was a stationary vehicle that provided lighting. The illumination level in the staging area was about 1 fc. *Some locations less. Section 3650(i) states "When industrial trucks operate in areas where general lighting is less than 2 foot candles per square foot, directional lighting shall be provided on the truck"*.
- Video clip of the task lighting. Employee was removing branches from the bins. Employee used his headlamp for task lighting. In addition, there was lighting from a vehicle directed to his work location. The area where employee was located was illuminated at about 3 fc.
- Result of the light survey was very similar to the illumination levels to the UC Study conducted in 1987.
- Presentation of the light profile or light pattern obtained online from John Deere. The presentation from John Deere was designed to help customers determine the type of bulb to purchase.
- Review of General Lighting Principles.

2. Bryan Little of the Farm Bureau presented the results of the light survey. He conducted two light surveys at farms. There were 3 machineries present in 3 of the 4 places. High visibility clothing was used by employees.

A. Farm No. 1

- Location: Northern California
- Crop: strawberry rootstock
- Activity: harvesting and shipping of strawberry rootstock
- Light Source(s): Trailer-mounted generator (loading area); factory-installed headlights on field forklifts, trucks, and rootstock harvester

Location 1

- Operations: Truck loading area beyond the field where rootstock was being harvested. Activity: marshalling and loading of bins using field forklifts and trucks. The rootstock harvested is taken to the marshalling area and then transported to be stored in a cooling shed.
- Equipment: field forklifts, delivery trucks
- Light source(s): Magnum MLT 3060K light tower (telescoping pole-mounted light fixture, highway-legal trailer mounted gasoline-powered generator); factory-installed headlights on forklifts and trucks
- General Conditions:
  - Open area with ample light and space for operation of field forklifts and delivery trucks, field forklifts and trucks in continuous operation



- 5-10 employees working on foot wearing high-visibility clothing directing forklifts and trucks
- Illumination levels: 4.8 fc

#### Location 2

- Strawberry rootstock production field
- Activity: machine harvesting of strawberry rootstock
- Equipment: Cat Challenger road grader/gravel spreader modified to harvest strawberry rootstock
- Light source: factory-installed headlights of Cat Challenger; headlights on forklifts
- Illumination levels:
  - 2 fc to .5 fc at 10 feet from side of harvesting machine
  - 15 fc at 15 feet in front of harvesting machine
- High visibility clothing was worn by employees

#### B. Farm No. 2

- Crop: wine grapes
- Activity: mechanical harvesting of wine grapes
- Light source(s): tractor and harvester-mounted factory-installed and auxiliary lights

#### Location 1

- Machine maintenance and storage building and yard
- Activity: storage/servicing of various types of equipment
- Light source: 15 inch diagonal square halogen lights
- Illumination levels:
  - 20 fc at shop door
  - 5.5 fc at 35 feet into the yard from shop door
  - 70 fc inside the building (shop floor)
- General Conditions:
  - Few employees moving around, in and out of shop building
  - High visibility clothing not in use

#### Location 2

- Wine grape vineyard
- Activity: mechanical harvesting with overhead grape harvesting machine
- Light source: factory-installed headlights of Kubota tractor and auxiliary LED lighting on harvester
- Illumination level:
  - 3.8 fc at 15 feet in front of Kubota tractor
  - 3.8 fc at 15 feet at left rear of harvester
  - 15 fc at 20 feet in front of harvester. Harvester was equipped with additional lighting
  - 0.2 fc to .3 fc at 9 feet in front of harvester in adjacent row
- General Conditions:

- Wine grape vineyard
- Trellises & grapevine canopy at 5.5 feet to 6.5 feet in height
- Trellis rows installed 9 feet to 11 feet apart
- Support wires and irrigation drip hoses installed as part of trellis structure, 12 inches to 18 inches from ground. This makes it difficult for employee to traverse from row to row
- Shared photographs of the site visited

3. Roger Isom of the Western Agricultural Processors presented the results of the light survey of their processing operations.

Time: Between 8:00 pm and 10:00 pm

Full moon- no impact on the readings

Locations where light was measured:

- Cotton gin related operation
- Almond huller related operation

Equipment used Sper Scientific Light Meter Lux/FC 840020

#### Location 1

Task 1: Almonds in different stock piles, which are loaded on the conveyor or truck.

Lighting provided by equipment (factory installed) at 25 feet radius:

- Front of equipment – 3.6 fc
- Rear of equipment – 4.7 fc
- Right side of the operator- 0 fc
- Left side of the operator- 0 fc

Employees were wearing light reflective vests.

Task 2: Almond loading into truck trailers with additional lighting coming from a portable light with generator. Additional lighting was located on the left side of the operator.

