required derricks to meet applicable
Until requirements for design, construction, inspection, operation, testing, maintenance, and operation prescribed by ANSI B30.6.2196[illegible]
1926.5750 was amended substantively only twice. In 1988,

[1] The term "ID" refers to the column labeled "ID" under Docket No. OSHA–2007–0066 on the Federal eRulemaking Portal, *http://www.regulations.gov*.

qualification and certification requirements of § 1926.1427, which

TABLE

TABLE 4—SBREFA PANEL RECOMMENDATIONS AND OSHA RESPONSES—Continued

SBREFA Panel Recommendation	OSHA Response
The Panel recommends that OSHA clarify in the preamble how the proposed rule addresses an SER's concern that his crane operator would not be able to pass a written qualification/certification exam because the operator has difficulty in taking written exams.	

TABLE 4—SBREFA P

TABLE 4—SBREFA PANEL RECOMMENDATIONS AND OSHA RESPONSES

[2] The list will still be available online at *http://www.gpoaccess.gov/ecfr* from the link to "Incorporated by Reference."

[3] The scope of the standard with respect to some of the listed equipment is further delineated in the section of the standard that specifically relates to that equipment (for example, § 1926.1436, *Derricks* and § 1926.1438,

types of covered equipment that meet the functional definition in paragraph (a), dedicated pile drivers,[4] digger derricks (*see* the discussion of digger derricks below under paragraph (c)(4)), and straddle cranes are not covered in ASME B30 standards, while the ASME B30 standards include equipment (*e.g.*, stacker cranes) not covered under this standard. Thus, adopting the commente56.169 suggestion would exclude certain equipment that C–DAC intended to include and would introduce ambiguity over whether certain types of equipment that C–DAC intended to exclude are included. Where the commente5 has not made a compelling argument as to why the standard would be improved by adopting the ASME standards, OSHA defers to C–DAC6.169 expertise on this issue.

A commente5 objected to defining the scope of the standard in terms of types of equipment, saying that it represented an unexplained departure from OSHA6.169 practice of describing the scope of construction standards in terms of conditions and practices. (ID–0203.1.) Contrary to this commente56.169 belief, OSHA has often defined construction standards in terms of equipment. *See, e.g.*, subpart L, **6**caffolds.**8** Indeed, this rule for cranes and derricks replaces a previous rule for cranes and derricks at forme5 § 1926.550, the scope of which was also defined in terms of types of equipment.

Several commente5s asked OSHA to

[4] The proposed rule explained in detail why C–DAC decided to include dedicated pile drivers under this rule even though they are not traditionally considered to be cranes or derricks (*see* 73 FR 59727, Oct. 9, 2008).

administer a separate program for the "small percentage of lifts" that would fall under the construction standard. The commenter notes that the proposed standard has partially addressed its concern by providing that overhead and gantry cranes that are permanently installed in a facility are subject to the general industry standard for such cranes rather than this proposed construction standard. It states that shipyards "could potentially" use other types of cranes to support construction activities at its sites.

OSHA finds that the proposed rule appropriately addressed this issue. Overhead and gantry cranes are one of the most comm*(ppes of cr usalled ed)TjT*(shipyarad , asder the commenter no, ed)Tj[Tw 475(/)7(1926.1438 ntiows employers withons
[illegible]Tra sirvid,a*(sbuilovidiad and)TjT*(sbreakvidiemploycommules areeguposed)Tj0 Tw Temploycommu.ds)Tj/T12 1 T

clearance issues for all types of construction equipment.

A commenter asked that a type of equipment for which it holds patent rights, the "Linemaster Robotic Arm," be excluded. (ID–0209.1.) According to the commenter, this equipment is a hydraulically powered, boom mounted, rotating and telescopic robotic arm that is used to separate live power lines from poles. The commenter states that crews using the robotic arm use a crane only

for the exclusion to be extended to light poles represents equipment manufacturers, and no company that installs lighting poles suggested such an exclusion. To the extent that some light pole installation would not be covered by either §§ 1910.268 or 1910.269, extending the exclusion to such work would leave the excluded work without coverage by an appropriate general industry standard and leave workers without the protection they receive when performing electric utility or telecommunication work.

OSHA disagrees with the comment that digger derricks should not be excluded at all because of the danger of power line contact. As discussed above, the digger derrick exclusion is limited to situations in which certain general industry standards apply, and those general industry standards, both §§ 1910.268 and 1910.269, contain requirements for protecting against power line contact.

Proposed paragraph (c)(5) specifically excludes machinery originally designed as vehicle mounted aerial lifts and self-propelled elevating work platforms. The language of this provision reflects C–DAC's intent to differentiate between equipment with an attachment such as a personnel platform pinned to the boom, which is within the scope of the proposed rule, and machinery originally designed to be configured only as an aerial lift, which is excluded. Another standard, § 1926.453, addresses aerial lifts. The only comments to address this exclusion supported retaining it. (ID–0129.1; –0312.1.) Accordingly, paragraph (c)(5) is promulgated as proposed.

Proposed paragraph (c)(6) excluded telescopic/hydraulic gantry systems. C–DAC excluded this machinery because it presents hazards that differ in many respects from those presented by the equipment covered by this standard. As a resuipment co5al

[illegible] proposed ru or

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[12] [illegible]

1926.1402(e) at 73 FR 59741, Oct. 9, 2008).

One of the commenters suggested that

[13] The FRA regulations for the ballast (the foundation for most railroad tracks) can be found at 49 CFR 213.103 and 213.334, depending on the

In proposed § 1926.1401, “

that person is considered the A/D director.

Section 1926.1401 defines "A/D director" as "an individual who meets this standard's requirements for an A/D director, irrespective of the person's formal job title or whether the person is non-management or management personnel."

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[19] 29 U.S.C. 159–169 (1935).

[20] With "A/D supervisor," OSHA was merely creating a descriptive term for use solely in the application of an OSHA standard. OSHA's use of the term is a less significant designation for the purposes of the NLRA than even a job title, which is itself not determinative under the NLRA. *See, e.g., N.L.R.B.* v. *St. Mary's Home, Inc.*, 690 F.2d 1062, 1066 (4th Cir. 1982) ("As the [NLRB] itself has put it, 'job titles are meaningless).

