



STEEL ERECTORS ASSOCIATION OF AMERICA

January 22, 2009

OSHA Docket Office
Docket ID—OSHA—2007—0066
Technical Data Center, Room N-2625
OSHA/ U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210

Dear Sir/Madam:

The Steel Erectors Association of America (**SEAA**) submits the following comments in response to the Notice of Proposed Rulemaking, Docket ID – OSHA – 2007-0066, RIN 1218-ACO1, Cranes and Derricks in Construction.

The Steel Erectors Association of America (**SEAA**), headquartered in Greensboro, North Carolina, is a not-for-profit trade association established in 1973 to serve the structural steel erection community and construction industry in the United States. For 36+ years, **SEAA** has conducted its numerous activities with a scrupulous sense of public responsibility.

SEAA is a national trade association representing more than 350+ member companies across the United States. **SEAA** members are engaged in structural steel erection, industrial maintenance, manufacturing, equipment rental, millwrighting and specialized transportation. Over 80% of our members are classified as small businesses by the Small Business Administration.

In July 2003, the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA) established the Crane and Derrick Negotiated Rulemaking Advisory Committee (C-DAC) to develop a proposed rule to increase employee protection by improving safety standards for cranes and derricks in construction (Subpart N 29 CFR 1926.550). George R. “Chip Pocock, II, participated on this committee representing the **Steel Erectors Association of America (SEAA)**.

SEAA fully supports OSHA's use of Negotiated Rulemaking in updating the 40-year old standard, Subpart N, Cranes & Derricks, which governs the use of cranes in this country. The use of Negotiated Rulemaking allowed all parties involved to participate in direct and focused discussions and deliberations. The 23 members of OSHA's C-DAC committee represented all facets of the industry affected by this Standard:

- Manufacturers and Suppliers
- Lessors/Maintenance
- Users-Employers
- Users – Labor Organizations
- Operators – Labor Organizations
- Government/Public Entities
- Training and Operator Testing
- Power Line Owners
- Insurance



STEEL ERECTORS ASSOCIATION OF AMERICA

- Home Builders

C-DAC had one (1) year to negotiate all aspects of the new standard. They diligently accomplished their task and put forth a consensus document during their final meeting in July 2004, satisfying the deadline requirements.

It is important to note a few of the ground rules agreed to by all C-DAC members:

III. Decision Making

- A. C-DAC will make every effort to reach unanimity on all issues related to the proposed regulatory text, meaning that there is no dissent by any member. However, if the facilitator determines that additional discussions are not likely to lead to unanimous consent, C-DAC will consider consensus to have been reached when there is no dissent by more than two non-federal C-DAC members. Agreement will not be considered to have been reached if there is dissent by OSHA. If OSHA is the sole dissenter on an issue, OSHA will publish the regulatory text on that issue, as endorsed by the other C-DAC members, in the preamble to the proposed rule as an alternative approach, and ask the public to comment on that alternative. A member must be present to dissent.
- B. Upon the request of a dissenter to an agreement, OSHA will include the dissenter's reasons for dissenting in the preamble of the proposed rule.

IV. Agreement

- A. The goal of C-DAC is to develop a proposed standard that improves worker protection and that reflects a final consensus of the Committee.
- B. If C-DAC reaches a **final** consensus agreement on all issues, OSHA agrees to use the consensus-based language as its proposed standard, and C-DAC members will refrain from providing formal written negative comments on the consensus based regulatory language published in the Federal Register, except as provided in paragraph IV E.
- C. If the C-DAC reaches a **final** consensus agreement on some but not all issues, OSHA will include the consensus-based language in its proposed standard, and C-DAC members agree to refrain from providing formal written negative comments on the consensus-based language published in the Federal Register, except as provided in paragraph IV E.
- D. During the course of the negotiations, C-DAC will provide reasons for the proposed regulatory text. The preamble to the proposed rule will not be subjected to C-DAC negotiations, but OSHA will provide the draft preamble to C-DAC members prior to publication of the proposed standard.
- E. Once C-DAC has reached a final consensus agreement on a completed document, OSHA will use the C-DAC regulatory language in its proposed standard without altering the consensus-based regulatory text unless OSHA reopens the negotiated rulemaking process or provides to C-DAC members a detailed statement of the reasons for altering the consensus-based language. This written explanation will be provided to C-DAC members sufficiently in advance of publication of the proposed standard so as to provide C-DAC members with an opportunity to express their concerns to OSHA. If OSHA alters consensus based language, it will identify such changes in the preamble to the proposed standard, and C-DAC members may provide formal written negative or positive



STEEL ERECTORS ASSOCIATION OF AMERICA

comments on those changes and on other parts of the proposed standard to which that issue was “linked.”

VI. Safeguards for Members

- B. All members shall act in good faith in all aspects of these negotiations.
- C. Members will maintain contact with constituencies throughout the negotiations to obtain feedback on proposals and to provide information about tentative agreements reached.
- D. Contact with the media should generally be limited to discussion of the overall objectives and progress of the negotiations. C-DAC members should refrain from characterizing or commenting to the media on positions taken by other C-DAC members and from commenting negatively on agreed upon regulatory text. If an article appears that misquotes or inaccurately represents an individual’s position, that individual should inform the C-DAC members of it.

It was further defined in Cranes and Derricks Negotiated Rulemaking Advisory Committee's Approved Meeting Summary - September 3 - 5, 2003, that **committee members were acting as representatives of their organization and not as individuals:**

Who is bound by agreements reached by C-DAC?: C-DAC members reiterated their understanding that agreements reached by C-DAC members bind the organizations they represent. This means that their organizations will refrain from providing formal written negative comments on the consensus-based language published in the Federal Register. However, all understand that associations cannot control actions taken by their members.

On August 1, 2004, C-DAC reached final consensus on all issues. Therefore, all organizations represented on CDAC are expected to keep to their agreement to refrain from providing formal negative comments.