Illumination levels at 25 feet radius:

- Front of equipment-4.5 fc
- Rear of equipment-4.5 fc
- Left side of the operator- 33 fc (near the additional light source)
- Right side of the operator – 15 fc

#### Location 2

Task 1: Tractor unloading trailer load of cotton bales

Illumination levels at 25 feet radius

- Front of the equipment – 5.9 fc
- Rear of the equipment- 0 fc (measurement taken behind the trailer with bales)
- Right side of the operator-0 fc
- Left side of the operator – 0 fc

No employees other than the operator

Task 2 : Forklift loading cotton bales onto trailer with 2 additional sources of lighting from stationary light fixtures

Illumination levels at 25 feet radius:

- Front of equipment – 10 fc
- Rear of equipment – 5.87 fc
- Right side of Operator – 5.66 fc
- Left side of the operator – 15.6 fc (additional gin light and yard light)
- Underneath the gin and forklift – 6.86 fc (this is inside the 25 feet radius). Lighting sufficient to read a manual.

Findings

- Equipment lights do not meet the 10 fc at 25 feet
- Supplemental lighting would need more than 1 supplemental light in order to comply
- Need permits for portable lights that use a generator. San Joaquin Valley has strict regulation regarding air pollution.
- Equipment: Tractor, module truck, forklift, front end loader

4. William Krycia, Division, presented the results of the light survey

Activity: lettuce harvesting operation in Monterey County, California

Shared photograph of site depicting operations

Employees trail behind equipment. They were not wearing reflective vests

Some employees used knives for harvesting

Date: October 3, 2014

Light Meter: Sper Scientific 840020

No moonlight at time of survey

Ambient light readings at 0.002 fc

Toilets:

- 3 in series, towed behind crew buses
- No internal light source in toilets
- Dual lights on the rear of the buses only ambient light source
- Minimal illumination in field at time of survey
- Ambient illumination in area: 0.002 fc
- Illumination in toilets: 0.05 fc from incidental lighting from bus
- Photographs shared

Tractors:

- No supplemental side lighting
- Two front lights, one rear light, standard directional lighting
- Modification to the forward lighting on water tanks (see photo)

Light levels at the Harvesting Area:

- Conveyor (Outer end of line, within 5' of conveyor): 15.5 fc

- Front of harvester: 0.002 fc at 25' in front of harvester
- Behind harvester
  - 0.5 fc, workers in from end of line
  - 1.4 fc, 4 workers in from end of line
  - 2.4 fc, 1st tire
  - 0.8 fc, midway between tires
  - 3.0 fc, 2nd tire
  - 0.37 fc, junction between harvester and truck
- Illumination primarily from fluorescent lights
- Employees did not have portable lighting
- At least 24 employees at each harvesting operations
- Employees work for a farm labor contractor
- Safety order regarding lighting that currently applies to the operation are Sections 3317 and 3203

## **Discussion Proposed Text**

### **Divisions Proposal, Section 3441**

Proposed Section 3441(h):

Section 3441. Agricultural Equipment

(h) Additional lighting shall be provided where the operation requires field adjustment or the operator's attention. Lighting shall also be provided in areas where workers may be on the ground within 25 feet of operating tractors, trucks, self-propelled or towed equipment. The minimum illumination in these work areas shall be 10 foot candles.

Walt Brooks (Napa Valley Grape Growers, Brooks Family Vineyard) inquired as to the intent of the standard. Eric Berg (Division) replied that the proposal is for the safety of employees working around the equipment so people don't get run over and so that they can see their footing and the equipment. Based on Eric Berg's response, it appears that the lighting prescribed is intended to achieve a dual purpose: lighting for the operator for safe driving of the vehicle and area lighting.

Walt Brooks (Napa Valley Grap growers, Brooks Family Vineyard) inquired about the criteria behind the selection of 10 fc. The data presented, seemed like 5 fc is sufficient for footing safety and awareness. He wanted clarification if this standard applies to fixed sites as presented by Mr. Isom or for all vehicles in agricultural fields. Chair responded it applies to all vehicles in agricultural fields, anywhere where there is an employee within 25 feet of equipment. *It applies to all outdoor agricultural operations during hours of darkness, between sunset and sunrise.*

*Proposed illumination requirement for areas or tasks near agricultural equipment was moved to Section 3449. The word field was removed in Section 3449 (a) to clarify the scope.*

Walt Brooks (Napa Valley Grap growers, Brooks Family Vineyard) commented that it is difficult to propagate light 25 feet in all directions. For example, in vineyards, the rows of vines block the light coming from the equipment. Chair responded that the employer is to provide lighting as to how they see fit. The choice of lighting is not limited to the lighting provided by the vehicle or agricultural equipment.

Eric Berg (Division) added that lighting has to illuminate dangerous moving parts of the equipment. More light is needed than just preventing people from getting run over. Chair pointed to Section 3449 that is being proposed.

Mr. Brad Goehring (Goehring Vineyards Inc.) commented that 10 fc seem excessive, given the presentations that were given today. For example, Mr. Roger Isom 's (Western Ag Processors) presentation showed that at 6.86 fc you can read a manual. Bryan Little (Farm Bureau) commented that in order to provide 10 fc at the edge of the 25 feet radius, lighting close to the source must be significantly higher than 10 fc. Bryan Little asked if at the edge of the 25 feet radius, does the lighting have to be a minimum of 10 fc? Eric Berg replied yes. *This comment has greater relevance if the vehicle equipped with standard lighting is the only source of lighting. For example, a vehicle traveling through the farm roads.* Walt Brooks (Napa Valley Grape Growers, Brooks Family Vineyard) commented that if the intent is as stated then we are over simplifying it. If you are in the vicinity of the equipment and there are moving parts then you may want 10 fc, but if you are 25 feet away from the equipment then you don't really need 10 fc, 5fc may be sufficient.