[21] Section 1926.1401, *Definitions*, defines a "competent person" as: "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them." Section 1926.1401 defines a "qualified person" in this proposed standard as: "One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project." These definitions are essentially the same as the definitions in §§ 1926.32(f) and 1926.32(m).

covered by paragraph (e)(1) of this section, the operator must not move any part of the equipment (or load) until the operator is informed in accordance with a pre-arranged system of communication that the crew member is in a safe position. An example of such a system would be the use of a signal person who gives an all-clear signal to the operator once the signal person sees that the employee has exited the hazard area. Another example would be where the employee in the hazard area is equipped with a portable air horn and, in accordance with a pre-arranged horn signal system, sounds an appropriate signal to the operator that the employee has exited the hazard area. To be effective, the pre-arranged signal system needs to be designed so that this all-clear signal could not be confused with a horn signal from some other employee for another purpose.

One of the hazards identified by the Committee is an operator swinging or moving the crane/derrick when assembly/disassembly personnel are in a crush/caught-in-between zone and out of the operator's view. The Committee concluded that an ,

This provision is promulgated as proposed with one grammatical correction to make it clear that it is the limitations that must not be exceeded.

Paragraph (k) Weight of Components

As with any load to be lifted by a crane/derrick, the weight of the components must be available to the operator so that the operator can determine if the lift can be performed within the crane/derrick's capacity. This requirement applies irrespective of whether the component is being hoisted by the crane being assembled/disassembled or by an assist crane.

No comments were received on this provision. OSHA is promulgating this provision largely as proposed, but has modified the text to make it clear that assembly/disassembly is prohibited when the weight of each of the components is not readily available.

Paragraph (l) [*Reserved*.]

Paragraph (m) Components and Configuration

This provision deals with the selection of components that will be used to comprise the crane/derrick, the configuration of the equipment, and its inspection upon completion of assembly. (*See* the discussion of this provision at 73 FR 59747, Oct. 9, 2008.)

No comments were received on this provision. However, to be consistent with the requirements of § 1926.1403, the word "prohibition" has been added to § 1926.1404(m)(1)(i); otherwise, it is promulgated as proposed with the addition of commas to clarify that this paragraph only applies to the selection of components and configuration to the extent that either one affects the capacity or safe operation of the equipment.

Note that another section (§ 1926.1434) allows cranes/derricks to be modified under certain circumstances. To the extent a crane/derrick is modified in accordance with § 1926.1434, the employer is not required to follow the manufacturer's original instructions, limitations and specifications regarding component selection and configuration regarding those modifications. Instead, under § 1926.1404(m)(1)(ii), the employer is required to follow the component selection and configuration requirements approved in accordance with § 1926.1434.

Paragraph (n)

For clarity, OSHA has reserved this subumstaned if § 1926.1403 haexplrtadded *See*

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require padding or similar measures to protect the slings from being damaged (*see* 73 FR 59742, Oct. 9, 2008).

Commenters generally opposed prohibiting the use of synthetic slings during assembly/disassembly, as long as appropriate precautions are taken. (*See, e.g.*, ID–0205.1; –0213.1; –0343.) Specifically, commenters stated that synthetic slings have the advantage of helping to prevent damage to equipment components, but need to be protected from cuts, compression, distortion and reduction of capacity, by the use of "softeners" (*i.e.*, padding). (*See, e.g.*, ID–0187.1; –0343.) One commenter

Section 1926.1405 Disassembly—Additional Requirements for Disassembly of Booms and Jibs (Applies to Both the Use of Manufacturer Procedures and Employer Procedures)	

22

[29] The proposed regulatory text for

proximity alarm by a nationally recognized testing laboratory provides assurance that the device will work as intended. (For a discussion of public comments submitted relating to proximity alarms, *see* discussion of § 1926.1408(b)(4).) A "range control warning device," is defined in § 1926.1401 and is a device that can be set by an equipment operator to warn that the boom or jib tip is at a plane or multiple planes.

OSHA realized that some of the devices listed in § 1926.1407(b)(3) would not be operational or effective that tphasted multipexatioe,edica totat cr jibcrproximity alarms, agaie2fuj0 nceembed; boom bopoed.Tj-1 -1.oximity alarms, devingot beTj-0ona relatiipmetiooyerjT*(proximsTertoiipmio)]TJ u(Frlel 3) proxim warningot berative

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[36] The cross-reference to § 1926.1420 originally included in this provision as proposed was deleted in the final rule for consistency with the parallel provisions for dedicated spotters in §§ 1926.1408(b)(4)(ii)(C) and 1926.1410(d)(2)(iii). This is a ministerial change not intended to have any substantive enforcement implications.

[37] In this respect this provision differs from § 1926.1410. As discussed below, § 1926.1410 allows use of minimum clearance dis50 than Table A in some circum0

result, the interpretation that the multi-employer case law has given to

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[41] One electric utility representative at the public hearing did request, however, that the time period for responding to a request be changed to four business days. (ID–0342.)

[42] If no part of the crane, load or load line could come closer than 20 feet to a power line, the employer is not required to take any further action under this section. However, the employer may encounter a situation where it unexpectedly needs to increase the size of the work zone. This may occur, for example, as a result of an unanticipated need to change the crane's position or to have the crane operate beyond the original work zone boundaries. In such a case the employer is required to go back to the first step under § 1926.1408(a)(1), re-identify a work zone and conduct a new 20 foot "trigger" assessment.

[43] As disc150.9091 0ot rep

distance from the power line. Under § 1926.1408(b)(4)(iii), it has chosen to use a range control warning device to help maintain that distance. The device would have to be set to alert the operator in time to prevent the boom, load line or load (whichever is closest to the power line) from breaching that 20-foot distance. As a practical matter, the device would have to be set to sound the warning more than 20 feet from the line, since the operator will need some time to react and to account

[50] One commenter questioned whether range control warning devices exist. (ID–0151.1.) OSHA has confirmed that some cranes are equipped with such a device.

[51] As discussed in § 1926.1400, *Scope*, construction of electric transmission and distribution lines is covered under this subpart.

transmission tower frequencies, and that nonconductive tag lines be used.

The problem addressed by these comments involves how to protect a worker, such as a rigger, who may come into electrical contact with the load. Under the proposed rule, the load

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[54] OSHA does not believe that there are any electric power transmission lines in the United States that operate at more than 800 kV. However, there may be some power lines associated with research laboratories or other similar facilities that operate at more than 1,000 kV. In addition, it is possible that utilities may install new power lines operating at more than this voltage or may upgrade existing lines to operate at higher voltages.

qualified person with respect to electrical power transmission and distribution.

