

## OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

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### ADVISORY COMMITTEE MINUTES Cranes & Derricks in Construction [Clean-Up]

October 4-5, 2011  
Sacramento, CA

#### Tuesday, October 4, 2011 (First Day) - Morning session.

##### 1. Opening remarks.

The meeting was called to order by Chairman Conrad Tolson, Senior Engineer, Occupational Safety and Health Standards Board (OSHSB), at 9:30 am on Tuesday, October 4, 2011. The Chairman was assisted by Leslie Matsuoka, Associate Government Program Analyst. The meeting opened with self-introductions by members and interested parties in attendance.

##### 2. Background of the proposed rulemaking.

The Chair reviewed the Standards Board policy regarding the use of advisory committee meetings; i.e. they are informal and advisory in nature. The Board will use consensus recommendations to develop a reasonable and effective proposal; however, it may be necessary later in the rulemaking process to amend, modify or reject these recommendations, due to the rulemaking review process. Furthermore, California must be at least as effective as federal standards.

The Chair briefly reviewed the background of the proposal. On August 9, 2010, federal OSHA promulgated standards revising the Cranes and Derricks Standard found primarily in 29 CFR Part 1926 Subpart CC, to update and specify industry work practices necessary to protect employees during the use of cranes and derricks in construction. The federal standards became effective November 8, 2010. California was obligated to adopt standards at least as effective as federal standards within 6 months of federal promulgation. In order to accomplish this task an expedited rulemaking process known as a "Horcher" rulemaking was undertaken. The California counterpart of federal standards took effect July 7, 2011. Due to the expedited "Horcher" process, Board staff was unable to make any substantive modifications to the federal wording. However, certain issues were identified by stakeholders during the Horcher rulemaking, and certain consistency issues with general industry crane standards have subsequently been discovered. These items are now proposed to be addressed in this "clean-up" rulemaking process.

The Chair also noted that the scope of the proposal is to clean-up issues/subjects which were not strictly within the scope of the expedited Horcher rulemaking process but which were identified during that process as being related to the rulemaking and needing to be revisited. Therefore, this proposed rulemaking will necessarily be limited to the following:

- Coordinate differences between CSO and GISO where they cover the same subjects.
- Review issues brought up by commenters during the state CDAC adoption public comment period which were relevant, but were outside the scope of the Horcher adoption process (i.e., not specifically addressed by the federal promulgation).

3. Review of written comments received prior to the meeting.

The Chair noted that the following comments had been received prior to the meeting:

1. A commenter noted that there are inconsistencies between state and federal hand signals.
2. A question was raised as to what a “dedicated drilling rig” is.
3. There was a question about how the proposal would respond to the recent agreement reached between Edison Electric Institute (EEI) and federal OSHA regarding digger derricks.
4. There have been questions as to what a “roustabout” is.

*[Ed. note: all these issues were considered during committee deliberations.]*

4. Establishing necessity for the rulemaking.

The Chair noted that normally establishing necessity involves reviewing accident data; however, in this case necessity revolves around whether, in light of the recently adopted standards, there is a need for further clarification to make them easier for stakeholders to understand and apply. There being no objection, there was a consensus that this cleanup rulemaking is necessary.

5. Section-by-section review.

Section 1600. Pile Driving.

A proposed modification to subsection (g)(1)(B) would change the cross-referenced standard for crane suspended personnel platforms from GISO Section 5004 to CSO 1616.6(p) which contains CSO requirements for hoisting personnel. The committee had no comments on this proposal.

Section 1610.3. Definitions, “Forklift” and “Powered Industrial Truck”.

Proposed definitions for “forklift” and “powered industrial truck” were considered. It was suggested that they be combined into one definition. Upon further discussion, it was noted that, aside from the definitions section, “powered industrial truck” and “forklift” were only used in the scope section where subsection 1610.1(c)(8) exempts certain types of forklifts from the requirements of Article 15. There was discussion that there are many different types of forklifts, probably the type of most concern in these standards is the rough-terrain forklift with extensible boom (aka “telehandler”) when equipped with an add-on lifting attachment (“stinger”). Chair commented that the proposed definitions had been offered to open discussion regarding the concern of many about certification requirements for forklift operators. Ultimately it was decided to delete the proposed definitions for “forklift” and “powered industrial truck” and address forklifts in the Scope section [1610.1(c)(8)]. The discussion then moved to that Section.

Section 1610.1(c)(8), Exclusion for forklifts.

The Chair opined that the concern of many is that certain types of forklifts with lifting attachments (“stingers”) are functionally equivalent to a crane and thus should be subject to operator certification. Mr. Hornauer stated that the currently adopted exception is verbatim of the federal standards and that he has not seen any federal interpretation on this subject. The Chair noted that the federal preamble states that if the forklift is used to lift and horizontally move materials with a chain slung over the forks, then operator certification is not required; however, if lifting and moving is done using a winch or hook, the exclusion does not apply. Mr. Harrison commented that the parenthetical text “by means of a winch or hook” limits the application of hoisting, which is defined in the standard, and he proposed eliminating the parenthetical text from the exclusion. Chair commented that the Division had noted that, as

presently written, someone could get around the wording of the exclusion by hoisting with a shackle rather than a hook. There was discussion about removing the parenthetical text, and for the purposes of further consideration and discussion, the parenthetical text “by means of a winch or hook” was stricken. The Division added that clarification of the forklift exclusion would be a great help as the exclusion has been the source of numerous questions from the regulated public. [Ed. note: This section was revisited on Day 2 and further modified.]

Section 1610.3. Definitions, “RPE”.

Mr. Yow noted that the GISO (section 4885) definition of a certified agent/registered professional engineer, is “. . . a person who is currently registered as a professional civil, mechanical, or structural engineer by the State of California and is knowledgeable in the structure and use of the equipment.” He opined that the CSO and GISO definitions should be harmonized. Mr. Foss added that “registered in the State of California” is not just proposed to create jobs for CA engineers, but it establishes a level of competence, because the qualification of engineers in other states can vary widely, and that some states do not even distinguish between the branches of engineering. Mr. Wick added that they have had problems with out-of-state engineers with questionable competence, and added his support to including “registered in the State of California” in the definition.

Section 1610.4. Design, Construction and Testing.

The Chair noted that an amendment had been requested to clarify that proof load testing is required as part of the testing requirements, to be consistent with GISO Section 5022. The proposed amendment would read:

“In addition to the foregoing provisions of this section, proof load tests and examinations of cranes and their accessory gear shall be conducted as required by General Industry Safety Orders, Section 5022.”

Mr. Battaini commented the term “accessory gear” was rather general and could be interpreted to require proof testing of rigging and such. He felt that “accessory gear” should be defined. Chair noted that the same term is also used in section 5022. It was noted that although “accessory gear” is not defined in the GISO, “accessory” is defined as “a secondary part or assembly of parts which contribute to the over-all function and usefulness of a machine.” The question was raised whether to take-out the term “accessory gear.” However Mr. Yow noted that if this term were taken out of section 5022, it could create conflicts with section 5021 where the same term is used. Mr. Steinberg noted that there is “accessory gear” above the hook and below the hook. There was concern that more clarity is needed; accessory gear below the hook (slings, spreader bars, etc.) moves from crane to crane and proof load testing is not appropriate for this gear; however, accessory gear above the hook (blocks, running rope, etc.) should be included as part of proof load testing. Mr. Yow commented that the Division had put out an instruction letter to inspectors years ago to distinguish which accessory gear needed to be inspected and which needed to be load tested. He was concerned that section 1610.4 not be worded in such a way to conflict with the GISO section. The consensus was that the requirement for load testing and certification should apply to gear above the hook; not below the hook. There was discussion about how to craft the text to accomplish this. Mr. Closson suggested revising the wording to read:

“In addition to the foregoing provisions of this section, ~~proof load tests and examinations of~~

~~cranes and their accessory gear shall be conducted as required by the requirements of General Industry Safety Orders, Section 5022 shall be met.~~” [Ed. note: This proposal would be revisited later].