Chair reviewed discussion from the previous advisory committee meeting. The reason for the 25 feet distance is to allow sufficient distance from the time of detection to a complete stop, taking into account the human response time, braking distance and buffer distance. The lighting has to be sufficient to allow for detection. *The 10 fc came from the Construction Safety Orders.* When you drive a vehicle, you are concerned with being able to see the direction of travel. Chair asked if it is necessary for that vehicle to provide 10 fc at a distance of 25 feet all around, keeping in mind that it is coupled with Section 3449, which deals with task and area lighting?

Mike Meuter (CRLA) replied yes. He commented that based on William Krycia's (Division) presentation, the farm equipment was moving with wings extended at the edge of the tractor. He estimates that the wings were about 10 to 15 feet long based on the presentation. He was concerned about compromising safety if the 10 fc at 25 feet is reduced. Mr. Walt Brooks (Napa Valley Grape Growers, Brooks Family Vineyard) stated that the standard is vague and inquired if light measurements are to be taken at the center of the tractor. He commented that having 25 feet wings supplying light may compromise safety. Bryan Little (Farm Bureau) asked what the definition of "near" was in Section 3449. It seems that you would need greater lighting when you are closer to the equipment than when you are farther away.

Anne Katten (CRLAF) commented that lighting is especially important for employees who are working on piece rate because of the speed they move.

An attendee asked if we have looked into how visible an employee wearing high visibility clothing would be. She also asked if the operator's perspective was studied. Chair replied no.

Chair commented that the proposal should have a differentiation as to what is required for the agricultural equipment for traffic safety and for illumination of agricultural fields.



Rudy Avilla asked if factory standard agricultural equipment currently meets the proposed lighting standard. This standard may require all agricultural equipment to be retrofitted. Chair replied that the headlights meet the requirement. Roger Isom disagreed based on his measurements. Chair agreed to research and verify with manufacturers. *No longer needed since Subsection 3441(h) was removed and the proposal for area lighting within 25 feet of agricultural equipment was revised to 5 fc. The source of the lighting is not limited to lighting provided by the agricultural equipment. In addition an exception to farm road travel was added to Section 3449. This exception is necessary to reduce the possibility of unwanted glare for other drivers on private farm roads.* Mr. Walt Brooks stated that he agrees that you need about 3-5 foot candles at the side of agriculture equipment to provide awareness.

Chair asked if there is agreement to provide lighting in the direction of travel.

Rex Barton (Lunarglo) asked if the speed of the vehicle was considered because speed has an effect on what the operator can see. Brad Goehring (Goehring Vineyards Inc.) commented that the lamps he installed on his grape harvesters are rated for vehicles moving at 100 mph. The light measurements taken by Bryan Little (Farm Bureau) showed 15 fc at 20 feet. Given that data, he believes that the proposed illumination level should be lowered.

Chair paused the discussion on proposed language for Section 3441(h) and moved the discussion to Section 3449.

Michael Meuter (CRLA) noted that the language pertaining to high visibility clothing was moved to 3449. He wanted to know what effect that would have on agricultural equipment. Chair replied that moving the proposed Subsection (i) to Section 3449 would require that all employees wear high visibility clothing at night.

Walt Brooks (Brooks Family Vineyards) commented that Subsection (g) speaks of lighting required to be on the agricultural equipment, but the requirement for additional lighting as proposed in Subsection (h) does not necessarily mean that the lighting is coming from the vehicle.

Chair replied that the provisions in Section 3441 apply to agricultural equipment. Chair pulled up Section 3441 to allow the Advisory Committee members to read the contents of Section 3441 to determine the appropriateness of placement of proposed Subsection (h) in Section 3441.

Michael Meuter (CRLA) disagreed and commented that 3441 is not limited to lighting provided by agricultural equipment. It concerns farm equipment in motion and compliance can be met based on the language and the intent.

Chair asked the committee to consider the three different illumination issues when working at night: vehicular safety, area lighting, and task lighting.

Rudy Avila (Jaguar Farm Labor Contracting) proposed that the language in Subsection (h) be moved to Section 3449. Work at night would require additional lighting. The agricultural equipment that is not operated at night would not need this additional lighting. Chair agreed to

move lighting provisions related to agricultural equipment to Section 3449. William Krycia (Division) suggested that a note be put in place directing reading to Section 3449. Chair agreed.

### **Board Staff Proposal, Section 3449**

Chair pointed out that the title was changed, so that the section would apply to agricultural operations that take place between sunset and sunrise. The title is no longer limited to Illumination.