Paragraphs (a) and (b)

These paragraphs set forth prerequisites that must be met for the employer to be permitted to operate equipment closer to a power line than the applicable Table A of § 1926.1408 distance. Section 1926.1410(a) requires the employer to determine that it is infeasible to do the work without breaching the minimum clearance

[58] OSHA is in the process of updating subpart V requirements. If the Agency makes changes to those provisions that necessitate updating the cross-references in § 1926.1410(c)(2), those changes will be made as part of that rulemaking.

[59] This revised language is also consistent with

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[60] While the record indicates that these devices are available for rental, it is not clear from the record that all employers would have access to the businesses renting these devices.

[61] Refer to the discussion of § 1926.1408(b)(4)(v) for a description of other comments received concerning insulating links in the context of that provision.

[62] The example provided by the commenter was replacement/repair of utility pole transformers. (ID–

[65] It should be noted that hazardous potential

through 1926.1409; and (3) an

[68] The proposed rule referred to "§ 1926.950(c)(2)(iii) or (iv)." The final rule reflects the changes in numbering to § 1926.950(c)(2) that are made elsewhere in this final rule.

[69] In subpart V, when equipment is considered energized, a number of subpart V requirements are triggered. *See, e.g.*, § 1926.951(c)(1) (restricting use of metal or conductive ladders near energized equipment); § 1926.951(f)(3) (hydraulic tools used on or around energized equipment shall use nonconducting hoses); § 1926.953(c) (materials or equipment shall not be stored near energized equipment if it is practical to store them elsewhere).

[70] Amendments to § 1926.950(c)(1) are discussed in § 1926.1400, *Scope.*

Accordingly, in the final rule, paragraph (a) applies to "equipment traveling under or near a power line on a construction site with no load." In addition, in the proposed rule, the

[71] The phrase "modifications or additions" and the term "modifications/additions," as used in this

cannot meet the criteria in accordance with § 1926.1412(b)(1)(i) (or, if applicable, § 1926.1412(b)(1)(i)), then the requirements in subpart CC for modifications would have to be met. Therefore, OSHA declines to adopt the suggested change.

Paragraph (f) Annual/Comprehensive

Paragraph (f) of this section requires an annual (*i.e.*, once every twelve months), general inspection of the equipment, the third of the three regularly scheduled general inspections that are required by this standard. It promotes safety by ensuring that a thorough, comprehensive inspection of the equipment is performed to detect and address deficiencies that might not be detected in the shift and monthly inspections.

Under paragraph (f)(1), a qualified person must inspect the equipment. The Committee specified a qualified person because the items required in the shift inspection must be examined more thoroughly than during the shift or monthly inspections. The Committee, determined, and OSHA agrees, that the higher level of expertise of a qualified person would help to ensure that the inspector was able to identify deficiencies necessitating a greater degree of scrutiny than what would be reection must be examited inualift or deficieyre that it not an visueral inspectiobuhat i, dects ablehhorou takatingr pnot Committ'ess cisctioe t(reectat a)TjT*a qualified persot ictioegismenwithhe

§ 1926.1412(g)(1) needs clarification; therefore, OSHA added a phrase to the provision requiring that a determination be made to ensure the equipment

inspection by a competent person. One commenter recommended that this provision require the shift inspection to be conducted "each shift the equipment is used" rather than "each shift," to each shift,

Paragraph (a)(3) Critical Review Items

[74] These measures were proposed at §§ 1926.1413(a)(4)(ii)(B) and 1926.1413(a)(4)(iii).

dangerous precedent because it based employee protection on conditions that could be difficult for a qualified person to assess accurately.

The third commenter (a crane manufacturer), which had a representative on C–DAC, also objected to the continued use of wire rope with Category II deficiencies. (ID–0292.1.) This commenter noted that such deficiencies indicate that the wire rope does not meet the ''acceptable life'' criteria accepted by the wire-rope industry. Further, the commenter noted that, if the wire rope continued to be tape with

[75] This was § 1926.1413(a)(4)(iv) in the proposed rule (73 FR 59930, Oct. 9, 2008).

[76] This was § 1926.1413(a)(4)(iv)(B) in the proposed rule (73 FR 59930, Oct. 9, 2008).

[77] This was § 1926.1413(a)(4)(v) in the proposed rule (73 FR 59930, Oct. 9, 2008).

Paragraph (b)

The proposed rule, in § 1926.1414(c),

received no comment on this provision. Therefore, OSHA is promulgating paragraph (a)(1)(iii) as proposed.

Boom Stops: Paragraph (a)(2) requires boom stops on all equipment except for derricks and hydraulic booms (*see* the discussion of this provision in 73 FR 59785, Oct. 9, 2008). "Boom stop" is defined in § 1926.1401 as a device that restricts the boom from moving above a certain maximum angle and toppling over backwards. OSHA received no comment on this provision or definition. Therefore, OSHA is promulgating paragraph (a)(2) as proposed.

Jib Stops: Section 1926.1415(a)(3) requires jib stops on all equipment where a jib is attached, except for derricks (*see* the discussion of this provision in 73 FR 59785, Oct. 9, 2008). The standard defines "Jib stop (also referred to as a jib backstop)" aSpeTf0-0.0045is Jib stop (also referred to Tf-0.00455.454jib bacjT*(certain maxle and top))5.454jf0 Tw (oppling)TjT*(over s. OSHA receis)Tj-6.0725 Tm(received no co paraFoot Ped11 Brake Lo0.0Tw T*(proposed. lso)TPre, OSHtop)19e

service," the employer must place a tag in the cab to provide clear notice to all employees that the equipment is out of service. To avoid any potential ambiguity about whether equipment is "

[80] The term "digger derrick" is defined in § 1926.1401. As discussed in § 1926.1400, digger derricks are not covered by the standard when used for work related to utility poles but are subject to this final rule when used covered for general lifting activities unrelated to utility poles.

[81] In most situations hoisting containers are regulated under 29 CFR part 1bo; this st anard5 costrucatio projec

cranes/derricks on barges when hoisting

[82] The proposed rule would have required these aids on equipment manufactured after January 1, 2008. Here, as elsewhere, OSHA believes that devices not commonly installed on equipment should be not be required until more than one year after the effective date of the final rule.