Section 1610.9. Equipment over Three Tons Rated Capacity.

It was proposed to add the following section (a)(2)(A):

“A copy of such certificate shall be available with each crane and derrick or at the project site.”

Commenters noted that section 1610.9 also makes reference to “accessory gear.” Mr. Donlon observed that this requirement comes from GISO 5021 and has been there for years. There were no other comments.

Section 1610.3. Definitions – Accessory gear.

Mr. Renner was concerned that the term “accessory gear” should be defined. He was also concerned that the Division instruction letter is something that is not widely available and is not helpful if one doesn’t know it exists. Mr. Battaini added that the definition and interpretation of “accessory gear” varies widely in the field. Others added that heightened liability concerns in today’s market, further complicated by a highly mobile workforce and inspectors not familiar with California practices and virtually non-existent profit margins, dictate the necessity for a definition to distinguish what is and what is not accessory gear. The Chair observed that there was a consensus to define what accessory gear is, and asked for suggestions on how to best define it.

Mr. Donlon suggested excluding items regulated by GISO Article 101 from “accessory gear.”

Mr. Fulghum noted that Article 101 only covers slings and that there are a number of other “below the hook” devices, including shackles, spreader bars, specialized lifting devices, etc. He opined that “below the hook” is pretty descriptive.

Mr. Yow voiced concern that if we make changes to the definition of “accessory gear” in the CSO, we will need to do the same in the GISO for consistency; however, he opined that attempts to define “accessory gear” may carry unintended consequences.

Since the discussion was focusing on exempting hardware below the hook, Mr. Esparza voiced a concern that it appeared the intent was to exempt rigging below the hook from inspection and other safety requirements. Others responded that inspection and testing of lifting attachments below the hook is covered by GISO Article 101 and by a Division letter of instruction to certifiers dated July 1, 1998.<sup>1</sup>

Mr. Silbernagel expressed concern that not everyone is aware of letters of interpretation, especially firms such as his which do business in more than one state.

Mr. Wick added that insurance inspectors (which his clients must deal with) are perhaps more concerned about liability and lawsuits if they do not assure strict adherence with the literal interpretation of the regulations.

Discussion continued on how to define “accessory gear.” Chair suggested that it might be best to develop a definition for Section 1610.3, and noted that, based on previous concerns voiced by the Division, that it might then become necessary to harmonize CSO with GISO.

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<sup>1</sup> Instruction to Certifiers, Issued by Division of Occupational Safety and Health July 1, 1998, revised July 21, 1998, attached.

*[Ed. note: Although the GISO definition was not discussed at the AC, Chair is proposing to add the CSO definition to the GISO in Section 4885].*

The committee started developing a definition of “accessory gear” by excerpting a portion of the Letter of Instruction definition:

“Accessory gear. Those items specified by the manufacturer as being authorized for use on the load chart (jibs, blocks and hooks). . .”

Mr. Foss suggested adding a definition for “Lifting attachments” to help clarify the distinction between above and below the hook, and then to go back to 1610.9 to plug in those definitions to see if they will work. The definition for “lifting attachments” based on the same letter was:

“Lifting attachments. Attachments below the hook such as spreader beams, slings, shackles, etc.”

It was noted that lifting attachments are not a permanent part of the crane, but they are what happen to be on the machine at the time of the proof load inspection. Brad Closson noted that, with the exception of fabric slings which are extensively tested by the manufacturer, the lifting attachments are required to be load tested, but not certified.

The committee recessed for lunch at 11:45 AM.

#### First day – Afternoon session.

The committee resumed deliberations at 1:00 PM. The Chair summarized the proposed new definitions in 1610.3 as follows:

“Accessory gear. Those items specified by the manufacturer as being authorized for use on the load chart such as jibs, blocks and hooks.”

“Lifting attachments. Attachments below the hook such as spreader beams, slings, shackles, etc.”

He also noted that a suggestion had been made during the lunch break to clarify section 1610.4(f) to read:

“(f) ~~In addition to the foregoing provisions of this section~~ Proof load tests and examinations of cranes and their accessory gear shall be conducted as required by General Industry Safety Orders, Section 5022.”

Mr. Foss noted that this proposed modification clarified that proof load testing is required for accessory gear which is now clearly defined and distinguished from lifting attachments in 1610.3. There was discussion about the use of the term spreader “beams” rather than “bars” in the definition for “lifting attachments.” The majority felt that the terms “spreader beams” and “spreader bars” are interchangeable in the industry. Mr. Closson stated that lifting beams and spreader beams are not the same thing; one is used to lift the load and the other is used to spread the rigging. *[Ed. note for post-AC proposal: upon review of Mr. Closson’s comments and the comments of others during this portion of the discussion, Chair has decided that a change from “spreader beams” to “spreader bars” within the definition of “lifting attachments” is appropriate and within the intent of committee deliberations.]*

#### Section 1611.1. Assembly/Disassembly - Selection of Manufacturer or Employer Procedures.

The Chair noted that the only changes proposed were to change “must” to “shall.”

There was some discussion about the parenthetical expression “or attachments” based on the morning discussion on attachments; however, it was noted that “attachments” is defined in

1610.3, and upon further consideration, the committee felt there was no need for further clarification here.

Mr. Closson suggested changing the note that follows section 1611.1(b). As originally proposed the note would have read:

“The employer ~~shall~~ ~~must~~ follow manufacturer procedures when an employer uses synthetic slings during assembly or disassembly rigging.”

Mr. Closson opined that it appeared to mean that an employer must monitor another employer when using synthetic slings. There was discussion about how to clarify this point, and the consensus was to change the note to read:

“The employer shall follow manufacturer procedures when ~~an employer uses~~ using synthetic slings during assembly or disassembly rigging.”

Section 1612.3. Power Line Safety (All Voltages) - Equipment Operations Closer Than the Table A Zone.

The Chair reviewed the proposal to add a new subsection (b) as follows:

“Except where overhead electrical distribution and transmission lines have been de-energized and visibly grounded, the operation, erection, or handling of tools, machinery, apparatus, supplies, or materials, or any part thereof, over energized overhead high-voltage lines shall be prohibited.”

The Chair commented that this clarification was requested by the Division and it is based on section 2946(b). The Division requested this be added because the subject of work above energized power lines was not addressed in the federal standards.

Mr. Esparza requested that a requirement be added for the power company to provide a written verification that the power lines have been de-energized. Energy company representatives responded that lines are very rarely de-energized; however, when they are, a company representative will go to the site to show the contractor where the grounds are and, if necessary, to verify that the line has been cleared. Since lines are very rarely de-energized, it is up to the contractor to come up with an alternate plan of action within the limitations of Table A when working around energized lines.