On October 12, 2006, the Advisory Committee on Construction Safety and Health (ACCSH), by unanimous vote stated: “ACCSH supports the OSHA draft proposed cranes and derrick standard as currently written, and recommends to OSHA that the Agency move forward with all deliberate speed to issue the proposed standard.”

SEAA's representative negotiated clearly and in good faith represented our association's goals and viewpoints throughout the negotiations. With these ground rules in mind and in the spirit of negotiation in which our representative participated, **SEAA will only provide comments where OSHA altered consensus based language or in answer to OSHA's specific request for public comment.** Where comment is not submitted, **SEAA** is in full support of the language as offered in the Proposed Rule.

Preamble

As agreed by OSHA during the Negotiated Rulemaking Process, the Preamble was to contain comments stating that 29 CFR 1926 does not countenance operator abuse. The preamble currently does not contain this statement. Per ground rules, it should be included in section 1926.1418.



STEEL ERECTORS ASSOCIATION OF AMERICA

- 1926.1400(c)(8)** **Should machines originally designed as forklifts but that are modified to perform tasks similar to cranes be included or specifically excluded from the proposed standard?**
Any forklift converted to operate with similar characteristics as a crane, is currently included in the proposed standard. This equipment falls under multi-purpose machine as defined in scope.
- 1926.1401** **Definitions ~ Equipment Criteria**
Clarification: OSHA cannot mandate “recommendations”. This word needs to be removed from the Equipment Criteria definition.
- 1926.1401** **Is the changed definition of “tower crane” correct?**
No, the changed definition is incorrect. Tower Crane definition:

"A type of lifting structure which utilizes a vertical, or near vertical, mast or tower to support a working boom (jib) in an elevated position. Loads are suspended from the working boom. While the working boom may be of the fixed type (horizontal or angled) or have luffing capability, it can always rotate to swing loads, either by rotating on the top of the tower (top slewing) or by the rotation of the tower (bottom slewing). The tower base may be fixed in one location or ballasted and moveable between locations. Mobile cranes that are configured with luffing jib and/or tower attachments are not considered tower cranes under this Standard."
- 1926.1401** **Is the changed definition of “wire rope” correct?**
We agree with the changed definition of wire rope. It provides additional clarification
- 1926.1404** **In light of the March 15, 2008 tower crane accident in NYC, should synthetic slings be prohibited during assembly/disassembly operations, or should there be an added requirement that such slings be protected when used to rig objects with sharp edges?**
We do not agree that nylons slings should be banned. These slings are often used to protect the boom. All rigging should be permitted when used appropriately. This is addressed in number 15 in the list of Assembly/Disassembly responsibilities: A/D Supervisor shall ensure proper use of rigging.
- 1926.1404(e)** **Should a crew member who needs to work in a location that is out of the operator’s view have to directly tell the operator that he is going to such a location (as is currently required) or would it be OK to allow the crew member to directly inform the operator through a third person?**
We agree with standard as written. We believe the committee’s members' concerns are addressed as it is written it allows different means of communication from the crew to the operator such as radio, third person, etc.



STEEL ERECTORS ASSOCIATION OF AMERICA

1926.1404(h)(3) **Should the paragraph concerning proper location of blocking apply only to lattice booms and components (as is currently written), or should the provision be broadened to cover all booms and components.**

We agree with the decision to broad the provision to cover all booms and components.

1926.1404(h)(10) **Should the language of this paragraph be changed to specify the exact point(s) in the assembly process when a boom hoist brake test should be conducted? (For instance, after each section is added and after they are all together).**

We do not agree with changing the language to provide specifics. The original intent of the committee was not to provide procedures. The A/D Supervisor should consider this (test after each section or groups of section) but to specifically require in certain situations could create a greater hazard

1926.1405 **Disassembly**

The figures shown in this section are inaccurate. The illustrations/pictures should be of a mobile crane.

1926.1407(b)(3) **Should the proposed paragraph be revised to specifically preclude an employer from selecting a protection option that does not effectively prevent encroachment?**

We disagree with revising the paragraph. Nothing can guarantee "effectiveness". The committee-defined additional measures listed as options are effective to prevent encroachment. Therefore, the use of any of these methods is an appropriate measure.

1926.1407(e) **Should the term working days in this context mean business days (i.e. M-F, but not Sat, Sun or Federal Holidays) or should it be defined differently?**

We agree that the term working days in this context means business days (i.e., M-F, but not Sat, Sun or Federal Holidays).

1926.1408(a)(2)(iii)(B)(b) OSHA modified text

While we agree with the modification, there is one change in the text that is necessary:

(b) to ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer to the line than the minimum approach clearance distance.

This change is consistent with 1926.1407(a)(3)(i).

1926.1408(b)(3) **Should use of a dedicated spotter be mandated if the operator is unable to see the elevated warning line demarcating distance from the power line?**

We recommend modifying the proposed provision as follows:



STEEL ERECTORS ASSOCIATION OF AMERICA

"If the elevated warning line is not in view of the operator or signalperson, then a dedicated spotter is necessary."