[83] Among the many OSHA standards requiring compliance with manufacturer information are: § 1910.134, UI; § 1910.184, *Slings;* § 1910.265, *Sawmills;* § 1915.113, *Shackles and hooks;* § 1910.217, *Mechanical power presses;* § 1926.451, *Scaffolds: General requirements;* § 1926.302, *Power-*

Continued

Associated Builders & Contractors v. *Miami-Dade County,* 594 F.3d 1321; *Associated Builders & Contractors, Inc.* v. *Brock,* 862 F.2d 63, 68–69 (3d Cir. 1988); *Towne Constr. Co.* v. *Occupational Safety & Health Review Comm'n,* 847 F.2d 1187, 1189 (6th Cir. 1988) (finding the physical impossibility of requiring OSHA independently to set safety standards for every industry job classification and industrial substance in the country justifies reliance on the fruits of private efforts as governmental standards).

The requirement in § 1926.1417(a) to comply with manufacturers' operating procedures is essentially the same as that imposed by former § 1926.550(a)(1) of the prior rule. As the commenter from the building industry notes, former § 1926.550(a)(1) was upheld against a challenge that requiring compliance with manufacturer's specifications and operating limitations is an illegal delegation of authority to private persons. (ID–0232.1, citing *Towne Construction,* 12 BNA OSHC 2185 (OSHRC 1986) *aff'd* 847 F.2d 1187 (6th Cir. 1988).) The Review Commission and the Sixth Circuit found that the prior rule's delegation to manufacturers was circumscribed by other regulatory requirements governing the design and construction of cranes. (*See, e.g.,* 12 BNA OSHC at 2186 noting design specifications in 29 CFR 1910.180(c)(1) applied to cranes covered by former § 1926.550.) The final rule contains design, construction and testing requirements that are more comprehensive than those applicable under the prior rule. These limitations on manufacturers' discretion are sufficient to defeat a facial delegation challenge. 12 BNA OSHC (appli(847 F.2d 1187hallenge (6t847h Ci2 1 Tf-0.0045 T.,) also d Builders hallenge& Contracng)rs, Inc. 594 F.3

operated hand tools; and § 1917.43, *Powered industrial trucks.*

[84] Section 1910.147 is not applicable to construction (*see* § 1910.147(a)(ii)(A)).

[85]

[87] The operator would still be required to use his or her professional judgment in determining whether the load exceeds the capacity of the equipment. As discussed above, proposed

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With respect to the issue of undue pressure on the qualified person, C–DAC shared the commenter's concern; the wtittethedmmealified(pressur;)TjT*placfieby some employ pere ood patoper6 Witunsafe ualtleslesr; D, for example,ct tincludeon th;

included in the final rule without substantive change. OSHA has modified paragraph (h) to clarify that it is a requirement.

Paragraph (i) [*Reserved.*]

Paragraph (k)

As explained in the preamble to the proposed rule, paragraph (k) of this section requires that all directions given to the operator by the signal person be given from the operator's direction perspective, meaning that the signal person must provide the signals as if he *(;wls sitteanied in the operatorseat he)TjTes afaceaning thame22s directias to the ed.

meet and agree on the voice signals that will be used. Because of the lack of standardization and the variety of languages that are in use in the construction industry, the Committee concluded that it is essential that the persons who give and/or receive voice signals agree in advance on the signals that will be used to avoid miscommunication. OSHA agrees. Once the parties have met and agreed on the voice signals, another meeting is not required to discuss them unless another worker is added or substituted, there is some confusion about the signals, or a signal needs to be changed.

Section 1926.1421(b) requires that each voice signal contain the following three elements, given in the following order: function (such as hoist, boom, *etc.*), direction; distance and/or speed; function, stop command. For example: hoist up; 10 feet; hoist stop. As discussed above, the Committee considered it impractical to attempt to standardize the voice signals themselves (that is, to require the use of particular words to represent particular functions, directions or other instructions). However, the Committee concluded that the chance of miscommunication could nonetheless be reduced if certain parameters were established for the type of information and order of information that would be given. OSHA agrees.

Section 1926.1421(c) requires the crane operator, signal person, and lift director (if there is one) to be able to effectively communicate in the language

was chosen to use the same terminology found in other OSHA standards to ensure that employers would be familiar with the terminology (*see* 73 FR 59799, Oct. 9, 2008). Moreover, OSHA notes that sec. 1.3.1 of ANSI/ASSE Z359.0—2007 provides that the scope of that standard does not include the construction industry. Accordingly,

[97] OSHA has changed the location of the words "in good condition" in § 1926.1423(b) to make it clear that it applies to maintenance of all of the listed items.

[98] OSHA had added the word "devices" in the last sentence of paragraph (c)(3) for grammatical clarity.

[99] Proposed § 1926.1423(c)(2)(i) corresponds with § 1926.1423(c)(3)(i) in the final rule.

[100] The Agency notes that the approach for the 2008 editions of ISO 11660–1 and ISO 11660–3 appears to differ from that of the ISO 11660–2:1994(E). The Agency interprets ISO 11660–2:1994(E) as addressing steps, handholds, ladders and guardrails/railings/grabrails independent of ISO 11660–1:2008(E).

§ 1926.1423(c) protect operators moving to and from their workstations and eliminate the need for additional fall protection equipment.

[101] Proposed § 1926.1423(d)(1)(ii) corresponds with final § 1926.1423(e)(1)(ii).

of fall protection equipment for employees who are on a walking/working surface with an unprotected side or edge more than 6 feet above a lower level. The exceptions to this requirement would be when the employee is at or near draw-works (when the equipment is running), in the cab, or on the deck. (*See* the discussion of this provision in the preamble of the proposed rule at 73 FR 59803, Oct. 9, 2008, where it was designated as paragraph (g)(1)). No comments were received r it is included in the final rule without

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[103] OSHA modified the language from the proposed rule so that final paragraph (j) of this section refers to a ‘‘personal fall arrest system’’ rather than a ‘‘fall arrest system.’’ This modification was made for the purpose of clarity to use the terms defined in § 1926.1401, *Definitions*, and to maintain consistency in the construction standards.

were permissible for there to be a suspended load, the parenthetical would include the word "load," for the weight of any load would certainly affect the ability of the hook or load line to serve as a fall protection anchorage. To make the rule's intent clear, OSHA is adding paragraph (j)(3), which states that no load may be suspended from the

[104] That provision states: "The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury."