Mr. Renner added that electric utilities are the only ones who have the right to lift over their infrastructure; he felt that 2946(b) was very clear on this subject. Mr. Foss opined that it is important to have this requirement in the CSO to make it clear. Mr. Closson added that it should be kept in mind that this requirement applies to any lines over 600 volts, and thus it can apply to large facilities with privately owned lines, such as those that might be found in a large manufacturing facility. He agreed that it should be retained here.

Mr. Yow observed that 1610.1(e) states that for work covered by the High-Voltage Electrical Safety Orders, compliance with those Orders is deemed in compliance with Section 1611.5 and Sections 1612.1 through 1612.4. There was some discussion about the apparent overlap between the HVESO and CSO. Mr. Bell opined that 1610.1(e) should be changed to state that for work covered by the HVESO, work should be in accordance with the HVESO. However, there was no consensus to change 1610.1(e).

Mr. Donlon noted that, although 1612.3(b) is based on 2946(b) and (b)(1), the different formatting could lead to confusion. Mr. Yow agreed. However, others did not share the Division’s concerns and there was consensus to leave 1612.3(b) as it was proposed.

Section 1613. Inspections and Repairs.

The Chair noted that “and Repairs” had been added to the section title to better capture the subject matter of the section.

Section 1613.2. Inspections - Repaired/Adjusted Equipment.

The Chair commented that in all cases in 1613.2, it was proposed to change “certificating agency” to “qualified person” to be consistent with federal standards (“qualified person” had been mistakenly changed to “certificating agency” during the original “Horcher” adoption). The Chair also noted that load sustaining structural components were proposed to be removed from 1613.2 because they would be dealt with later in 1613.11 and 1613.12.

With reference to the parenthetical expression in the first sentence of subsection (a), Mr. Closson commented that safety devices and operator aids are not the same; however this section lumps them together, and this will cause confusion in determining what is a critical part or control system. He noted that operator aids are not critical. Mr. Donlon commented that, based on the 1610.3 definition for “operational aid”, he felt their inclusion here was appropriate and that operators do rely on their proper function. He added that if they are repaired, he would want them to be inspected by a qualified person [which 1613.2(a) requires]. Mr. Renner noted that safety devices are specified in section 1615.1 and operational aids are specified in 1615.2; therefore he felt that the proposed wording was appropriate. A suggestion was made to strike “or adjustment” from the first sentence; however, further discussion concluded that the proposal was not requiring a certificating agency, but rather a qualified person, such as the crane operator. Thus the consensus was to leave “or adjustment” in the proposal.

Mr. Esparza inquired about the use of “qualified person” in this section versus “competent person.” He felt that the term should be “competent person” because they have authority to shut down unsafe operations. It was noted that “qualified person” was used in the counterpart federal verbiage, and Mr. Foss added that qualified persons can be outside contractors brought-in to make specific repairs. He opined that an outside contractor might be a more impartial judge in this situation.

The definitions of “competent person” and “qualified person” were reviewed (Sections 1504 and 1610.3). The consensus was to require inspections by qualified persons as proposed. There being no further discussion, the committee moved on to section 1613.10.

Section 1613.10. Inspections - Wire Rope.

The Division requested deletion of (a)(4)(B)1 which read:

“(B) If a deficiency in Category II [see subsection (a)(2)(B)] is identified, operations involving use of the wire rope in question shall be prohibited until:

“1. The employer complies with the wire rope manufacturer's established criterion for removal from service or a different criterion that the wire rope manufacturer has approved in writing for that specific wire rope”

The Chair noted that there is no comparable wording regarding Category I or Category III deficiencies. He also stated that he understood this had been a problem in a situation where the foreign manufacturer’s standards were less protective than state standards, thus the proposal was to strike (B)1 to provide safety at least as protective as the GISO crane wire rope standard.

Mr. Closson stated that the federal standards were developed in 1999 and are based on wire rope industry standards. He commented that (a)(2)(B)3 “Wear of 1/3 the original diameter of outside

individual wires” which is proposed for addition was deliberately omitted by the CDAC committee because it is not practical to measure the diameter of individual outside strands in wire ropes.

Mr. McClelland added that new types of wire ropes today are entirely different than what they were 30 years ago, and the Ironworkers feel the wire rope manufacturer is the best one to make a determination when the rope needs to be taken out of service.

*[Ed. note: A proposed change to Section 1613.10(a)(2)(B)3 was inadvertently overlooked by the Chair, and was not discussed by the committee. Other than Messrs. Closson and McClelland’s comments, no other discussion occurred on this proposal. However, based on their comments, the Editor has decided to withdraw (a)(2)(B)3 from the consensus proposal]*

Mr. Foss commented that (a)(4)(B)1 is clearly inconsistent with section 5031, and if we are going to change it, we need to address both sections in a separate advisory committee as a separate rulemaking. The committee was in agreement that this subject raised in 1613.10(a)(4)(B)1 was outside the scope of this rulemaking and should be taken up as a separate rulemaking later. For now, subsection (a)(4)(B)1 will be deleted to be consistent with GISO section 5031(d)(2) Note 5.

#### Section 1613.11. Repairs and Section 1613.12. Damaged Booms.

The Chair noted that the next two sections are related to the removal of repair and inspection of “load sustaining structural components” from section 1613.2. These new sections were proposed to make the CSO crane standards consistent with GISO sections 5034 and 5035 respectively.

Mr. Closson requested clarification of what a critical crane or derrick part is (this term is used in 1613.11). Chair noted that this terminology came from GISO 5034(e). Mr. Fulghum noted that “critical” is used in a similar context in 1613.2(a) and opined that it seemed logical to him. The consensus of the group was to leave 1613.11 and 1613.12 as proposed.

#### Section 1615.1. Safety Devices and 1615.2 Operational Aids.

The Chair explained that the proposal was requested by the Division to move/reclassify boom hoist limiting devices, luffing jib limiting devices and anti two-blocking devices from operational aids to safety devices. Mr. Closson stated that the federal standards listed these as operational aids because they are all devices for which there are “work arounds;” i.e. if they malfunction, the crane can continue to be operated safely until they are repaired. If they are reclassified as “safety devices”, section 1615.1(b) requires that the crane be shut-down until they are repaired. Based on this information, the committee consensus was to abandon the proposed changes, and keep boom hoist limiting devices, luffing jib limiting devices and anti two-blocking devices as operational aids.

#### Section 1615.1(a)(4). Foot Pedal Brake Locks.

Mr. Closson noted that 1615.1(a)(4) “Equipment with foot pedal brakes shall have locks” will force virtually all older lattice boom cranes out of service. Most lattice boom cranes have brake latches, but not locks. He stated that latches are not the same as locks. Manufacturers are selling retrofit kits for newer cranes and discussions are going-on across the country about this requirement. The Division noted that this requirement is not in the GISO. The Chair opined that any changes to this are outside the scope of this rulemaking because it does not conflict with the GISO and it is required by the federal standard. Mr. Closson noted, however, that California requires cranes to be built to [ASME] B30.5 and that standard does not require locks. The



Division asked about the distinction between latch and lock. Mr. Closson stated that the latch is a ratchet and pawl device; the lock is a secondary device that will prevent inadvertent/unintended release of the latch. The Chair concluded the discussion by opining that any changes to this section appear to be outside the scope of this rulemaking.

Section 1616.1(o) and Section 4999(f)(2). Inadvertent contact.