#### **Subsection (a). Illumination**

- A page from ANSI/IES RP-7 1991 was handed out to the committee members. ANSI/IES RP-7 1991 is referenced as a note in Section 3317. The page prescribes illumination levels for outdoor locations. Document was given to committee members for comparison purposes to the proposed Illumination levels in Table 1 of Section 3449.
- Chair asked if 3 fc is appropriate for meal and rest area? Bryan Little (Farm Bureau) asked how much area needs to be illuminated. Chair replied the area depends on where the employees are. Employees are to be provided 3 fc at their meal and break area.
- Brian Little raised the issue of employees being mobile. Chair replied that if the employee decides to walk away from the area, then the illumination level is achieved by (a)(1), personal portable lighting.
- Victor Duraj (UC Davis) commented that for the Cal Trans example, more light is needed because employees are constantly illuminated by vehicles. In the agricultural fields, employee's eyes are more likely able to acclimate, to adjust to the lower light levels.
- Brad Goehring (Goehring Vineyards) said he opposes the one size fits all concept. Cal Trans has the ability of using different types of lighting. He suggests an approach that makes employees visible, for example using a traffic vest.
- Anne Katten (CRLA) commented that the illumination levels should not fall below the 3 fc. Employees walk on uneven ground surfaces. There is the added issue of sexual harassment. Employees' vision may not be corrected. She would prefer 5-10 fc at the eating area.
- Carlos Falcon (UFW) commented about the number of eating areas at night that would be illuminated. During the daytime, farm workers can have their lunch anywhere. He was concerned that the 3fc may not provide sufficient lighting for the number of workers present during the peak harvest season. He was concerned that 3fc may not be enough for 70 employees. Chair clarified that the 3fc is an illumination level criteria that can be achieved by providing multiple lighting. Each employee will have 3fc of illumination. Eric Berg (Division) commented that headlamps are allowed to supplement the lighting so it would not be difficult to meet the requirements.
- Roger Isom (Western Ag Processor) asked for clarification as to how (a)(1) relates to the table in Section 3449. He asked, does portable personal lighting allow you to be in compliance with all the areas in the table? Chair cited the example of the light survey done

in Napa, wherein the overhead tractor lighting may provide illumination levels up to 5 fc. The 3-5 fc is not sufficient according to the proposed table. According to the table 10fc is required for active agricultural operation such as harvesting. The portable personal lighting enables the employee to have 10fc of lighting. There's an overall lighting for general safety. However employees performing a specific task that requires fine motor movement, near moving parts, would need to provide higher level of lighting for those areas. Roger Isom asked if the area was lit up at 6.86 fc and the employee has a headlamp that allowed him to have 10 fc, would he be in compliance. Chair answered yes. Eric Berg added that in the meeting area, there may be shadows and the headlamps allow the employer to be in compliance.

- Carlos Falcon (UFW) asked when employees would be allowed to take off their personal portable light for comfort.
- Michael Nelmda (OSHSB) replied that the head mounted lamp can be worn or affixed to other locations. It can be strapped onto something else and it can still illuminate. Portable personal lighting is not limited to headlamps. For example you can have it wrist mounted or worn like a necklace.
- Carlos Falcon (UFW) asked if more language is need for the implementation of personal portable lighting. Michael Nelmda (OSHSB) replied that the type of personal portable lighting should be decided by labor and management, because selecting the type of personal portable lighting is a function of operational efficiency. The choice of the type of lamp does not need to be codified.
- Victor Duraj (UC Davis) feels that when you are on your own time, having a meal or resting, you shouldn't have to wear extra gear (hands free portable personal lighting). Meal and rest area should be provided with ambient lighting.
- Brad Goehring (Goehring Vineyards Inc.) stated that when his employees take breaks, they take a nap. He believes that employees would not want to have lighting when they are taking a nap. William Krycia (Division) pointed out a case wherein an employee was run over by equipment as he was taking a nap in an unlit area.

#### Lunch Break

##### Subsection (b) Provision to provide high visibility clothing

- Chair decided to take a break from Illumination and move to discussing high visibility clothing. Chair asked if there were any objections to Subsection (b). No one replied and Chair declared that there was consensus on Subsection (b).

##### Returning to Subsection (a)

- During the lunch break, a light meter was used to measure the ambient light reflected on the surface of the table towards the front of the multipurpose room. The lighting in the multi-

purpose room was dimmed to use the projector. The chair's light meter read 2.6 fc, Victor Duraj's (UC Davis) read 20 lux.