[105] A further basis for according diminished weight to this comment is that this commenter had a direct channel for presenting its interests to the committee—its nominee member—and a presumptive ability to direct its member's negotiating position. When such an organization submits negative comments to the proposed rule opposing both its own member's negotiating position and the committee's consensus, it

In Illustration A, neither the boom nor the load is above the power line or any

were received for this provision; it is promulgated as proposed.

Paragraph (a)(2) of this section is the exclusive list of conditions under which the use of cranes with live booms is permitted. C–DAC found that cranes with live booms can be used safely

[107] The Ontario system requires prospective or current crane operators (referred to in Ontario as ''hoisting engineers'') to either successfully complete an apprenticeship program or demonstrate sufficient previous experience before seeking certification as a hoisting engineer. The apprenticeship program includes in-school training in a number of topics determined by the Ministry of Education, a practical examination administered at Ministry-designated sites, and a written examination administered by the Ministry. Upon passing this examination and proving completion of the requisite work hours, an apprentice receives a certificate of qualification as one of three types of hoisting engineer from the Ministry. (ID–0010.)

Hoisting engineers already qualified elsewhere must also obtain a certification from the Ministry to operate cranes in the province. These candidates must sit for the written examination and complete the practical skills assessment required for qualification of apprentices, but may demonstrate

options for certification or qualification of their operators. Each of these options will be explained and discussed in detail below. They are:

1. Be certified by passing an examination administered by an accredited testing organization.

2. Be qualified through the employer's in-house, but independently audited, testing program.

3. Be qualified by the United States military.

While OSHA is requiring compliance with State and local licensing laws

[108] The commenter, however, also acknowledged that there are small businesses that are in favor of third-party certification. (ID–0147.1.)

[109] As explained in the Introduction, under C–DAC ground rules, a "consensus" was reached on an issue if there were no more than two non-Federal dissenters.

[110] It is also supported by the data from Ontario and California showing that third-party certification can significantly reduce crane-related fatalities and injuries, discussed below.

[111] [illegible]

[112] Mr. Behlman testified that overhead power lines are "very seldom" found on residential sites. (ID–0341.) However, the document on NAHB's Web site showing the causes of residential construction fatalities from 2003 to 2006 attributes 76 fatalities to "contact with overhead power lines."

[113] These State and local licensing requirements would remain in effect. *See* discussion of preemption of State and local law under federalism in section V.D of this preamble. OSHA is simply

[114] This "Federal floor" refers to the minimum requirements for license tests in § 1926.1427(e)(2), and the minimum knowledge and skills that must

preliminary economic analysis provided in the preamble of the proposed rule. (*See, e.g.*, 73 FR 59895, Oct. 9, 2008 (operator certification training treated as cost to employer).)

Based on the testimony of several witnesses at the hearing, OSHA concludes that imposing the operator qualification and certification costs on the employer will not be overly burdensome to the employer. At the hearing, a representative from a crane rental company said that, although his company incurs additional cost to provide certification, his company considers that cost an investment in the safety of their employees. (ID–0344.) An insurance company representative and former crane operator stated that the cost of certification was modest when compared to the cost of accidents. (ID–0343.) This witness also stated that his company believes that employers who certify their operators have fewer accidents and that, as a result, his firm offers companies it insures a ten percent discount if they have t employers who hisedir employees. cost of ce a cludrtanditioboth260344.) An insui5(/)-16lieves that be overecausjT*(provide c giompalieves that be ovepeac the 25 d/)-16TjucfersAn IDployer).) 4(IDtional costts a sec

certification on a more complex type of equipment would typically qualify an operator to operate lower-capacity equipment of the same type, *e.g.*, certification on a 300 ton hydraulic crane would qualify an operator to operate a 22 ton hydraulic crane.

None of the commenters opposed allowing operators certified to operate at a given capacity from also operating lower-capacity equipment of the same type. Two commenters recommended that "type," for purposes of paragraph (b)(1)(ii)(B), be defined for mobile cranes as they are defined in ASME B30.5. (ID–0205.1; –0213.1.) These commenters also stated that "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."

The Agency concludes that a descriptive definition of "type" that addresses the point raised by these commenters would better accomplish the purpose of the term than tying it to specific examples of existing technology. Therefore, OSHA has added a definition of the word "type"

appropriate balance between ensuring that certified operators are re-evaluated regularly, while reducing the burden of recertification on operators.

No comments were received on the text that im6w in paragraphs (b)(3)es anf b)(4). A im6uat,on thdefinication of portablef m)(1)eto finera(b)(3).ng aplyeo ubothsestshe thathavee rdem appvod byean a diuat,.f minegirercing theestueeetonncatioallye reogizatetestuf(minegiracation)TjT*st anards Tht ifppvoistiot idesignateto e rflccat thapcperato222s ecpeftomlance on the diuatofugusbthg certifieao enevaluatn the anf

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employer compliance with those licensing requirement under this standard. OSHA is including this "Federal floor" because it determines, as did C–DAC, that some, but potentially not all, State/local governments will have effective, reliable licensing procedures. If OSHA determines that a State or local licensing department/ office, or its testing, does not satisfy the minimum requirements set out in paragraphs (c)(4)(i) and (ii), then employers would not be required by OSHA to comply with the licensing requirements of that government entity. In such cases, the employer would satisfy the requirements of this section by ensuring that their operators are certified or qualified in accordance with the options provided in paragraphs (b) through (d).

The requirement fojertified or, as

[117] At least one other Federal agency has also taken this view of certification. The Department of Defense requires the certification of certain personnel performing Information Assurance functions within that organization. Appendix 2 to

(f)(2), and an alternative also included in the proposed rule, had granted the same permission to any employee who had not passed the written exam or practical tests required under § 1926.1427. While OSHA still intends that employees who have passed either the written exam or practical test be eligible to serve as an "operator-in-training," it is not including this text in the regulation because these employees are already addressed by the language that was in proposed paragraph (f)(1) ("an employee who is not qualified or certified under this section") and is included in the final rule as the introductory text for paragraph (f).

Based on the record as a whole, OSHA is convinced that the risk of injury from contact with an energized power line is so great that it warrants extra precautions, particularly with respect to operators who are still learning how to operate their equipment. OSHA notes that the other electric utilities and representatives who submitted comments and appeared at the hearing did not voice a similar concern, nor did the industry's representatives on C–DAC. OSHA also notes that the exclusion of digger derricks from the scope of this subpart for pole work should largely alleviate this commenter's concern. Accordingly, OSHA is retaining paragraph (f)(5)(i) in the final rule.