The Chair introduced this section by noting that it paralleled GISO 4999 in subject matter regarding inadvertent contact. The proposal was to modify subsection 1616.1(o) to read:

“During lifting operations, the load, boom, or other parts of the equipment shall not contact any obstruction in a way which could cause falling material or damage to the boom.”

The Chair noted that the proposal would also include modification of GISO 4999(f)(2) to be verbatim 1616.1(o) for consistency between GISO and CSO.

The committee had no comments on these proposals, so discussion moved on.

Section 1616.1(x) and 1617.1(i). Emergency stop signals.

The Chair noted that this issue had been raised by Mr. Fulghum and the ironworkers when the federal CDAC was proposed for adoption into the GISO, but the problem still applies to the adoption into the CSO. The proposed modification for 1616.1(x) was:

“The operator shall obey a stop (or emergency stop) signal, irrespective of who gives it. Only qualified persons shall be permitted to give signals. Exception: An emergency stop signal may be given by any person.”

Mr. Fulghum commented that this subject was also covered, slightly differently in 1617.1(i) which was proposed to be modified to read:

“The operator shall obey an emergency stop signal from any individual who is involved in the hoisting operation or who is responsible for the direction of the hoisting operation.”

Thus he observed that there is an inconsistency: 1616.1(x) states that anyone can give an emergency stop signal; however 1617.1(i) states that only individuals involved in the hoisting operation can give an emergency stop signal.

The Chair stated that written comments received during the CDAC adoption expressed concern that someone walking by and not familiar with the crane dynamics could panic and give an emergency stop when it wasn't warranted and could inadvertently create a more hazardous situation by causing sudden shock loading on the boom which could lead to catastrophic failure.

Mr. McClelland stated that the reason for the difference between the two subsections is that in 1616.1(x), it is up to the operator to make the decision whether to obey the emergency stop signal; whereas in 1617.1(i), the operator is required to obey an emergency stop from an individual involved in the hoisting operation. He added that luffing boom tower cranes are used in the high-rise steel erection industry, and for anyone not familiar with how they operate, the sight of the jib/boom luffing down can be a scary situation which could cause someone not familiar with their operation to panic and give an emergency stop signal. Therefore he sees no inconsistency between 1616.1(x) and 1617.1(i) because they give the operator discretion in responding to emergency stop signals based on his assessment of the qualifications of the person giving the emergency stop signal.

There was discussion of whether both 1616.1(x) and 1617.1(i) are both needed and also, if they are combined, where the requirement should be located. One commenter noted that 1617.1, Signals – General Requirements, subsection (b) already prescribes that “only qualified persons

shall be permitted to give signals.” The committee was in agreement that 1617.1 [Signals] was the appropriate location for this requirement and that proposed changes for 1616.1 [Operation] should be deleted.

The Chair proposed to consolidate the emergency signaling requirement by bringing (i) up into 1617.1(b). There was further discussion as to how the amended (b) should read.

Mr. Bell opined that it was unrealistic to expect the tower crane operator to discern whether the emergency stop was valid.

Mr. Fulghum noted that we must be at least as effective as (ALAEA) 29 CFR 1926.1417(y) which states:

“The operator must obey a stop (or emergency stop) signal, irrespective of who gives it.”

Mr. Donlon added that we must keep in-mind that this requirement will apply not only to highly trained ironworkers, but to less experienced workers as well, such as those transferring trusses on a residential construction project.

Mr. Silbernagel added that there are many factors to take into consideration, including training, experience, line-of-sight v. blind lifts, working with one or many crafts, all employees of one contractor, or multiple contractors, etc.

Mr. Wick opined that our ultimate solution should take into consideration the potential hazard of obeying an emergency stop from an uninformed, inexperienced employee and that something more along the line of what was proposed by the ironworkers might provide a higher level of safety. Mr. Battaini gave an example of a situation where someone other than those involved in the hoisting operation may see a hazardous situation developing and may need to give the emergency stop.

Mr. Fulghum noted that Section 1710 applies to ironworkers, so they have their own specialized orders, and what this committee is working on will apply to other trades.

At this point, proposed modifications to 1617.1 read:

“(b) Only qualified persons shall be permitted to give signals.

“(1) An emergency stop signal may be given by any person.”

There was continued discussion; Mr. Wick and other members of the committee were concerned that the currently proposed verbiage would not be acceptable to federal OSHA. It states that anyone may give an emergency stop signal, but it does not say what the operator must do. They felt that the verbiage needed to be modified to include what the operator is required to do.

Mr. Hornauer observed that the federal standard 1926.1419(h) and (j) state:

“(h) Only one person may give signals to a crane/derrick at a time, except in circumstances covered by paragraph (j) of this section.

“(j) Anyone who becomes aware of a safety problem must alert the operator or signal person by giving the stop or emergency stop signal. (Note: § 1926.1417(y) requires the operator to obey a stop or emergency stop signal).”

Mr. Hornauer commented that our proposed wording needs to be strengthened to be ALAEA the federal rule.

Several committee members noted that the federal rule is complicated because it has signaling (and emergency signaling) requirements scattered in various places in 1926.1417 (operations) and 1419 (signaling), and the federal fragmentation complicates developing an equivalent state standard.

Mr. Renner opined that the intent of all the fragmented federal requirements was captured in GISO 5008(b) which reads:

“The operator shall respond to signals only from the appointed signal person, but shall obey a stop signal at any time.”

This means that the operator will respond to signals only from the “appointed” signal person during normal operations, but must obey a stop signal from any person.

There was consensus to incorporate 5008(b) with minor clarifications into 1617.1(b). Discussion ensued about “appointed” and whether that should be changed to “qualified” or “designated.” “Appointed” is not defined. There was considerable discussion. Mr. Closson noted that “designated person” is defined in GISO 4885 as “a person selected or assigned by the employer or the employer's representative as being qualified to perform specific duties,” thus “designated” includes “qualified.” [Ed. note: *The GISO definition of designated person will be added to 1610.3, Stage 1*] Therefore the committee decided to use the term “designated”. Thus 1617.1(b) was modified to read:

“(b) Only qualified persons shall be permitted to give signals.

“(1) The operator shall respond to signals only from a designated signal person.

“(2) The operator shall obey a stop signal from any person.”

Mr. Hornauer noted that the signals shown on GISO Plate 1, starting on page 728 of Barclay’s CCR Title 8 should be clarified and updated. It was also noted that there were errors on the “stop” and “travel” signals. It was agreed that changes to these illustrations were outside the scope of this committee, but they should be addressed in a separate rulemaking.

#### Section 1617.2. Signals - Radio, Telephone or Other Electronic Transmission of Signals.

The Chair noted that this change was also requested by the ironworkers to address a situation of radio communication between the signaler and the crane operator. It would read:

“The signal person shall audibly or visually signal the operator if he/she becomes aware that communication with the operator has been interrupted during hoisting operations and the operator shall safely stop operations in accordance with Section 1617.1(f).”

This proposal was acceptable to committee members.

#### Section 1617.3. Signals – Voice Signals – Additional Requirements.

The Chair noted that this was another change requested by the ironworkers. They would like to remove the elements and sequence specified in 1617.3(b); i.e., delete:

“Each voice signal shall contain the following three elements, given in the following order: function (such as hoist, boom, etc.), direction; distance and/or speed; function, stop command.”

They requested this deletion because they feel it is too restrictive and inflexible for their work environment. When asked for clarification, Mr. McClelland said that the main problem is the order sequence; however, distance is also problematic because it is difficult for both the signaler and for the crane operator to judge/measure distances accurately.