- Chair asked for objections to the proposed Illumination levels listed in Table 1 of Section 3449. No objections or concerns were expressed by the committee.
- Victor Duraj (UC Davis) asked if the table relates to the text of 3441.
- Chair asked for the definition of "near". Eric Berg (Division) replied that in terms of fall protection, proximity is defined as 6 feet. Michael Nelmda (OSHSB) replied that the definition may be found in prior decisions from the Appeals Board.
- Anne Katten (CRLAF) asked to amend Subsection (a)(1) to require that area lighting shall be the primary standard. It is more comfortable for the employees. It is safer for the workers. It is probably more cost effective in the long run.
- Walt Brooks (Napa Valley Grape Growers, Brooks Family Vineyard) stated that the crews he works with prefer the headlamp. The user controls the light and there is no shadowing. In his operations, they also provide a form of ambient lighting for their operations. Classifying ambient lighting to be primary and personal portable lighting as secondary could present a problem in their operations.
- Eric Berg (Division) stated that there has to be language that says that there has to be some ambient lighting and not solely rely on portable lighting.
- Michael Manieri (OSHSB) suggested language to remove primary and replace it with preferred. Michael Nelmda (OSHSB) commented that language referring to preferred or primary lighting creates a complication relating to the burden of proof, whether this or that is the primary source of light or how do you compare the light coming from ambient light and light coming from other sources.
- Eric Berg (Division) suggested language that states area lighting shall be provided. If additional lighting is needed to comply with the Table, personal portable lighting shall be provided.
- Walt Brooks (Napa Valley Grap growers, Brooks Family Vineyard) said that some of those portable lighting units are so strong that employees have to turn them down. He thinks there is a place for ambient lighting and a place for personal lighting. Making one of them preferred or primary isn't really going to make it safer.
- Michael Nelmda (OSHSB) commented that we need to isolate task lighting as the primary source, then provide a certain amount of ambient lighting where the task is not important or is not the highlight. Chair reiterated Michael Nelmda's comment asking if he meant that there should be a minimum amount of ambient lighting and if additional lighting is needed then add personal portable lighting. He said yes.

- Chair posed the question to the advisory committee members, if the employer does not provide area lighting and only provides headlamps, what is the hazard?
- Michael Meuter (CRLA), said that they will not see the employees from behind whichever way the headlight is going. If the tractor is approaching employee from the rear, employees will be invisible. Brad Goehring stated that if a tractor is approaching the employee from the rear, there will be headlights from the tractor. Chris Valadez (California Grape and Tree Fruit League) commented that the high visibility garments will ensure the employee's visibility. Eric Berg stated that headlamps cast a narrow beam; you will not see the ground. Chair responded that you can see the ground with a headlamp. Bryan Little (Farm Bureau) said that, it is pointed at what you are doing and when you move on to the next task, it will be pointed to that task.
- Chair commented that we are trying to establish minimum standards and give it some flexibility.
- Anne Katten (CRLA) commented that portable lighting dissipates overtime. Some area lighting is need as a backup. Employees need to see the meeting area and bathroom and they need to be able to orient to their destination. She believes this cannot be accomplished with just portable lighting.
- Rudy Avila (Jaguar Farm Labor Contractor) commented that you cannot light up the terrain. There's up and down on hills and the area they are working in is too big to be lit up. The standard should require sufficient light to be able to do the task in a safe manner. The Injury and Illness Prevention Program requires employers to provide light in a safe manner. We provide them with light to see what they are doing and also see their knife so that they do not cut themselves. Lettuces are cut from the plant using a 6 inch knife during the day time. At night, employees pick up the lettuce from the ground and place them on a conveyor. It is hard to have a lighted pathway. It should not matter how you provide light as long as you have enough light.
- Carlos Falcon (UFW) asked how can we handle emergency situations without lighting?
- Rudy Avila (Jaguar Farm Labor Contracting) stated, the headlamps work and they use a lot of batteries. It is extra work, but the headlamp is best way to get employees where they need to go. They take their breaks. They generally carry their lunch to the tractor so that they don't have to walk back to their vehicles. During the first 30 min break they sleep and then on the second breaks they eat. Carlos Falcon (UFW) asked if he is suggesting to exclusively use headlamps. Rudy Avila (Jaguar Farm Labor Contracting) answered that you need to have both. We as the employers need to provide a safe working well lit environment. It does not matter if it is just with overhead lighting. But if you do it with just the tractor, you will have problems. The tractors move at a certain speed and some people work faster than others.



- Walt Brooks (Napa Valley Grapegrowers, Brooks Family Vineyard) believes that the headlamp is actually safer. The amount of light it provides will exceed the light that is required to be provided on pathways.
- Brad Goehring (Goehring Vineyards Inc). The headlamp is linked to your eyesight. If you turn your head, it directs the light to the task at hand. It is common sense that the employee will direct their personal portable lighting to where it needs to go.
- Chair made a decision to keep existing subsection (a)(1) so as to not sacrifice the consensus that we have on Table 1.
- Michael Meuter (CRLA) suggested adding the language to provide and maintain handsfree portable lighting. Chair agreed.
- Chair will look into the word “near” as it applies to Table 1.

(b) Safety Meetings

- Chair asked if there were any objections to the language.
- Attendee suggested that a shade trailer can be made to provide lighting. Chair made it clear that we are not proposing to require the use of shade trailers.

**Discussion of Section 3441(h) that was moved to Section 3449**

(h) Additional lighting shall be provided where the operation requires field adjustment or the operator's attention. Lighting shall also be provided in areas where workers may be on the ground within 25 feet of operating tractors, trucks, self-propelled or towed equipment. The minimum illumination in these work areas shall be 10 foot candles.