- 1926.1408(c)** **Should the term working days in this context mean business days (i.e. M-F, but not Sat, Sun or Federal Holidays) or should it be defined differently?**
We agree that the term working days in this context means business days (i.e., M-F, but not Sat, Sun or Federal Holidays).
- 1926.1408(f)** **Is the paragraph concerning protection while working near transmission towers that could produce an electric shock (i.e. requiring the equipment to be grounded and the use of non-conductive rigging or an insulated link) effective, or is the old Subpart N rule (i.e. requiring the equipment to be grounded and the use of a ground jumper cable connecting the load to the equipment) more appropriate?**
(1) The proposed standard already has provisions requiring equipment to be grounded or have non-conductive rigging or insulating link. This provides the protection to employees who may come in contact with the equipment.
(2) Workers are best protected by proposed paragraph (f). The current Subpart N is not feasible. As such, we do not agree with changing to the old language.
- 1926.1408(g)** **Should this paragraph also address the timing and frequency of training for operators and crews that have to work in the vicinity of power lines?**
Paragraph 1407(b)(1) states "Conduct a planning meeting with the Assembly/Disassembly supervisor (A/D supervisor), operator, assembly/ disassembly crew and the other workers who will be in the assembly/disassembly to review the location of the power line(s) and the steps that will be implemented to prevent encroachment and electrocution." Nowhere else in the standard is the frequency of training specified. It is not necessary in this 1926..
- 1926.1408(g)(1)(i)(E)** **Should this paragraph be modified to include the phrase "and the load"?**
We agree with the agency's suggestion to modify the paragraph by adding "and the load".
- 1926.1408(h)** **Should the term "range limit device" be included in the definition section and is OSHA's understanding (a device that physically limits how far a crane can boom out and the angle in which the boom can swing) correct?**
We agree the definition should be added. We recommend the following definition:
Range Limit Device: A device that physically limits the load or crane structure from encroachment within preset restricted zones.
- 1926.1410(d)(9)** **Should this paragraph prohibit the operator from touching the load line above the insulated link if he is not physically on the equipment?**
We agree the prohibition should be included.



STEEL ERECTORS ASSOCIATION OF AMERICA

- 1926.1411(a)** **Should this section be broadened to include requirements for equipment travelling on a construction site without a load near power lines (not just under power lines).**
We agree the section should be broadened. We further recommend adding the following verbiage to section 1926.1411 (a):
- This section establishes procedures and criteria that must be met for equipment traveling under or within proximity of a power line as stated in Table T on the construction site with no load.*
- 1926.1411(b)(4)** **Should the term "driver/operator" be used in this paragraph (in lieu of operator), because when a crane is travelling on a jobsite, the operator might not be the driver?**
We agree with changing the term from "crane operator" to "driver/operator"
- 1926.1412** **Should this section include testing/evaluation requirements for inspection workers (similar to those for signalman under 1428)?**
We do not agree with the inclusion of testing/evaluation requirements for inspection workers. While this does have validity, the committee never addressed level of knowledge for inspection workers. As such, consensus was not reached on this issue and should not be included.
- 1926.1412(a)(1)(ii)** **Should this paragraph be modified to limit the functional testing required after a modification/addition to those components that are or may be affected by the modification or addition?**
We agree with the recommended change. It is only necessary to test what was modified/added to the components, not the entire crane.
- 1926.1412(b)(1)(iii)** **Should this paragraph be modified to limit the functional testing required after a repair to those components that are or may be affected by the repair?**
We agree with the recommended change. It is only necessary to test the components that are or may be affected by the repair.
- 1926.1412(d)(1)(xi)** **Should this paragraph clarify the amount of tolerance that would be allowed for the equipment to be considered level?**
We do not agree with this recommended change. It is not necessary to clarify the requirement as level position varies by manufacturer and conditions.
- 1926.1412(d)** **Should this paragraph more clearly indicate that booming down or removal of non-hinged inspection plates is not required as part of the shift inspection?**
We agree with the clarification. Disassembly and booming down are not required for shift inspections.



STEEL ERECTORS ASSOCIATION OF AMERICA

- 1926.1412(e)** **Should this paragraph include a requirement that the documentation of the monthly inspections be maintained by the employer who conducts the inspection (as is required for the annual documentation)?**
We agree that monthly inspections must be maintained by the employer conducting the inspections.
- 1926.1412(e)** **Should this paragraph repeat the corrective action provisions from the shift inspection to make it clearer that the same requirements apply to the monthly inspection?**
We agree this paragraph should repeat the corrective action provisions from the shift inspection as it provides clarification.
- 1926.1412(f)** **Should this paragraph add language specifying a higher level of scrutiny is required for the annual inspection (i.e. thorough, including disassembly when necessary)?**
Additional language is not necessary. Current provisions under the annual inspection already include assembly/disassembly.
- 1926.1412(f)(1)** **The Agency added language to this provision.**
We agree with the additional language:

*At least every 12 months the equipment shall be inspected by a qualified person in accordance with paragraph (d)(shift inspections), **except that the corrective action set forth in Paragraph (f) Annual/comprehensive, shall apply.***
- 1926.1412(f)** **Should this paragraph have language added to clarify that the follow-up required when an operational aid is found to be malfunctioning during an annual inspection is the action specified in paragraphs 1416(d) and (e)?**
We agree that additional language is necessary for clarification.
- 1926.1412(f)(2)(xv)** **Agency modified C-DAC consensus language regarding slider pads**
The original consensus language stated “slider pads for adjustment and excessive wear”. The revised language by the Agency states: "slider pads for excessive wear or cracks". We do not agree with this language and recommend "or cracks" be removed. Further, the statement noted in the preamble that "the Committee was aware that some disassembly may be required to inspect slider pads" is inaccurate and, likewise, should be removed.
- 1926.1433(e)(5)** **Agency modified C-DAC language for proposed paragraph “originally supplied with the equipment by the manufacturer or otherwise....”**
We do not agree with the Agency's modified language as many times decals are neither pertinent nor obtainable. C-DAC members agreed to electrocution stickers **only** as the majority of remaining stickers are placed for the manufacturer's protection against litigation and should not be included in this standard. Additionally, the American National Standards Institute does not require any stickers on the crane other than electrocution warning.



STEEL ERECTORS ASSOCIATION OF AMERICA

1926.1412(f)(7) Should the documentation requirement for the annual inspection (as well as for the monthly inspection) be removed as per the request of several Small Entity Representatives?

We disagree that the documentation requirement for the monthly and annual inspections should be removed. Documentation of (twelve) 12 monthly inspections and one (1) annual over the course of a year is not unduly burdensome to business.