Mr. Hornauer commented that while he understood the ironworker’s concerns, this verbiage was verbatim the feds.

There was discussion about the impracticality of specifying distance with any great accuracy.

Mr. Steinberg suggested that 1617.3(b) be clarified that distances are approximate.

Mr. Hornauer stated that NCCCO tests applicants on the correct sequence of commands per the federal standards.

Mr. McClelland respectfully disagreed with the others and said that the ironworkers have different procedures for signaling, and 1617.3(b) is in conflict with the way ironworkers do it. Mr. Jacobs observed that there are definitely differences between how ironworkers give signals and how the rest of the crane community gives signals, and that it would make more sense to separate the two. Mr. Harrison emphasized that distance is a very important part of information that the crane operator needs in order to safely move the load.

The committee reached a consensus to append “approximate” to distance so that 1617.3(b) will read:

“Each voice signal shall contain the following three elements, given in the following order: function (such as hoist, boom, etc.), direction; approximate distance and/or speed; function, stop command.”

Noting that discussion would resume Wednesday morning at 9:30 AM, the Chair adjourned the committee for the day.

#### Wednesday, October 5, 2011 (Second Day) - Morning session.

Chairman Conrad Tolson, assisted by Program Analyst Leslie Matsuoka reconvened the advisory committee at 9:35 AM. The Chair noted that there were a few changes in attendance the second day and re-opened the meeting with self-introductions.

#### Section 1618.1. Operator Qualification and Certification.

The Chair stated that the first proposed change was (c)(2)(A) which would add a requirement to Option 2 (Licensing by a government entity) certification requirements for candidates to pass a physical exam and substance abuse test. He noted that this would add the same testing requirements for Option 2 as for Option 1 (Certification by an accredited crane operator certifying entity). He commented that these requirements are not included in the federal standards; however, operations under Option 2 are potentially just as hazardous as those under Option 1.

Bob Hornauer felt this proposal promotes consistency and supported the proposal.

Mr. Yow asked who would receive and evaluate this testing information. Mr. Hornauer stated that NCCCO has a substance abuse testing policy based on ASME B30.5 which follows the drug testing program in place in the jurisdiction within which the crane will be operated. Chair noted that subsections (c)(2)(C) and (c)(3)(A) address the question of who oversees and evaluates the test results (the government entity/authority).

#### Exceptions to Section 1618.1 – Digger Derricks.

The Chair noted that the utilities had asked him for a third exception to the operator certification requirements of Section 1618.1 for operators of electric line trucks (digger derrick trucks). The utilities wanted the same exception as in GISO 5006.1. He stated that the reason he hadn't included it in the proposal is because digger derricks are excluded from the requirements of Article 15 when used for augering holes for poles carrying electric and telecommunication lines, placing and removing the poles, and for handling associated materials to be installed on or removed from the poles [CSO 1610.1(c)(4)]. He opened the floor for discussion of whether there was a necessity to include the GISO 5006.1 digger derrick exception in 1618.1.

Mr. Pena (Southern California Edison) stated that the exclusion of 1610.1 includes activities associated with poles only and does not include the placing of surface-mounted equipment such

as pad-mount switches, pad-mount transformers, etc. He noted that there has been an agreement between Edison Electric Institute (EEI) and the electric utilities to include these items, but the federal rulemaking has not yet started; therefore they would like to have this exclusion to cover their operations in the interim. The Chair noted that the Board has not received any direction from federal OSHA on the EEI agreement.

Mr. Rivera (International Line Builders) expressed agreement with Mr. Pena's comments. He thinks the addition of the requested exception to 1618.1 will add clarity and improve continuity between the CSO and GISO. Mr. Renner (PG&E) also expressed support for the request.

The Chair commented that, because of on-going litigation and lack of direction from federal OSHA, any consensus reached may be subject to amendment, modification or rejection later in the rulemaking process.

Mr. Yow noted that some digger derrick manufacturers are making them without pole claws and clamps and augurs and selling them as digger derricks, although in his opinion without claws and augurs they are basically cranes. When digger derricks are equipped with pole claws, clamps and augurs and used properly, he can support the exception.

Mr. Renner commented that the only people using digger derricks should be the electric utilities and telecommunications businesses. Others may buy their old rigs, but if they use them, they should only be using them for the same type of work. Use for any other type of work should not be (and is not) subject to the exemption. Mr. Pena added that the verbiage of the exception limits their use to activities regulated by Section 2940.7 of the High Voltage Electrical Safety Orders.

There were no objections to including the digger derrick exemption from GISO 5006.1 in Section 1618.1.

#### Section 1619.1. Tower Cranes.

The Chair commented that these modifications were proposed by Morrow Equipment. He added that although the change was originally proposed for the GISO, it is now applicable to 1619.1(a)(3), so he proposed to place it here. The proposal was to change "certified agent" to "registered professional engineer." It was noted that the committee had defined "registered professional engineer (RPE)" in yesterday's proceedings. However, Mr. Fulghum noted that "certified agent" is defined in 1610.3 as "the manufacturer, or a person who is currently registered as a professional civil, mechanical, or structural engineer by the State of California and is knowledgeable in the structure and use of the equipment," therefore "certified agent" covers it and there is no need to change the requirement. The consensus was to leave (a)(3) as "certified agent."

Moving on to (a)(3)(A), that section was proposed to read as follows:

"The controlling entity shall obtain from the entity that installed the tower crane foundations and structural supports a written statement or documentation that the crane foundations and structural supports were installed in accordance with the manufacturer's or RPE instructions, and shall ensure that the written statement or documentation is provided to the A/D director."

There was considerable discussion about liability and who is, or should be, responsible for assuring the crane foundations and structural supports were installed in accordance with the manufacturer's or RPE instructions.

Mr. Silbernagel noted that often when the crane owner arrives on the site, the foundation is already in-place, and they need to have assurances that it was installed in accordance with

instructions from the manufacturer or RPE. Thus he felt the controlling entity is in the best position to do this. Also, there is the question of who is the A/D director in California: the tower crane manufacturer's representative or the steel erection company? Mr. Silbernagel stated that the manufacturer's representative gives instructions on the steps and sequence to take in erection of the crane and the ironworkers carry them out. Thus he felt it is essential to clarify who is the A/D director.

Mr. Battaini questioned whether the quality control issues are not already covered in the Cal-OSHA erection permitting process.

Mr. Foss proposed that (a)(3)(A) be modified by deleting the last part ("and shall ensure that the written statement or documentation is provided to the A/D director") because the way that things are done in California is different than what is done in other states, and there is a mechanism for this information to be provided to the Division. Mr. Donlon clarified that the Division gets the reports on the foundation design, rebar inspection, concrete inspection, etc. Once those reports are received and the concrete is cured, the Division can issue the erection permit. The reports on the tie-ins may be received at that time, or may come later. An unidentified commenter added that this information also needs to be provided to the controlling entity. The ironworkers are not in a position to assess whether all the foundation work has been done properly; they just need to get verification that the work has been approved by the engineer, approved by OSHA and permitted. With the permit, they will proceed to put the tower crane up.

The Chair asked for suggestions on how to modify the wording to address these concerns.