- Anne Katten (CRLAF) commented that lighting is needed at the front, back, and sides of agricultural equipment. Eric Berg (Division) added a comment stating, people moving at the sides of the vehicle also need adequate lighting.
- Brad Goehring (Goehring Vineyards Inc.) commented that for a grape harvester, how are you going to illuminate to the 25 feet radius. The lighting is not going through the rows of grape foliage as you drive the grape harvester down the row. Michael Meuter (CRLA) said that grapes and orchards are unique in that the light can be blocked by the trees or vines. However for row crops, employees stand to the side or behind the equipment. He asked if the chart in proposed Section 3449 covers these employees.
- Rudy Avila (Jaguar Labor Contracting) commented that Section 3441 talks about the equipment and Subsection (h) talks about working at night. Subsection (h) requires that additional lighting be provided at 10 fc near agricultural equipment.

- Walt Brooks (Brook Family Vineyards) commented that the table is comprehensive enough to address the hazard addressed by original Subsection 3441(h).
- Eric Berg (Division) commented that fixed lighting is needed on the side and exterior of the agricultural equipment. Michael Meuter (CRLA) suggested 5 fc to the side of the equipment.
- Victor Duraj (UC Davis) commented that the grape harvester is a good example for an exception to the standard. The grape harvester creates an impenetrable barrier that prevents an employee from running into the machine. When the grape harvester exits the row then it can illuminate at the side 10 fc at 25 ft and a lower fc for the sides of the equipment.
- Bryan Little (Farm Bureau) commented that to have 5 fc at the edge of the 25 ft radius, the light fixture has to be emitting a higher intensity of light closer to the vehicle.

### **Standards proposed by CRLA: traffic hazards, designated work areas and pathways, water hazards**

Mike Meuter described their proposal. CRLA believes that if implemented, it would enhance the safety of the people working at night.

- Chair asked for comments and the necessity behind proposed subsection (i). Michael Meuter replied it is necessary to address the risk of moving farm equipment at night. It is the same necessity as the rest of the proposal.

### **Traffic Hazards Discussion**

- Rudy Avila (Jaguar Farm Labor Contracting) commented that there is an existing standard that can address this hazard, Section 3203.
- William Krycia (Division) said that Section 3203 is not specific to traffic.
- Rudy Avila (Jaguar Farm Labor Contracting) commented that companies require drivers to drive slow due to food safety. It depends on who is buying the crop. Companies like Costco, Walmart, and Sam's Club require dust to be minimized.
- Anne Katten (CRLAF) is advocating for a type of plan where people are not walking where vehicles are moving.
- Brad Goehring (Goehring Vineyards Inc) commented that public roads do not have different speed limits for daytime and nighttime and nobody drives 5 mph.
- Anne Katten (CRLAF) commented that if she was working, she would want to have an idea of what path to take.

- Chair asked what is the basis for 10 mph? Anne Katten replied that there is limited visibility at night. The basis is to establish some ground rules so that vehicles are watching out for people on farm roads.
- Brad Goehring (Goehring Vineyards Inc.) commented that everyone has a vest that is visible even with poor lighting.
- Chair asked what CRLA means by written traffic instructions. What type of traffic control signs? Michael Meuter stated that the proposal came from existing regulation from the maritime regulation and was further simplified.
- Carlos Falcon (UFW) asked if there is a standard to post signs. With a caveat that the Chair is not an expert on the Vehicle Code, she replied that her understanding with regards to farm roads is if it does not have a "do not trespass" or does not have barrier, the rules of the public road apply. California Vehicle Code, Section 22352 establishes prima facie speed limits, for example 15 mph for an uncontrolled highway with obstructed view or alley. If the private area is gated then the owner could create their own traffic rules. If the public can access the private farm road then the rules of the public road apply.

As far as maritime terminals, these are fixed locations. Before a marine terminal operator creates the traffic plan, places traffic lights, or posts signs, the marine terminal operator hires an engineering firm to study how the traffic should flow and the efficiency of moving goods. The traffic standard for maritime industry is essentially meaningless. The process of creating a traffic plan for a marine terminal is so complex that Section 3475 is not relied upon to regulate traffic. It is built into the design and infrastructure of marine terminal buildings and roads.

- Rudy Avila (Jaguar Farm Labor Contracting) stated that the San Joaquin County Air Quality jurisdiction requires employers to reduce dust. Since California is in a drought and you can't use water, it has become necessary to reduce the number of vehicles and reduce speed. California CHP requires 15 mph on orchards adjacent to public road and stop signs before you enter.
- Chair commented that if the private road is shared by other land owners, there has to be agreement on the speed limit.