Paragraph (g)

Paragraph (g) of this section provides that "a testing entity is permitted to provide training as well as testing services as long as the criteria of the applicable accrediting agency (in the option selected) for an organization providing both services are met." This paragraph serves two purposes. First, it makes clear that an entity providing qualification/certification testing may also provide training to the individuals it tests, as well as others. Second, it

Paragraph (i) [*Reserved*.]

[120] As provided in § 1926.1408(g)(1)(i)(A) on power line safety, operators must be aware of the danger of electrocution if they simultaneously touch energized equipment and the ground. They must also, pursuant to § 1926.1408(g)(1)(i)(B), be trained to understand that when the equipment makes electrical contact with a power line, the operator's safety requires him or her to remain inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates their leaving the cab.

"auditory observations (observations through the use of the ear).

Paragraph (k) Phase-In

As discussed above, a number of commenters believe that Option (1) of this section (certification by an accredited testing organization) is the

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[122] A third party evaluator that did not have signal person training expertise would nonetheless have to have substantive expertise in signaling and the other subjects referred to in § 1926.1428, as well as expertise in assessment, to meet the "expertise" criterion in the definition.

[123] In many cases the only additional training that

and limitations, including crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads. As explained in the proposed rule preamble, it is critical that the signal person understand how the crane and load will move in response to the various signals he or she gives so that the signal person will give the most appropriate signals and reduce the occurrence of struck-by, crushed-by and other hazards (*see* 73 FR 59823, Oct. 9, 2008). No comments were received on this provision; it is promulgated as proposed.

Paragraph (c)(4) of this section specifies that signal persons must know and understand the relevant requirements in §§ 1926.1419–1926.1422, which address the types of signals that may be used and the circumstances surrounding their use, and the requirements of § 1926.1428. C–DAC included the phrase "relevant requirements" to make clear that a signal person's qualification could be limited

are not yet qualified or certified. Also in this category are employees who need training to become re-qualified or re-

under § 1926.1430(d), a "competent person" assigned to conduct shift inspections required in § 1926.1412(d) must be trained in the required elements of a shift inspection. This training is necessary to ensure that the competent person or qualified person is aware of his/her role under this subpart regarding finding/correcting hazardous conditions.

Another example is maintenance and repair personnel, who may operate equipment under limited conditions necessary to perform the maintenance or repair (*see* § 1926.1429(a)). Such an employee must be a "qualified person," § 1926.1429(b), and must be trained in accordance with § 1926.1430(d) to operate the equipment as necessary to perform the maintenance or repair. The Agency notes, however, that maintenance and repair workers are not considered "operators" for the purposes of paragraph (c) of this section and are therefore not required to be trained in all of the areas addressed in § 1926.1427(j), or as required under § 1926.1427(c)(3).

No comments were received on this paragraph; it is promulgated without change from the proposed rule except for the clarification of the employer's duty to train each employee.

Paragraph (e) of this section, *Crush/pinch points,* provides that employees who work with equipment covered by this subpart must be instructed to stay clear of holes, crush/pinch points and the hazards that are addressed in § 1926.1424, *Work area control. See* the discussion above of hazards and

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Section	Training requirement
§ 1926.1430(b)	Signal person training (equipment with greater than 2,000 pound maximum rated capacity).
§ 1926.1428(b)	Signal person re-training.
§ 1926.1427(f)	Operator-in-training.
§§ 1926.1427(k), 1926.1430(c)(2) and 1926.1430(c)(4).	Operator training during transitional period.
§ 1926.1430(c)(3)	Operator training for equipment where qualification or certification is not required by this subpart.
§ 1926.1430(c)(1)	Operator training for qualification or certification.
§ 1926.1430(c)(4)(i)	Operator training—boom hoist brake test.
§ 1926.1430(c)(4)(ii)	Operator training—emergency procedures (halting unintended movement).
§ 1926.1441(e)	Operator training (2,000 pound maximum rated capacity).
§ 1926.1441(f)	Signal person training (2,000 pound maximum rated capacity).

attachment/suspension system be designed by a qualified person who understands structural design and be designed for the particular function of personnel hoisting. The purpose of this paragraph is to clearly stipulate that the platform must be designed for employee safety. This addresses the hazards of structural failure of the platform, failure of the attachment/suspension system, and precludes the use of designs that would be inappropriate for hoisting people.

Paragraph (e)(2) requires the system used to connect the personnel platform to the equipment to be within 10 degrees of level. This addresses the hazard of platform tipping by maintaining the platform close to level.

Paragraph (e)(3) requires the platform designer to consider the movement of employees on the platform and design the suspension system to minimize platform tipping from such movement. The purpose is to design the platform in such a way as to limit the likelihood of platform tipping while employees are working from the platform.

Paragraph (e)(4) requires the platform to support its own weight plus a minimum of five times the maximum intended load without failure. C–DAC selected this minimum limit because iplatform

the platform itself and the platform's rated capacity. The purpose of the provision is to make employees aware of the platform's limits to prevent overloading, which could result in structural failure of the platform or equipment, and to facilitate compliance with § 1926.1431(f)(1), which prohibits loading the platform in excess of its rated capacity.

No comments were received on paragraphs (e)(11) or (e)(12); they are promulgated as proposed.

Paragraph (f) Personnel Platform Loading

Paragraph (f)(1) of this section prohibits loading the platform in excess of its rated capacity.

Paragraph (f)(2)(i) requires the platform to be used exclusively for personnel hoisting and not for hoisting materials. However, it does allow the necessary materials and tools for the work activity to be hoisted along with the employees. Using a personnel platform to hoist materials can lead to

be revised.
(ID–0205.1; –0213.1.)

Upon reviewing the paragraph as proposed and considering these comments, OSHA finds that the language used in proposed 1926.1431(k)(7)(ii) needs to be changed to clearly specify that an operator has to be able to control the boom and swing functions, wherever the operator is located. If the platform does not have controls for the boom and swing functions of the equipment, then it is

the shaft during personnel hoisting. The purpose is to ensure that a signal person is used and stationed at the best position to watch the employee being hoisted, since the hoisted employee is out of the view of the operator.