Mr. Foss surmised that the concern seems to be the responsibilities of the A/D Director, which Cal-OSHA compliance officers may interpret to be the ironworker foreman. Mr. Donlon added that the concerns are not just for the foundation, but also for the tie-ins, thus we need to clarify whether the A/D Director is the manufacturer's rep or the ironworker foreman.

Mr. McClelland noted that (3)(A) does not require the A/D director to verify these things, it is the responsibility of the controlling entity to provide this information to the A/D Director.

There was discussion about adding a second paragraph to require that documentation attesting to compliance with the manufacturer's or RPE instructions be available on-site. Mr. Donlon opined that the concern is that the controlling entity shall ensure that the foundation and structural supports are installed in accordance with instructions by the manufacturer or RPE, and that this information is provided to the Division and to the A/D Director before he starts installation. Mr. Battaini said that he as the erector would not have received the erection permit, and the controlling entity would not have received the operating permit unless all this information had already been provided.

Mr. Foss stated that, due to the hiring freeze and the budget, Cal-OSHA has insufficient staffing to assure all these things are done before erection started, thus the proposal should not make Cal-OSHA responsible for doing this. However, he agreed that this information should be available at the jobsite.

Mr. Steinberg felt it should be clarified who the A/D Director is during erection of the tower crane. Mr. Fulghum opined this is already defined in 1611.2(a). Another speaker noted that this section indicates that the A/D Director need not be just one person.

Mr. Bland clarified (for the record) that the federal verbiage lists two things that must be done by the controlling entity, not by the A/D Director.

Mr. Steinberg was concerned that there is other language that requires the manufacturer's representative to be present for jumping the tower crane, and he wondered whether under that

circumstance the manufacturer’s representative could become the A/D Director. Mr. Bland stated that, in his opinion, the definition for A/D Director, outside of 1611.2, needs further clarification.

Mr. Donlon suggested the following wording:

“(A) The controlling entity shall ensure the tower crane foundations and structural supports are installed in accordance with the manufacturer’s or RPE instructions.”

“(B) The controlling entity shall provide a written statement of compliance to the A/D Director prior to erection of the tower crane.”

Messrs. McClelland and Steinberg said that this wording was OK, but the question remains as to who is the A/D Director. It was agreed that the Section 1611.2 definition of A/D Director is inadequate but finding an acceptable definition would be very difficult and probably outside the scope of this rulemaking.

Mr. Bland stated that the object was to assure that erection of the tower crane does not start before (1) the controlling contractor has received all the information we have talked about, and (2) the controlling entity does not allow erection to begin until all this information has been obtained.

He opined that throwing the term “A/D Director” into the mix just convolutes things. After further discussion, it was decided that the term “A/D Director” should be replaced with “erecting entity.”

Discussion continued on how to ensure that the tower crane foundations and structural supports are installed in accordance with the manufacturer’s or RPE instructions. Various suggestions were put forward. Mr. Fulghum noted that section 1710 uses the term “written notification” and suggested following the model for steel erection in 1710(c)(1). At this time 1619.1(a)(3)(B) was as follows:

“The controlling entity shall provide a written notification of compliance to the erecting entity prior to erection or jump of the tower crane.”

There were suggestions to clarify that the compliance was with section (A). Mr. Foss was concerned that “written notification” could be something informal like an e-mail. He recommended that “written notification” be changed to “written documentation.”

Mr. Bland stated that the wording should be clear that the controlling entity is responsible for verifying this information and that the responsibility should not be handed off to the erecting entity. Discussion continued on what needs to be provided to the erecting entity. Mr. Renner suggested that it be changed to a “statement of compliance.” Mr. Foss was concerned that the latest revision was weaker than 1710 and that it could just be done with an email. However, Mr. Bland was of the opinion that the latest revision, with its reference to the requirements of (A), put the responsibility and liability on the controlling entity and that this draft is stronger than 1710.

The consensus proposal for 1619.1(b)(3)(A) and (B) then read as follows:

“(A) The controlling entity shall ensure the tower crane foundations and structural supports are installed in accordance with the manufacturer’s or RPE instructions.

“(B) The controlling entity shall provide a written statement of compliance with subsection (A) above to the erecting entity prior to erection or jump of the tower crane.

Discussion then turned to the originally proposed 1619.1(b)(3)(B) which read:

“The top of the support/foundation shall be accessible and free of debris, materials and standing water. No materials can be stored on the support unless approved by a qualified

person. The foundation and fasteners shall remain accessible and visible for inspection at all times.”

The committee was in agreement with this wording and recessed for lunch at 11:30 AM.

Second Day – Afternoon session.

The committee resumed deliberations at 12:50 PM.

The Chair noted that the proposed changes for Section 4999(f)(2) were exactly the same as proposed for section 1616.1(o) which the committee reviewed yesterday. This was acceptable to the Committee.

Section 4999(a) Qualified Riggers.

With Chair’s permission, Mr. Donlon brought up the provision in GISO 4999(a) regarding qualified riggers which states:

”The qualified person (rigger) shall be trained and capable of safely performing the rigging operation. All loads shall be rigged by a qualified person (rigger) or by a trainee under the direct visual supervision of a qualified person (rigger).”

He noted that the federal CDAC only brings up the subject of riggers in two places: assembly/disassembly and overhead loads. He opined that the CDAC is not as stringent as the GISO, and therefore he would like to see the GISO rigger requirement added to the overhead loads section of the CSO.

Mr. Donlon therefore recommended that the wording of GISO 4999(a) be added to the CSO, probably in the Operations section (1616.1). Since 1616.1(x) had been cleared by previous changes, it was decided to copy GISO 4999(a) into that section.

Rigger Training and Qualification

Mr. Renner stated that he would like some specifics from the Division about what should be included in rigger training. Mr. Fulghum recommended ANSI A10.42, Safety Requirements for Rigging Qualifications and Responsibilities, as a guideline. Mr. Bland stated that A10.42 should not be incorporated by reference. Mr. Pena and others agreed that they have problems with incorporating consensus standards by reference into Title 8. Chair added that, because of copyright issues and volume, we could not copy it into the standard. Mr. Hornauer added that Appendix C of federal Subpart CC also contains some information relevant to this subject. Mr. Renner opined that rigger training is an issue that cannot be resolved within the scope of this rulemaking, however, it should be addressed. Several members agreed there is a need to clarify what constitutes a qualified rigger.

Mr. Steinberg stated that crane subcontractors often must rely on riggers provided by other contractors and without standards to establish minimum requirements, they must rely on representations about the skills and qualifications of those individuals.

Mr. Foss noted that there had been a lot of concern in the industry about rigger qualifications and he inquired of the committee members if they felt there was a need for certification of riggers.

Mr. Steinberg stated that the crane operator must often rely on the qualifications of others to do the rigging and sometimes he must work “in the blind” where he is unable to see the signal person or the load. He opined that the lack of rigger certification is a “huge hole” in hoisting operation safety. The Chair noted that there appeared to be sufficient support for initiating a rulemaking proposal to propose rigger certification and to at least specify some minimum



qualifications and training standards. Mr. Silbernagel noted that federal OSHA has been asked about who is responsible for determining whether the riggers are qualified. This is made even more difficult because there can be a number of trades on the ground wanting to use the crane and because the crane operator must work in the blind on some lifts.

### Rigging Hardware.

The Chair noted that Mr. Esparza had expressed concern in yesterday's deliberations that rigging hardware below the hook not be ignored. Initially it had been opined that this was covered by GISO Article 101, but upon further consideration, the Chair is now of the opinion that it would be appropriate for the CSO to at least make reference to GISO Article 101 to remove any question that it is enforceable in construction. To begin the discussion, he proposed the wording "Rigging shall be in accordance with GISO Article 101," to be placed in section 1616.1(y).