1926.1413(c)(2)(ii)(C) & (F)

Since these requirements of the annual/comprehensive wire rope inspection are virtually identical to paragraphs 1413(a)(3)(iv) and (a)(3)(v) of the shift inspection, can they be eliminated as redundant since the shift inspection items are incorporated by reference?

We do not agree with the elimination of the paragraph. Although these paragraphs are similar, annual inspections are more comprehensive and should be treated separately.

1926.1414

Was C-DAC's omission of design factors for standard wire rope inadvertent and should they be included per section 5-1.7.1 of ANSI B30.5-2004?

The omission was not inadvertent. In fact, C-DAC focused on rotation rope due to it being the most critical and thus requires its criteria be spelled out. For all other rope, technology is evolving and including design criteria may hamper future operations of cranes. The standard currently has provisions requiring end users conform to requirements/criteria per wire rope manufacturer, equipment manufacturer or qualified person.

1926.1414 (a)(5)

Integral Holding Device/Check Valve

This should be moved to the design section (1433) as this is a design feature, not a safety device.

1926.1414(c)(2)(i)

Should the terms "duty cycle" and "repetitive lifts" be defined under 1401, and are OSHA's proposed definitions correct?

We agree definitions for "duty cycle" and "repetitive lifts" should be included. We are fine with the definition provided for "repetitive lifts". We recommend the following for "duty cycle":

A type of crane service in which bulk material is transferred from one point to another by rapidly lifting, swinging, booming, and placing the material. Typical types of duty cycle service are dragline, clamshell, grapple, and magnet. This type of service is differentiated from standard crane "lift service" in that cycle times are very short and continuous, often less than 1 minute per load, and loads are lifted and placed in general areas rather than precise positions to permit such rapid cycles.

1926.1414(c)(4)(ii)(F)

OSHA Modified Language



STEEL ERECTORS ASSOCIATION OF AMERICA

We do not agree with OSHA modified language. This should be changed back to original consensus language as this is consistent with B30.5. We have noted the change from "crane" to "equipment" as noted previously in the Standard.

(F) The operating design factor for these ropes shall be the total minimum breaking force of all parts of rope in the system divided by the load imposed on the rope system when supporting the static weights of the structure and the load within the equipment's rated load capacity.

1926.1416(d)

Should the term working days in this context mean business days (i.e. M-F, but not Sat, Sun or Federal Holidays) or should it be defined differently?

For the purposes of repairs, the intent was 7 *calendar* days or 30 *calendar* days. In other 1926.s, such as the one relative to the power company working days is specified since the power company is not open/available on weekends.

1926.1417(f)(2)(i)

Should the lockout/tagout procedures be broadened to be as comprehensive as the general industry lockout/tagout standards for the control of hazardous energy or are those general industry requirements not appropriate for cranes/derricks?

The lockout/tagout procedures should not be broadened as general industry requirements are not appropriate for cranes and derricks.

1926.1412(c)(2)

Should the proposed standard include a requirement that tower cranes be equipped with safe stairways and ladders? (As written, tower cranes are excluded from this requirement.)

We agree that a similar requirement for tower cranes should be included. In addition, reference to ANSI A14.3-1992, Safety Requirement for Ladders, and EN 13586 or similar ISO standard should also be included.

1926.1423(d)(1)

Should there be an added requirement that fall protection be provided when an employee engaged in non-A/D work is moving point-to-point on a lattice boom that is horizontal but the fall distance is greater than 15 feet?

We agree the proposed paragraph should be expanded to require fall protection when an employee, engaged in non-A/D work, is moving point-to-point on a boom that is horizontal and the fall distance is 15 feet or more.

1926.1423(g)(2)

Should the fall protection exemption when working at or near the draw-works, in the cab, or on the deck of mobile cranes also apply to tower cranes?

We agree that the fall protection exemption should apply to tower cranes



STEEL ERECTORS ASSOCIATION OF AMERICA

- 1926.1425(e)** **Should there be a definition of "essential to the operation" with regard to employees who have to work in the fall zone, and are OSHA's examples satisfactory?**
No definition is necessary. "Essential to the operation" is self-defining. OSHA's examples should include making initial connections and securing the bracing.
- 1926.1426(a)(1)(iii)** **Should this paragraph be expanded to prohibit use of a live boom where the fall path of the boom would cross into the Table A zone if the boom were to fail?**
We agree the paragraph should be expanded to prohibit the use of a live boom where the fall path of the boom would cross into the Table A zone if the boom were to fail.
- 1926.1426(c)** **Is the changed language, which states that the purpose of an integrally mounted device is to prevent the boom from retracting in the event of hydraulic failure, appropriate? (The original language noted that the purpose was to prevent boom movement, and that was probably too broad in the context of this paragraph).**
We agree with the modified language.
- 1926.1426(d)(4)** **Should this paragraph be modified to include an exception for load line free fall over cofferdams where no employees are in the fall zone (similar to the exception in paragraph 1426(a)(1)(v) for live booms)?**
We agree the paragraph should be modified to include an exception for load line free fall over cofferdams where no employees are in the fall zone (similar to the exception in paragraph 1426(a)(1)(v) for live booms).
- 1926.1427(b)(1)(ii)(B)** **This paragraph requires different levels of certification based on equipment capacity and type, but is the term "type" sufficiently clear? Does it need to be defined (and if so, what should it be), and are there any suggestions as to what other terms may be better?**
For mobile cranes, "type" as defined in ASME B30.5 would provide greater guidance. Qualifications (and certification) should be driven by the knowledge and skill required to operate a piece of equipment. When a body of knowledge or a particular skill set for a particular "type" of crane changes, then so should the appropriate category of certification/qualification.
- 1926.1427(b)(1)(ii)(B)** **Should the level of certification be expanded to allow an operator to be certified for a specific make and model of equipment (as suggested by some Small Entity Representatives)?**
We do not agree to the expansion of this 1926.. (i) Certifying to a particular make and model of crane is not practical from the perspective of nationally accredited certification, so Option 1 would not likely be available. (ii) While this may seem attractive at first glance to some employers, this provision would mean that an employer utilizing Option 2 would have to develop an entire set of tests—and have them validated by an accredited program's



STEEL ERECTORS ASSOCIATION OF AMERICA

auditor—for every crane in his fleet and/or every time he changed or added cranes in his fleet. This would result in a greater fiscal impact to the employer than utilizing a broader crane type category. (iii) From a psychometric perspective, testing to a specific make and model of equipment is not necessary nor even defensible: testing should be driven by the skill set and knowledge required, (not by crane make and model no.) as determined by the Job Task Analysis, a pre-requisite of all accredited personnel certification programs.