**California Vehicle Code**

21107.7. (a) Any city or county may, by ordinance or resolution, find and declare that there are privately owned and maintained roads as described in the ordinance or resolution within the city or county that are not generally held open for use of the public for purposes of vehicular travel but, by reason of their proximity to or connection with highways, the interests of any residents residing along the roads and the motoring public will best be served by application of the provisions of this code to

those roads. No ordinance or resolution shall be enacted unless there is first filed with the city or county a petition requesting it by a majority of the owners of any privately owned and maintained road, or by at least a majority of the board of directors of a common interest development, as defined by Section 4100 or 6534 of the Civil Code, that is responsible for maintaining the road, and without a public hearing thereon and 10 days' prior written notice to all owners of the road or all of the owners in the development. Upon enactment of the ordinance or resolution, the provisions of this code shall apply to the privately owned and maintained road if appropriate signs are erected at the entrance to the road of the size, shape, and color as to be readily legible during daylight hours from a distance of 100 feet, to the effect that the road is subject to the provisions of this code. The city or county may impose reasonable conditions and may authorize the owners, or board of directors of the common interest development, to erect traffic signs, signals, markings, and devices which conform to the uniform standards and specifications adopted by the Department of Transportation.

- Michael Meuter (CRLA) replied that employers can set and instruct their employees and agents to comply with mandatory speed limit.
- Michael Nelmida (OSHSB) asked if the employers we are referring to are FLCs or other employers. Companies responsible for transporting product may not work for the same employer. He questioned as to how employers other than the FLC can comply with such rules. Michael Meuter (CRLA) said they are covered by the current standard, joint employer rules (primary and secondary employers). Michael Nelmida asked who will be held responsible for creating speed limits, the grower or FLC?
- Michael Nelmida (OSHSB) suggested creating separate paths, separate the vehicle and pedestrian use and also locate the restrooms away from vehicular traffic.
- Roger Isom (Western Ag Processors) asked about data or accidents or injuries due to traffic hazards. He also asked for the definition of farm roads. He asked if the Division will be issuing radar guns to their staff. In addition, he commented that the designation of where vehicles park is already addressed, absent a regulation.
- An attendee commented that speed limits are often not obeyed by drivers. She preferred the approach of keeping the path of pedestrian separate from the vehicular traffic.
- Bryan Little (Farm Bureau) commented that the idea of creating a foot path separated from vehicular traffic is not practical. The safe paths change from one day to the next. Marine terminals are a fixed site. Agricultural operations vary per day. He asked for an explanation why traffic hazards are not covered under Section 3203.

- Eric Berg (Division) commented that speed limits can be established. It can be communicated to other employers who visit or work on the site. He also stated that there are proposed regulations that require speed limits.
- Chair stated that we cannot rely on proposed regulations for this rulemaking. We do not know yet if they will be adopted. *The proposed speed limits Eric Berg was referring to apply to Personnel Transport Carriers working inside the agricultural fields, not on farm roads. The speed limit is intended to reduce the risk of a rollover.*
- Michael Manieri (OSHSB) commented that the advisory committee should explore drafting performance oriented standards such as a Title 8, Appendix to Section 3203 to address other nighttime hazards relating to agriculture in the IIPP.
- The Chair commented that the employer's IIPP can address traffic hazards. The requirement for the safety meeting is part of the implementation of the IIPP.

### **Pathway Discussion**

- Rudy Avila (Jaguar Farm Contracting) commented on Subsection (v) stating that it is not feasible to have lighted or designated pathways. How are you going to do that?
- Michael Meuter (CRLA) replied that it is hard and difficult, but it is unsafe to have employees walk in the dark to go to bathroom.
- Brad Goehring (Goehring Vineyard Inc.) added that other companies visit their locations such as winery representatives, trucking companies, and management companies.
- Anne Katten (CRLAF) is advocating for provisions that require employers to know where the employees are taking breaks and the pathways employees are going to take. Walt Brooks reiterated that the safety meeting requirement that everyone agreed to addresses this issue. Each work site is unique. Michael Meuter (CRLA) added that he is seeking more specificity than what is required in proposed Section 3449(b).
- Anne Katten (CRLAF) commented that the proposal does not restrict pedestrians and vehicles from being in the same area. She expressed concerns over employees that are driving ATVs and vehicles at a fast speed at night.
- Chair responded to Bryan Little's earlier question asking why traffic hazards are not covered under the IIPP standards. Chair replied that a citation was issued under the IIPP standard to address traffic hazards. Chair responded Roger Isom earlier question as to the accident information that has been reviewed for the proposal. Chair stated that the data reviewed for this rulemaking were reports of serious accidents that were reported to the Division.