Mr. Donlon noted that since Article 101 is titled "Slings", we should probably amend the proposed wording for 1616.1(y) to "the use of slings and rigging shall be..." Mr. Fulghum added that since rigging can be a verb or noun, we should probably use the term "rigging hardware" to clarify, thus 1616.1(y) read:

"The use of slings and rigging hardware shall be in accordance with GISO, Article 101."

Moving on, the Chair noted that some definitions were skipped-over yesterday and that these would be covered during the review process which the committee was going to take up next.

## 6. Summary and Review.

The Chair began reviewing amendments made so far. Only sections or subjects where further discussion and/or amendments occurred are noted below:

### Section 1610.1(c), Exclusions, (8) Powered industrial trucks (forklifts).

The consensus after the first day read as follows:

§1610.1(c), Exclusions, (8) Powered industrial trucks (forklifts), except when configured to hoist and lower ~~(by means of a winch or hook)~~ and horizontally move a suspended load.

Mr. Bland, who had been unable to attend the first day when this item was discussed, stated that he did not want a forklift "to become a crane unnecessarily."

Mr. Foss paraphrased Mr. Harrison's comments from the first day that "hoisting" is defined. He opined that by striking out the parenthetical expression, the "hoist" in the remaining text makes clear that the forklift is being used as a crane and is thus subject to the standard.

Mr. Bland nonetheless thought that this verbiage would still capture some forklifts not intended for inclusion. For example, does "horizontally move" mean the forklift moves the load horizontally by moving forward or backward?

The Chair noted that the discussion in the federal preamble indicated that if the forklift had a special attachment ("stinger") their intent was that it should be treated as a crane; however, if it only lifted by means of a chain wrapped around the forks, it would be exempt<sup>2</sup>.

The consensus was that a hoist (noun) is an essential component that makes the forklift a crane. Mr. Bland proposed the following wording that would address his concerns:

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<sup>2</sup> "A forklift with a boom attachment affixed to its forks that uses a hook to raise and lower the load like a crane would be covered by subpart CC. However, ...a forklift would be excluded from the coverage of subpart CC when its sole means of suspending a load is a chain wrapped around the forks." Federal Register, Vol. 75, No. 152, August 9, 2010, pg. 47926.

“Powered industrial trucks (forklifts), except when configured to hoist and lower (by means of a winch or ~~hook~~ hoist) and horizontally move a suspended load.”

Mr. Foss commented that federal OSHA had been asked for clarification, but had not yet responded and he was concerned whether this would pass federal muster.

Mr. Esparza felt that “hook” should be left in as well. He noted that forklifts are being modified with stingers to lift unbelievable weights. Mr. Robertson agreed that attachments are enabling even small equipment such as Bobcats to lift considerable loads.

Mr. Bland agreed that once the equipment is modified to have characteristics of a crane, operator training should be required. He said he would not have a problem with using “winch and hook” since the presence of both gives the equipment the characteristics of a crane, while “winch or hook” broadens the scope to capture equipment not intended to be included. Mr. Bland noted that the federal preamble<sup>3</sup> uses the modifier “like a crane” to explain its rationale.

Mr. Donlon opined that it is not only the characteristics of a crane that we are interested in, but also the lift capacity; for example, Gradall telehandlers with a long reach, a stinger attachment and a load chart. He added that when the load is suspended, it changes the center of gravity, and it is capable of swinging and shifting, which changes the dynamics of the load.

A preliminary consensus (with Mr. Esparza dissenting) was reached that the forklift exclusion should be modified to read:

“Powered industrial trucks (forklifts), except when configured to hoist and lower (by means of a winch or ~~hook~~ hoist) and horizontally move a suspended load.”

Mr. Esparza felt that “hook” should be included in the parenthetical text. Mr. Hornauer also felt that, until we get federal clarification, we might need to include “hook” in the definition; however Mr. McClelland noted that if we include “hook”, the requirement could be circumvented by using a shackle instead of a hook. Therefore, he opined that “winch or hoist” is more protective than “winch or hook.”

The Chair asked whether we should try to include some or all of the federal preamble verbiage<sup>4</sup> into the exclusion; however the committee was of the opinion that it was too convoluted and that is why it was in the preamble rather than in the regulatory text.

Mr. Bland opined that it is probably not possible to find wording that will capture all the equipment intended and exclude all the equipment that should be excluded, but the consensus proposal seemed to capture the intent of the federal preamble. Thus there was consensus (with Mr. Esparza dissenting) to modify the exclusion for forklifts to read:

“Powered industrial trucks (forklifts), except when configured to hoist and lower (by means of a winch or ~~hook~~ hoist) and horizontally move a suspended load.”

### Section 1610.3, Definitions.

#### Dedicated Drilling Rig.

The Chair noted that Mr. Esparza had requested that the term “dedicated drilling rig” be defined. They are excluded from the crane standards by section 1610.1(c)(11); however the term is somewhat ambiguous.

The Chair proposed a definition from the draft Washington Administrative Code (WAC) for cranes in construction.<sup>5</sup> The WAC defines “dedicated drilling rig” as “a machine which creates

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> WAC 296-155-52902, <http://apps.leg.wa.gov/wac/default.aspx?cite=296-155-52902>

bore holes and/or shafts in the ground.”

Mr. Esparza’s concern was that some drilling rigs have the same hazards as cranes. He stated that they have whip lines up to 2400 pounds, and that new machines used as pile drivers, can tilt the leads and lift I-beams into place much like a crane. Mr. Fulghum noted, however, that the term limits the exclusion to “dedicated” drill rigs. They would not be exempt when they are used for other duty. Mr. Esparza countered that since these machines have whip lines, they can be and are used to lift things into place.

The Chair noted that the scope of this advisory committee did not include pile drivers and that foundation people had not been included on the committee, thus it would not be within the scope of this committee to get into a discussion of whether pile driving rig operators should be certified. However, since “dedicated drilling rigs” are excluded from the crane standard by 1610.1, it would be appropriate to clarify what they are. The committee was in consensus to use the definition:

“Dedicated drilling rig. A machine which creates bore holes and/or shafts in the ground.”

#### Roustabouts.

Roustabouts are excluded from the standards, but they are not defined, and there is a great deal of confusion about what they are. A definition had been proposed as: “unpowered, rolling material lifts with hand-powered winches.” However, because the term “roustabout” appears to be somewhat of a trade name, the committee instead decided to clarify the exclusion for roustabouts in 1610.1(c)(14) to read:

(14) ~~Roustabouts.~~ Unpowered, rolling material lifts with hand-powered winches.

#### Section 1615.1, Safety Devices and 1615.2, Operational Aids.

##### 1615.1(a)(4), Foot pedal brakes:

The Chair noted that Mr. Closson commented yesterday on 1615.1(a)(4) which requires equipment with foot pedal brakes to have locks. Mr. Closson stated that this requirement will force virtually all older lattice boom cranes out of service and that even new cranes must be retrofitted. The Chair said that for the time being we will have to leave this requirement alone because there is nothing ALAEA and hope that something will come of discussions going on with federal OSHA.