Paragraph (o)(3)(iii) requires the employee to be hoisted in a slow, controlled descent and ascent. This is to limit swinging or sudden movement of the boatswain's chair to prevent a fall from the iginimpact wit watchwt ayee is the rator.

Paragraph (o)(3v(iii) requires the

that only one person may be hoisted at a time.

Paragraph (q) [*Reserved.*]

Paragraph (r) Hoisting Personnel for Marine Transfer

This paragraph addresses the particular hazards related to hoisting personnel for transfer to or from a marine construction worksite. This paragraph applng

with a multiple lift are identified and

requirements applicable only to crawler, locomotive, and truck cranes and, in addition, contains requirements that apply to all of the equipment covered by this subpart.

Paragraph (a)

Paragraph (a) of this section requires that crawler, truck and locomotive cranes manufactured prior to the effective date of this standard meet the applicable requirements for design, construction, and testing prescribed in ANSI B30.5–1968, safety code for "Crawler, Locomotive, and Truck Cranes," PCSA [128] Std. No. 2 (1968), the requirements in paragraph (b), or the applicable DIN (Deutsches Institut für Normung e.V., or German Institute for Standardization) standards that were in effect at the time of manufacture.

[128] "PCSA" is the acronym for the Power Crane Shovel Association.

[129] Pursuant to a commenter's suggestion on the structure of this section as proposed (ID–0172.1), this section was reorganized in the final rule for

requirements. These arguments are addressed in the discussion of § 1926.1417.

Paragraph (b)(7)(ii) requires the

situation where the mechanism to automatically set the locking device was malfunctioning but did not address the situation where the locking device itself was not working properly. The Agency requested public comment on whether this provision should include a temporary measure that would be required if the positive locking device is not working properly (regardless of whether it is attempted to be set automatically or manually) and, if so, what temporary measure is available in such a situation.

Several commenters responded that boom hoist drum should have either a positive locking device, an integrally mounted holding device, a secondary braking device, or an internal static brake to prevent boom hoist movement in the event of hydraulic or main brake failure. (ID –0180.1; –0205.1; –0213.1.) According to these commenters, any of these devices would prevent the boom hoist drum from spinning freely and allowing the boom to free fall in the event the main boom hoist brake (required by § 1926.1435(d)(vii)(A)) fails.

OSHA concludes that any of the devices mentioned by these commenters, if working properly, would

suggested that a different characterization was proper.

OSHA is not promulgating requirements to implement the system proposed by this witness. Such a scheme is developmental tracking requ adporlgatits a Ment t a proposed by this witness... [illegible overlapping text: "seheme tslcsvOTopslampefarewstrackgating requ adporlgatits a Ment t a" / "Orupeusthesriayd,ltealsongoRadoplMeatnynot vislatioof nt t a"]

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[137] C–DAC believed that derrick users should be

this provision and it is adopted as proposed.

Paragraph (e)(2)(iv), *Load test procedure,* outlines how tests required by paragraphs (e)(2)(ii) or (iii) must be conducted. Under paragraph (e)(2)(iv)(A) the test load must be

[138] The OSHA standard differs from ASME B30.6–2003 in the following respect: The ASME

testing criteria for derrick operators.

coverage for floating cranes/derricks and requested comment on this modification. Two commenters responded and both agreed with the modified language as used in the proposed rule. (ID–0205.1; –0213.1.) OSHA is retaining this language in the final rule because the increased coverage enhances employee protection, and the introductory language provides useful explanatory information to the regulated community regarding compliance obligations.

With respect to the requirements of § 1926.1437(h)(2)(ii), a commenter expressed concern that the Agency expected an employer to physically open the hatch on a barge to inspect for "taking on water." (ID–0345.26.) The commenter further explained that hatch covers are usually sealed, and generally are removed only if there is suspected damage to the hull. (ID–0345.26.) Another commenter confirmed that most non-freshwater vessels have permanently sealed hatches. (ID–0344.1.)

Under this provision, as proposed, a competent person must inspect the vessel for "taking on water" and does not specify any particular method for making this determination. As one commenter suggested, measuring freeboards is a way to determine if a vessel is listing more than a couple of degrees and, therefore, possibly taking on water. (ID–0344.1.) The requirement here is for the competent person to use an effective means of determining if the vessel is taking on water, which can vary depending on the type of vessel.

With respect to § 1926.1437(h)(2)(iv), a commenter was concerned that the requirement to check the "fuel compartments * * * for serviceability as a water-tight appliance" included an expectation that the hatch cover would be removed to inspect the fuel compartment. (ID–0345.26.) The commenter further stated the usual means of checking for water in a fuel tank is by using a plumb bob and clear coat that changes color if water is present. The proposed provision requires a competent person to inspect the fuel compartments, among other areas, for "serviceability as a water-tight appliance." aroe is fT*(v/65(222)Tjder)T

specifications and limitations. OSHA revised proposed paragraph (k) accordingly.

In addition, another commenter raised the issue that, for many vessels covered by this section, the manufacturer no longer exists, or that the vessel has been

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[139] In this preamble the Agency uses the term "securing" and "secured"

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rarely used in construction. (ID–0178.1.) While OSHA understands they are rarely used in construction, these cranes are at least occasionally used in construction. Were the Agency to delete this section entirely, these cranes (overhead and gantry cranes used in construction) would not be explicitly covered by any OSHA standard.

The same commenter reasoned that, because overhead cranes are primarily used in general industry and § 1910.179 does not require operator certification, an overhead crane operator who performs construction work only occasionally would need to be certified for the occasional construction-related pick, but not for any other part of the job. As explained above, the rule distinguishes between permanently installed overhead and gantry cranes, which are primarily used in general industry, and those that are not permanently installed, which are primarily used in construction work.

The Committee determined that applying the general industry standard (§ 1910.179) to overhead and gantry cranes that are permanently installed in a facility and used for construction would reduce compliance burdens without jeopardizing employee protection. However, the use of overhead and gantry cranes that are not permanently installed in a facility, which are more frequently used for construction, presents concerns about employee safety that are particular to the construction environment. For these overhead and gantry cranes, the Committee applied the safety requirements in § 1910.179, which apply whether the crane is used in general industry or construction, along with portions of subpart CC to address the specific concerns about cranes used in construction. OSHA agrees.