- Brad Goehring (Goehring Vineyards Inc) asked if the inspection was for night time conditions. Chair responded yes. Brad Goehring then asked if we are trying to draft regulations because of one case. The Chair was simply stating that a citation was issued under 3203 relating to traffic. The case was settled. *The Chair was answering the question from Bryan Little, "Why IIPP does not apply?" It does apply; Section 3203 can be cited for failure to address traffic hazards.*
- Michael Manieri (OSHSB) suggested that an Appendix in 3203 should be created. This document will not be overly specific. According to the Labor Code, agencies should seek performance based standards, unless a specific hazard cannot be addressed by it. Eric Berg suggested that be worked on separately outside of the advisory committee meeting.
- Michael Manieri (OSHSB) stated that host employers already share information with other employers. Michael Nelmida (OSHSB) stated that the mining orders have requirements for providing and transmitting information to visitors. Rudy Avila asked to be kept abreast of the proposed Appendix. Chair suggested that the hazards identified in the CRLA proposal can be addressed in the Cal OSHA model IIPP. Eric Berg (Division) commented that it needs to be in Title 8.
- Bryan Little (Farm Bureau) stated that he has worked with the sample IIPP published by Cal/OSHA Consultation. It already has broad requirements in assessing and abating hazards, and training requirement. He cautioned against adding language to the IIPP to make it more specific, because the IIPP standard was not meant to be specific.

#### **Section 3448 Water Hazards**

- Anne Katten (CRLAF) commented that there have been drowning accidents at agricultural sites and on farm roads. Cars have fallen into bodies of water. Marking or signage of water hazards would help alleviate that hazard. Chair asked what particular accident was she referring to, regarding driving into water. Anne Katten replied that there was an accident in the Fresno area, but she could not find it.
- Eric Berg (Division) mentioned the manure pit accident that occurred at night, wherein 2 employees died.
- Juanita Ontiveros (CRLAF) commented that there have been accidents in the Sacramento delta evident by the crosses on the road. *Public roadways are outside Cal/OSHA's jurisdiction.*
- William Krycia (Division) said that the NIOSH Ag safety database includes incidents in dairy manure pits, including those that occur during the day and night. Without additional lighting, it is difficult to see where solid ground ends and manure pits begin.
- Chair asked if manure pits are considered a water hazard as written in the standard. Eric Berg commented that it is water with a large amount of excrement mixed in. Manure pits

can be misjudged as muddy, but solid ground. Chair is concerned that Section 3448 does not apply to manure pits.

- Walt Brooks (Napa Valley Grapegrowers, Brooks Family Vineyard) commented that language in Section 3449(b) was approved and it requires the employer to communicate to the employees where the water hazards are located. Water tanks are sealed and many of the reservoirs are gated. If there are issues in sloughs and ditches, the proposed changes in Section 3448 do not address them. Trying to illuminate a reservoir to 3 fc is not going to work.
- Bryan Little (Farm Bureau) cited the road enroute to Bogle winery. There are bodies of water alongside the road. The proposal seeks a higher level of safety than highway safety and the majority of the exposure is from roads.
- The Chair asked the committee if the illumination provided by Section 3449(a)(1) help mitigate the hazards due to bodies of water. Falcon commented that merely providing light is not enough. The Chair asked the committee to consider if the language in Section 3449(b) along with lighting Section 3449(a) would mitigate the hazard of employees falling into the water. Carlos Falcon (UFW) countered that in the absence of a visible sign, an employee can still fall into the water. Michael Nelmidia (OSHSB) replied that Section 3273(l) states that ditches, pits, excavations and surfaces in poor repair shall be guarded by readily visible barricades, rails or other equally protective means. Carlos Falcon (UFW) stated that the current proposal does not eliminate the possibility that an employee with portable light could fall into the water. There could be a malfunction of the headlamp and then the water hazard will not be visible. He asked the committee to consider all safety scenarios, for example, a worker running and the headlamp falls off. There is solar technology that can help illuminate water bodies.
- Chair asked about the wording, "...fields or farm roads that are adjacent to water hazards, the water hazards must be illuminated to a level of 3 foot candles or marked with reflective signs", what are you proposing to be illuminated. Anne Katten (CRLAF) replied, the edge of the water. Chair asked for clarification, if we had a 25 ft diameter water body, would we have to put barricades or lighting all around the body of water? Anne Katten replied, the edge of the hazard, whatever portion is part of the boundary of the field that would have to be barricaded or lit. The point is to alert the employee. She said if it is a slue or ditch and there's brush, you may not be able to see that there's a ditch.

### **Cost**

- The revisions from the Advisory Committee meeting will be mailed with the new proposal. Chair is soliciting information regarding how much it would cost to comply with the proposal.
- Cost includes the cost of the high visibility vest, additional lamps, light fixtures, training cost, batteries, portable lights, permits, and any other cost associated with the proposal.

## **Conclusion**

- The Chair stated that consensus was reached on a number of issues and will be reflected in the revised proposal.
- Chair will develop post advisory committee meeting mail out, which will include the minutes and revised proposal. Participants will be given time to further comment on the revised proposal.
- Division representatives and Board staff will discuss possible changes to Table 1 to address hazards mentioned in previously proposed Section 3441(h) and clarify “working near agricultural equipment”.
- Division and Board staff will discuss if an Appendix to 3203 can be added to address traffic, pedestrian, and water hazards.
- The meeting was adjourned at approximately 3:30 PM

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Occupational Safety and Health Standards Board  
**Post - Follow-Up - Advisory Committee Meeting Roster**  
Section 3441 and 3449, CRLA Recommendations  
March 27, 2015

Article 13 – Agricultural Operations

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