##### (a)(8)-(a)(10) Boom-hoist limiting devices, luffing jib limiting devices and anti-two-block devices:

Mr. Steinberg commented regarding the proposal to move boom-hoist limiting devices, luffing jib limiting devices and anti-two-block devices from 1615.2, Operational Aids, to 1615.1 Safety Devices. He said they instruct their operators not to rely on anti-two-block or any of these devices; they consider them to be operational aids and not safety devices. They preach safe practices to their operators and for them not to rely on these devices which fail with some regularity.

Mr. Battaini added that, by moving these devices from operational aids to safety devices, the crane must be shut-down whenever they malfunction, which they often do; whereas if they are left as operational aids, the crane can continue to be operated safely for up to 7 days until they are repaired. Mr. McClelland agreed.

Mr. Yow commented that GISO section 4924 allows that a qualified person may be used to determine safe alternative operating means when load indicating devices and/or boom angle or radius indicators are not operational. Thus he agreed regarding classification of load indicating devices and boom angle indicators as operational aids.

Mr. Steinberg added that none of these devices were designed to be safety devices; they were designed as operational aids. Mr. Bland agreed with the foregoing speakers.

Mr. Silbernagel also agreed but had a concern about allowing 7 days to repair them if the crane company can get the replacement parts sooner. He was of the opinion that they should be repaired as soon as the part becomes available. He added that ASME B30.3 and B30.5 also cover these matters. However, Mr. Bland commented that requiring immediate repair when the part becomes available might create a more dangerous situation if the crane were to have to boom-down around a power line or it might be disruptive to operations on the jobsite.

The Chair proposed to reinstate boom-hoist limiting devices and luffing jib limiting devices back in 1615.2, Operational Aids. Management was uniformly in favor of reinstating anti-two-block devices into 1615.2 as well. The Chair asked for Labor's input. An unidentified labor representative stated that, as a crane operator, anti-two-block is problematic; it takes away control from the operator and causes bouncing. Thus there was a consensus to move the three items back into section 1615.2.

Mr. Yow opined that GISO 4924(a) should be re-written so as not to describe anti-two-block as a safety device and to harmonize with the CSO. Mr. Donlon noted that "operational aid" is defined, whereas the term "safety device" is not defined in the GISO or CSO. Mr. Yow opined that when section 4924 was written, everything was a safety device; i.e. there was no regulatory distinction between safety devices and operational aids.

Mr. Silbernagel wanted to go on the record that he had a concern about allowing 7 days to repair operational devices if the crane company can get the replacement parts sooner. He opines that they should be repaired as soon as the part becomes available.

The committee was unable to reach a consensus on Mr. Silbernagel's proposal to require repair of operational aids earlier than the 7 day window if parts are available. Mr. Silbernagel offered to send a copy of what he was proposing to the Chair after the advisory committee. He opined that the WAC draft should apply to both Category I and II operational aids.

*[Ed. note: Mr. Silbernagel subsequently e-mailed the following verbiage<sup>6</sup> which he stated is from ASME B30.5 and B30.3 and the recently revised WAC 296-155-53412. This WAC is still in draft form and the version Board staff located on the internet reads differently than this. The following is the e-mail verbatim.*

*"When operational aids are inoperative or malfunctioning, the crane and/or device manufacturer's recommendations for continued operation or shutdown of the crane shall be followed until the problems are corrected. Without such recommendations and any prohibitions from the manufacturer against further operation the following shall apply;*

*"(4) When a load, boom angle, or radius indicator, or boom luffing, trolley travel, crane travel, or two-block limiter is not functioning, the crane may be kept in service while awaiting repair provided all of the following conditions are adhered to. No operations shall be conducted if more than one of the indicating or limiting devices is not functioning.*

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<sup>6</sup> E-mail from Silbernagel to Tolson, dated 10/7/11, 12:38 pm, Subject: Tower Crane Foundations (with attachment).

“(a) All crane operations are conducted under the direct supervision of a qualified person other than a signalperson.

“(b) Radio communications between the qualified person, the signalperson(s), and the crane operator are established.

“(c) Each individual lift, and the first of a series of identical repetitious lifts, is specifically approved by the qualified person, before the lift is made, with respect to load weight, operating radii, lift heights, and crane motions.

“(5) When the wind velocity indicating device is not functioning, crane operations may continue if another crane on the site is equipped with a functioning wind velocity indicator or if a qualified person determines that ambient wind velocity is within permitted limits.

“(6) When drum rotation indicators are not functioning, the crane may be kept in service while awaiting repair.”

*Since this text was neither available nor discussed at the advisory committee, it won't be included in the consensus draft. It is provided as part of these minutes for committee member review and comment. Depending on comments received, it may or may not be included in the Board's formal rulemaking proposal which will follow at a later date.]*

### Section 1617.3. Signals – Voice Signals – Additional Requirements.

#### Exception for work covered by Section 1710.

It was noted from the earlier discussion that ironworkers have different requirements and procedures, and their work is covered in Section 1710. Mr. Bland suggested adding an exception to section 1617.3 to include a reference to section 1710 for ironworkers to avoid confusion. Since 1710 does not yet specifically address signaling, Messrs. Bland and McClelland worked out the following verbiage for an exception to 1617.3(b):

Exception: Where the work being performed is within the scope of Section 1710, the order and distance requirements of subsection (b) are not required.

A question was raised as to whether this exception would pass federal muster.

Mr. Steinberg stated that, by allowing an exception for ironworkers, we will be requiring the crane operator to “speak multiple languages” because one crane usually serves many different crafts. He thinks that it would be better to have standardized rigging and signaling practices throughout the industry. Mr. Bland responded that he shares this concern and that all the ironworkers are asking for is relief on the distance and sequence/order (not on the hand signals themselves). However, Mr. Steinberg and others felt that an exception is not a good practice.

*[Ed. note: Upon review of the recording, there was no consensus on this proposed exception for ironworkers. The consensus proposal reflects the consensus for 1617.3(b) that was reached the first day with the ironworkers and others].*

This concluded the section-by-section review.

### 7. Economic Impact.

The Chair stated that the Board is required to identify any costs resulting from rulemaking and asked committee members if anything that had been agreed to would significantly affect the cost of doing business in California. No costs were identified by the committee.

8. Conclusion.

The Chair reviewed the rulemaking process with the committee and stated that committee members will receive a copy of the meeting minutes, along with a draft consensus proposal in approximately 6-8 weeks. The Chair stated that the committee members will be given an opportunity to comment on the minutes and consensus proposal before he moves forward with a formal rulemaking proposal. He noted that Mr. Silbernagel was going to send him proposed amendments for operational aids based on Washington State Administrative Code, and those would be made available to the committee to comment on. Mr. Bland requested that, if any changes to the consensus are contemplated as a result of post-Advisory Committee correspondence (such as the changes for operational aids proposed by Mr. Silbernagel) he would like to see the proposed changes before they are formalized.

The Chair asked those who may not yet have signed the attendance roster to do so in order to be included on the post-Advisory Committee mailings.

The Chair reviewed the rulemaking flow chart. He noted that we have just concluded the Advisory Committee, and after the minutes are prepared and sent to the committee members, the next step will be to develop a formal rulemaking proposal. After the formal rulemaking proposal is noticed, there will be a 45-day period for public comments, followed by a public hearing. If the Board decides to move forward with the rulemaking, the whole process can take approximately one year.

The Chair then thanked the committee members for their attendance and participation and adjourned the meeting at 3:00 p.m.

Attachment