

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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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 Grapegrowers, 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 Grapegrowers, 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 Nelmidia (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 Nelmidia (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 multipurpose 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 Nelmidia (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 Nelmidia (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 Grapegrowers, 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 Nelmidia (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 Nelmidia'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 Nelmidia (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 Nelmidia asked who will be held responsible for creating speed limits, the grower or FLC?
- Michael Nelmidia (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 Nelmidia (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