1926.1427(b)(1)(ii)(B) Should the levels of certification be expanded to allow an operator to be certified for a specific, limited type of circumstance defined by a set of parameters that, taken together, would describe an operation characterized by simplicity and relatively low risk (as suggested by some Small Entity Representatives)?

We do not agree to the expansion of this 1926.. All lifting operations involve some risk, but the degree of risk in any given situation is difficult to assess and, in any case, may change due to unforeseen circumstances. Many crane accidents occur when the task at hand changes, or the circumstances change during the lift. In any case, who would prescribe the risk levels? Perception is often confused with reality: small cranes are involved in many more crane accidents than larger machines precisely because the *perceived* risk is less than it actually is with this type of equipment.

1926.1427(b) Should Option 1 (certification by an accredited crane/derrick testing organization) be expanded so that an accredited educational institution could administer written and practical tests that were developed or approved by an accredited crane/derrick testing organization (as suggested by the SBREFA Panel)?

Under the current proposal, an accredited educational institution can administer tests. In order to maintain the security of the testing process, however, the certifying organization (as the responsible entity) would have oversight of each test administration. This should not be confused with an accredited educational institution being authorized to develop or approve such tests; the accreditation criteria for educational institutions are entirely different from the criteria used to accredit personnel certification bodies.

1926.1427(c)(1)(ii) Should a new paragraph 1427(c)(1)(ii)(D) be added to make it clear that nationally recognized auditing standards would also apply to the audit of the contents of written and practical tests?

We do not agree with the addition of a new paragraph. While (i) the audit should, indeed, meet recognized national auditing standards, and (ii) the content of the tests should meet prevailing standards (such as B30), auditing standards used by accrediting bodies such as NCCA and ANSI do not review subject matter content since they are primarily concerned with exam design, maintenance and administration.



STEEL ERECTORS ASSOCIATION OF AMERICA

- 1926.1427(d)(1)** **Should the language of this paragraph be changed to specify that Option 3 (qualification by the US military) applies only to direct employees of the US military and not those of private contractors, and should a definition of “employee of the US military” be included?**
YES to both questions. This clarification would be valuable and accurately reflect current practice. Typically, the U.S. military has internal standards that apply to its own crane operators, qualified through its own programs, while maintaining separate requirements for contractor employees.
- 1926.1427(f)(2)(iii)(B)** **Should this paragraph be modified to indicate that the supervisor of an operator trainee must either be a qualified/certified operator for the equipment the trainee is operating or have passed the written test for the equipment the trainee is operating?**
NO. Language as written is preferred. It is critical that a supervisor, in whose care the safety of the lift and all personnel is placed by this provision, has a complete understanding of the skills and knowledge an operator trainee needs to have for the particular type of equipment (s)he operates, and that (s)he is able to recognize unsafe acts in time to avert an accident. There is ample precedent in state law for this requirement.
- 1926.1427(h)** **Should modifications be made to section 1427 to indicate that operators who are qualified/certified on equipment with translated materials be limited to the use of cranes/derricks that are equipped with such translated materials? Also, should there be some sort of safeguards included to ensure that a translation of manufacturer-supplied materials conveys the same information as the original?**
YES. If a non-English literate operator is qualified under the terms of this 1926., it is critical that (i) he be limited to the operation of cranes whose control systems (levers, etc.) and operations manuals, load charts and the like, are all in the same language used for training and testing (ASME B30.5 has had a requirement for more than 10 years that a qualified operator must be tested “in the language of the crane operations manual”, and there is a powerful safety argument for this); (ii) the translation of the manufacturer’s manuals is conducted ONLY by the manufacturer; (iii) the manufacturer has verified that the translated manual conveys the entire information contained in the original.
- 1926.1427(h)** **Should modifications be made to section 1427 to allow operators with a lower level of literacy to be qualified/certified on equipment where the manuals and other vital materials are re-written in more simplified language (with perhaps greater use of illustrations)? If so, should modifications be made to section 1427 to indicate the operators who are qualified/certified on equipment with simplified materials be limited to the use of cranes/derricks that are equipped with such simplified materials? Also, should there be some sort of safeguards included to ensure that a simplified version of manufacturer-supplied materials conveys the same information as the original?**



STEEL ERECTORS ASSOCIATION OF AMERICA

NO. The information placed by the manufacturer in the manufacturer's manual(s) contains the essential information for the safe operation of the crane. There is no justification for an "abbreviated" version of critical operating instructions necessary for the safe operation of the crane, nor is it likely any crane manufacturer would provide such a document.

1926.1427(j)(1)(i)

Should the level of certification be expanded to allow an operator to be certified for a specific, limited type of circumstance defined by a set of parameters that, taken together, would describe an operation

characterized by simplicity and relatively low risk (as suggested by some Small Entity Representatives)?

NO. All lifting operations involve some risk, but the degree of risk in any given situation is difficult to assess and, in any case, may change due to unforeseen circumstances. Many crane accidents occur when the task at hand changes, or the circumstances change during the lift. In any case, who would prescribe the risk levels? Perception is often confused with reality: small cranes are involved in many more crane accidents than larger machines precisely because the *perceived* risk is less than it actually is with this type of equipment.

1926.1427

Is there really a need to limit an employer's operator qualification/certification options to those that require the involvement of independent third parties? Also, is the degree of portability of a qualification/certification too limiting?

Yes, there is a need to involve independent third parties to ensure validity and reliability of exam. Independently tests the knowledge of meeting a national standard.

(i) Without the verification of the validity, reliability and fairness of an employer's exams by an independent third-party certification body, section 1427 would be materially little different than the existing OSHA rule which has clearly failed to adequately protect the safety of those who work in, with and around cranes. Oversight of all examination processes by a disinterested third-party is critical in order to ensure the effectiveness and legitimacy of the testing, and to protect it from influence by the training portion of the qualification process. (ii) Because employers' programs will most likely be tied to testing knowledge and skill particular to the types of cranes owned by the employer and used in the particular type of work the employer is active in, portability of operator qualifications is not appropriate. Indeed, portability of qualifications under this provision could even be worse than no qualifications at all since it could lead to a false assumption by subsequent employers that the individual is qualified to run a crane of a type (s)he has not been evaluated for.

1926.1428(a)(1)

Should the term "third party evaluator", which is used in this paragraph, be defined? If so, is OSHA's suggested definition correct?

Yes. We recommend the following suggested change to OSHA's definition:



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"An entity or individual that, due to their independence and expertise, has demonstrated that they are competent in accurately assessing whether individuals meet the Qualification Requirements in this Subpart for a signal person."

- 1926.1428(a)(3)** **Should the requirement that the documentation of a signal person's qualifications be available while he is employed by the employer be broadened to say that the documentation needs to be available on site?**
No. It is not necessary to have on site as long as it can be readily produced.
- 1926.1428(a)(2)** **Should this paragraph be modified to clarify that documentation is also required under Option 2 (employer's qualified evaluator), and is OSHA's proposed language appropriate?**
We agree with the language modification as proposed by OSHA.
- 1926.1430(c)** **Should this paragraph make it clear (as requested by some Small Entity Representatives) that operators of smaller capacity equipment used in less complex operations need not have the same level of training as operators of higher capacity equipment used in more complex situations?**
NO. All lifting operations involve some risk, but the degree of risk in any given situation is difficult to assess and, in any case, may change due to unforeseen circumstances. Many crane accidents occur when the task at hand changes, or the circumstances change during the lift. In any case, who would prescribe the risk levels? Perception is often confused with reality: small cranes are involved in many more crane accidents than larger machines precisely because the *perceived* risk is less than it actually is with this type of equipment.

The proposed C-DAC consensus language adequately addresses the Small Entity Representatives' concerns as it requires operator training in "the information necessary for safe operation of the specific type of equipment the individual will operate". There is no need for further clarification.
- 1926.1430(c)** **Should the supervisor responsible for oversight of an operator trainee have additional training beyond what is required by 1427(f)(2)(iii)(B)?**
No. This section should remain as agreed to by C-DAC. The supervisor responsible for oversight of an operator trainee must understand industry codes and regulations. The supervisor must understand the principle operation of the crane and understand what is required to safely lower the load in an emergency situation.
- 1926.1431(h)(1)** **Is the phrase "a single trial lift for all locations, which is taken from current 1926.550(g)(5)(i), not specific enough, and should OSHA's proposed language change be adopted instead?**
We do not agree that OSHA's proposed language change be adopted. The proposed C-DAC consensus language is fine as written and provides adequate clarification.



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- 1926.1431(h)(5)** **Should this paragraph be modified to clarify that personnel and materials are to be on board when the platform is lifted a few inches just prior to the lift to verify that it is secure and balanced?**
We agree with this clarification.
- 1926.1431(k)(7)(ii)** **Should this paragraph be reworded to clarify the circumstances under which employers can use the three options for positioning the operator when using platforms with controls?**
We do not agree that the paragraph be reworded. Whichever option is chosen, the operator has to be in the position that allows him control of boom and swing functions of the equipment.
- 1926.1433(b)** **Should this paragraph concerning design criteria for mobile cranes be modified so that the reference to ANSI B30.5-2000 (and the 2002 Addenda) is changed to ANSI B30.5-2004?**
ANSI B30.5-2004 was not available at the time to be evaluated by C-DAC as was discussed during deliberations and negotiations. We recommend it not be incorporated.
- 1926.1433(b)(1) & (13)** **Is a reference to ANSI B30.5-2004 appropriate for these paragraphs, given that completely new design criteria for cranes with partially deployed outriggers is included for the first time ever in the 2004 edition and was never considered by the committee?**
ANSI B30.5-2004 was not available at the time to be evaluated by C-DAC and was not discussed during deliberations and negotiations. We recommend it not be incorporated.
- 1926.1433(c)** **OSHA requests public comment on whether there should be prototype testing requirements for tower cranes, and, if so, what requirements should apply.**
Prototype testing requirements for tower cranes should be included. We recommend the inclusion of computer modeling and/or verification in accordance with EN 14439, 2005, standards (FEM 1.001 or DIN 15018, part 1 and 2 and DIN 15019, part 1).
- 1926.1433(d)(12)(i)** **OSHA Change Regulatory Text**
We do not agree with this change. The original proposed language is consistent with ANSI and there is no rationale for this change. Recommend it revert back to the original proposed language:

(i) Of a size and thermal capacity sufficient to control all rated loads with the minimum recommended reeving.
- 1926.1435** **Tower crane definition**
Definition is incorrect. "Tower crane" is defined in § 1401 as



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“A type of lifting structure which utilizes a vertical, or near vertical, mast or tower to support a working boom (jib) in an elevated position. Loads are suspended from the working boom. While the working boom may be of the fixed type (horizontal or angled) or have luffing capability, it can always rotate to swing loads, either by rotating on the top of the tower (top slewing) or by the rotation of the tower (bottom slewing). The tower base may be fixed in one location or ballasted and moveable between locations.

1926.1435(b)(3)

Is the term "structural supports", as used in this paragraph, clear enough to indicate that it means both the portions of a structure used to support a tower crane the means of attachment?

Under proposed paragraph 1435(b)(3), *Foundations and structural supports*, tower crane foundations and structural supports, **including attachment components such as tie in assemblies**, would be required to be designed by the manufacturer or a registered professional engineer. The Committee noted that structural supports can include portions of a structure, such as the floors or columns of a building, when the tower crane is mounted to them and they are used to help support the crane.

1926.1435(b)(4)(i)

Proposed paragraph 1435(b)(4)(i) would require the A/D supervisor to verify that the foundation and structural supports are installed in accordance with their design. This paragraph is designed to ensure that the design of these components by the manufacturer or registered professional engineer is followed when they are installed.

We do not agree with the modification of the original paragraph, 1435(b)(3)(i). The A/D supervisor is not qualified to perform this inspection. Only the PE that designed the support would have the expertise to perform such an inspection. This paragraph should be removed and the original paragraph replaced.

1926.1435(b)(7)(iii)

Should this paragraph be deleted since it appears to be redundant? (Paragraph 1435(b)(4)(iii) seems to contain the exact same prohibitions).

We agree that paragraph 1435(b)(7)(iii) is redundant and can be deleted.

1926.1435(d)(2)

Safety Devices

The following items are not safety devices but rather design features and cannot be checked every day: 1435(d)(2)(vi), 1435(d)(2)(vii), and 1435(d)(2)(viii). As such, they should be moved to Design.

1926.1435(e)(5)(i)(B)

Should this paragraph be modified to indicate that when using a spotter as an alternative measure to a malfunctioning trolley travel limiting device, the spotter needs to be in direct communication with the operator?

We agree with the modification as noted.



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1926.1435(e)(5)(viii) Should there be an alternative measure for cases when the boom hoist positive locking device is not working properly and, if so, what would that measure be?

Paragraph 2 Clarification ~ Rationale error overlooked: Ratchet and pawl are required on tower cranes that do not have a positive engaged brake or auxiliary braking system.

Additional wording based on committee oversight of luffing boom tower cranes regarding a secondary holding device:

Proposed paragraph (b)(2) would require drums to have an integrally mounted holding device, a secondary braking device, an internal static brake, or a positive locking device to prevent boom hoist movement in the event of hydraulic or main brake failure. The hazard presented by this type of hoisting system is that once the hydraulic or main braking system fails, the boom hoist drum could free spin and allow the boom to free fall. This also applies to derricks.

1926.1435(e)(6)(ii)-(iv) Are there any other alternative measure that can be used when the listed operational aids malfunction (in addition to slowing down when approaching the limits)?

No other alternative measures are available.

1926.1436(c)(2) Should the specifications for guys contained in this paragraph be moved to proposed paragraph (d) where all other anchoring and guying requirements are found?

Yes, we agree with moving the specifications for guys to proposed paragraph (d) with other anchoring and guying requirements are found.

1926.1436(c)(2)(iii) Should this paragraph be modified to require that guy tension requirements be developed by a qualified person if not available from the manufacturer.

We agree a modification is necessary requiring that tensioning requirements be developed by a qualified person if not available from the manufacturer.

1926.1436(c)(3)(ii) Should this paragraph be deleted since it appears to be redundant? (Paragraph 1436(d)(3)(ii) seems to contain the exact same requirement, and it is located in a more appropriate place in the standard).

We agree to the deletion due to redundancy as noted.

1926.1436(f)(2) Should this paragraph be modified to better indicate that a boom angle indicator is not required for derricks, but if a derrick does happen to have one, the two choices of boom angle aid are not required?



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We agree the paragraph should be modified stating that a boom angle indicator is not required for derricks, but if a derrick does happen to have one, the two choices of boom angle aid are not required.

- 1926.1436(f)(3) Should time limits for repair of a load weight/capacity device be included to match the category II limits (with exceptions) set forth in paragraph 1416(e)?**
Yes, time limits for repair of a load weight/capacity device should be included to match the category II limits (with exception) set forth in paragraph 1416(e).
- 1926.1436(q) Should language be added here (or under section 1430 – Training) to indicate that derrick operators be trained on the safe operation of the equipment they will be using? (As it stands, there are no training requirements for derrick operators in the proposed standard).**
We agree that language should be added to indicate derrick operators be trained on the safe operation of the equipment they will be using. Language should remain in Derrick 1926.. The reason being is that the use of derricks is so particular that a user of derricks may only read the section on derricks and not the entire standard.
- 1926.1437(h) Should the introduction to this paragraph be changed to indicate that the vessel-related inspections apply regardless of whether the equipment involved is a floating crane/derrick or a land crane/derrick mounted on a vessel?**
We agree with change of the introductory sentence to this paragraph.
- 1926.1437(k) Is the intent of this paragraph that the manufacturer's specifications and limitations with respect to environmental, operational, and in-transit loads for a vessel not be exceeded or violated? If so, should the language be changed accordingly?**
The original intent of this paragraph was a design specification. The revised language does not reflect the intent of the committee. Therefore, this paragraph should remain as originally drafted.
- 1926.1437(n)(2) Are there qualified persons in the field with expertise in both land crane/derrick capacity and stability of vessels with respect to this equipment performing duty cycle work? Where such cranes on vessels are used solely for duty cycle work, are the requirements of paragraph 1437(n)(2) necessary or justified? Finally, should a definition of "duty cycle work" be provided?**
Yes, there are qualified persons in the field with expertise in both land crane/derrick capacity and stability of vessels with respect to this equipment performing duty cycle work. Requirements listed in paragraph 1437(n)(2) are necessary. We recommend the following for "duty cycle":

A type of crane service in which bulk material is transferred from one point to another by rapidly lifting, swinging, booming, and placing the



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material. Typical types of duty cycle service are dragline, clamshell, grapple, and magnet. This type of service is differentiated from standard crane "lift service" in that cycle times are very short and continuous, often less than 1 minute per load, and loads are lifted and placed in general areas rather than precise positions to permit such rapid cycles.

1926.1440(a)

Should sideboom cranes incapable of lifting above the height of a truck bed and with a capacity of not more than 6,000 pounds be exempted from the proposed rule?

Yes, sideboom cranes incapable of lifting above the height of a truck bed and with a capacity of not more than 6,000 pounds should be exempted unless they are being used outside the parameters of their design.

1926.1441

Should this section apply to equipment with a rated capacity of 2,000 pounds or less, as opposed to a manufacturer-rated capacity of 2,000 pounds or less to better indicate that this section applies to both jobsite-built equipment and manufactured equipment?

We agree this section should apply to equipment with a rated capacity of 2,000 pounds or less.

1926.1441

Is the 2,000 pound threshold for equipment covered by this section appropriate or have there been changes in technology or other considerations that would suggest a different threshold for the less stringent requirements of this section?

The 2,000 pound threshold is appropriate for equipment covered by this section. There have been no new changes in technology which would suggest a different threshold for the less stringent requirements of this section.

SEAA respectfully disagrees with those who insist training costs will increase exponentially with the promulgation of a standard which includes operator certification requirements. In our opinion, training is a constant **ongoing** process. It is not something companies suddenly implement or begin doing because of a new standard. Anyone currently in business should already be providing training to their employees, otherwise, they are in violation of the current OSHA Standard. SEAA's basic mission responsibility is to safety. We believe proper training enhances a worker's ability and increased safety.

SEAA disagrees with those who contend that unregulated, in-house certification is sufficient. Under current standards, employers can give a simple 15-question test, observe the operator in a crane for five minutes and decide they are qualified. Until OSHA regulations change, the possibility of taking the easy way out will continue to remain tempting for some companies.



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In fact, studies and statistics further support certification as a direct positive affect on safety within our industry.

❖ In the Construction Safety Association of Ontario's "Crane and Rigging Fatalities, Providence of Ontario (Construction Only), 1926-2002, notes:

- Crane and rigging fatalities accounted for 19.8% of all construction fatals in the period 196-1978. Until 1979, there were no training requirements for crane operators in Ontario construction although licensing was mandatory.
- Crane and rigging fatalities account for 9.6% of all construction fatals in the period 1979-2002. This represents a 51.5% improvement over the period 1969-1978. Full scale training began in Ontario for crane operators in construction in 1979.
- The death rate (fatals per 100,000 workers) due to cranes and rigging in the period 1979-2002 has dropped by 80.7% from the period 1969-1978. This improvement is attributed to mandatory operator training programs instituted in 1979 for journeymen and in 1982 for all new operators.

❖ In 2008, The Center for Construction Research and Training produced a report, Crane Related Deaths in Construction and Recommendations for Their Prevention, evaluating trends and offered recommendations to prevent future injuries and fatalities. The report noted:

- Of the total 323 crane-related deaths, 102 were caused by overhead power line electrocutions (32%), 68 deaths were associated with crane collapses (21%), and 59 deaths involved a construction worker being struck by a crane boom/jib. Among their specific recommendations to reduce and prevent future injuries and fatalities are
 - "crane operators should be certified by a nationally accredited crane operator testing organization..."; and
 - "after OSHA publishes the proposed crane and derrick safety construction standard in August 2008 for public comment, all efforts should be made to speed up the adoption of the C-DAC consensus standard...."

❖ In 2008, a Report on Fatal Crane Accidents June 1, 2002 to May 31, 2008, presented to the Occupational Safety and Health Standards Board Meeting on July 17, 2008 in Costa Mesa, California noted the following statistics following a review of crane operator citations and accident descriptions for the periods of 3 year prior and post regulations requiring mobile crane and tower crane operator certification:

- Fatal Accidents 6/1/2002 – 5/31/2005 10
- Fatal Accidents 6/1/2005 – 5/31/2008 2 (An 80% reduction)
- Injury Cases 6/1/2002 – 5/31/2005 30
- Injury Cases 6/1/2005 – 5/31/2008 13 (A 56.6% reduction)



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Additionally, West Virginia has reported no crane fatalities in the 7 years following implementation of their regulation requiring crane operator certification.

We agree that a regulation which includes crane operator certification will impose an additional expense for many companies, including many of SEAA's 350+ members. But we share the conviction that training and certification not be considered as additional costs but rather an investment in safety and our workforce. An across-the-board certification requirement can help protect workers, equipment, property and the reputation of the entire industry. It is an investment they are willing to make. Safety is not a cost center but rather an essential business investment.

Many states have opted to move forward with their own regulations regarding crane operations within their state or municipality. While SEAA applauds these efforts, it is in everyone's best interest to have one uniform standard governing the industry versus a hodgepodge of training and certification requirements across the country. These differing requirements prove onerous for our members who work in several states. Uniformity is a proven efficient regulatory process.

In closing, the **Steel Erectors Association of America** commends OSHA for undertaking the task of updating the 40-year old standard governing cranes in this country. **SEAA** is a strong advocate for operator certification, training and the enforcement of unified standards throughout our country.

We have an opportunity to ensure lives and property throughout the United States are no longer put at risk because of antiquated standards. We must seize this opportunity. Our association and our members take safety responsibility very seriously. One injury or fatality within our industry is one too many.

We appreciate the opportunity to comment on this Proposed Rulemaking and trust a fair, viable and effective final rule will be published that will enhance safety for our workforce and the industry overall.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Pamela W Pocock".

Pamela W Pocock
Executive Director, Steel Erectors Association of America

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