The commenter recognized the Committee's concern when he stated that, unlike operators of rented or subcontracted mobile cranes, employers that deal with overhead cranes are very aware of the qualifications of their operators. (ID–0178.1.) OSHA determines that non-permanently installed overhead and gantry cranes used in construction present the same concerns as rented or subcontracted mobile cranes.

Finally, the commenter suggests that § 1926.1438 requires operator certification for certain classes of lifting equipment—pile drivers, derricks, and service trucks with hoisting devices—for which no certification programs currently exist. These three types of lifting equipment are not covered by

range from 2,000 to 10,000 pounds than

(c)(3)(iii) requires employers to ensure that the crane operator immediately ceases operations or follows safe shut-down procedures until the rated capacities become available again. The Committee agreed that it is unsafe to continue to operate the equipment if the rated capacities are inaccessible to the operator. No comments were received on this provision and OSHA is adopting this requirement in the final rule as proposed.

Paragraph (d) of this section specifies requirements for safety devices and operational aids for the equipment. In this regard, paragraph (d)(1) requires that employers maintain safety devices and operational aids that are part of the original equipment in accordance with manufacturer procedures. (**Note:** This requirement applies to anti two-block devices used on equipment covered by this section manufactured before the effective date of this final standard; *see*

specific definitions of small businesses.

TABLE B–1—ANNUAL BENEFITS, COSTS, AND NET BENEFITS

TABLE B–2—INDUSTRIAL

TABLE B–2—INDUSSTALE

These employers either routinely have

that railroads will not be affected by the final standard.

All of the affected general industry sectors have been added to the industry profile in the category of employers who

“

industries will devise, but, for purposes of showing that the final standard is economically feasible even with this many journeymen certified as crane operators, the Agency believes it is

Northrup-Grumann is the largest shipbuilder in the country and likely the most intense user of cranes for its larger projects. Since construction activities in shipyards are episodic or irregular, the Agency estimates that if shipyard employers provide certification for crane operators for one-half of the number of non-permanent cranes (with 300 certified operators) that would be sufficient to perform their own construction activities without hiring outside construction contractors for their needs.

- The final standard potentially affects the general industry sector NAICS 339950 Sign Manufacturing. In its comment to the record, the International Sign Association reported that iafTl Sign Associatiov.010ction activities without hiring outside construction contractors

TABLE B–4—INDUSTRIAL PROFILE OF SBA D

TABLE B–4—INDUSTRIAL PROFILE OF SBA DEFINED SMALL ENTITIES FOR THE PROPOSED STANDARD—Continued

TABLE B–5—INDUSTRIAL PROFILE OF **VERY** SMALL ENTITIES (LESS THAN 20 EMPLOYEES) BY MAJOR CATEGORY—Continued

NAIC	Industry	Firms	Estabs	Employees	Profit rate %	Avgerage	
						Revenues per estab. ($1,000)	Profits per estab. ($1,000)

Barane Rents00)

4. Benefits

million per VSL. This estimate is based on the median value found by Viscusi and Aldy in their 2003 review ($7 million in 2000 dollars), adjusted by the GDP implicit price deflator 2000 to 2010). The total monetized value of preventing 22 fatalities annually is about $191.4 million. For accidents, OSHA uses a willingness-to-pay methodology to monetize the value of injuries avoided, of $50,000 in 2000 dollars; which, when adjusted by the GDP deflator is about $62,500 in 2010 dollars. Thus, the monetized annual value of an estimated 175 injuries avoided by the standard annually is about $10.9 million. The total annual monetized value of avoided injuries and fatalities is about $202.3 million.

Costs of Crane Accidents

Several commenters noted that crane accidents represented a substantial cost to employers in the crane industry. (ID–0341; –0342; –0343; –0344.) In the PEA the Agency did not estimate cost savings from avoiding crane accidents, but only estimated monetized benefits for avoiding fatalities (the value of a statistical life, or VSL) or injuries (a value based on willingness to pay).
These cost savings do not represent(These conly)T loses a ssocited mwithaccidents,
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effect in June 2005. That State's operator certification requirement did not apply to digger derricks and mobile—usually truck-mounted—cranes with a capacity below 15,000 pounds. The State estimated that there were 5,000 mobile cranes and 700 tower cranes affected

significant new procedures and costs beyond what current standards require.

TABLE B–9—ANNUALIZED COMPLIANCE COST BY S

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TABLE B–14—ECONOMIC IMPACTS FOR SBA DEFINED

TABLE B–15—ECONOMIC IMPACTS FOR VERY SMALL ENTITIES (LESS THAN 20 EMPLOYEES) BY MAJOR CATEGORY—Continued

	Industry	Firms	Estabs.	Employees	Profit rate (percent)	Revenues per estab. ($1,000)	Profits per estab. ($1,000)	Cost per estab.	Cost as a percent of revenues	Cost as a percent of profits
Own Cranes but Do Not Rent Them										
236115	New Single family housing construction.	2,763	2,763	12,155	4.67	823	38	628	0.08	1.63
236116	New Multifamily housing construction.	197	197	2,010	4.67	1,350	63	628	0.05	1.00

TABLE B–16—RESPONSE TO

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TABLE B–16—RESPONSE TO SBREFA PANEL RECOMMENDATIONS—Continued

SBREFA panel recommendation	OSHA response
The Panel recommends that OSHA solicit public comment on making it clear that: (1) An employer is permitted to equip its cranes with manuals re-written in a way that would allow an operator with a low literacy level to understand the material (such as substituting some text with pictures and illustrations), and (2) making it clear that, when the cranes are equipped with such re-written manuals and materials, the ''manuals'' and ''materials'' referred to in these literacy provisions would be the re-written manuals.	In the discussion of proposed § 1926.1427(h)(1), OSHA requested public comment on this issue. Based on the analysis of the comments received, OSHA concludes that these manuals may not be re-written as recommended because it could cause information important for safety to be omitted.

entities with fewer than 20 employees (Table B–15).

5. A Description of the Projected Reporting, Recordkeeping and Other Compliance Requirements of the Rule, Including an Estimate of the Classes of Small Entities Which Will Be Subject to the Requirement and the Type of Professional Skills Necessary for Preparation of the Report or 644 TDr1Tj046701 0(Tof fissiorhe addre Clas of work4 TDr-1Tj0 -1 0(practis N used, aitieh Waitond Other)T

[142] The City of Chicago Department of Buildings submitted a late comment expressing the same concerns as those of New York City. (ID–0348.1.) The concerns expressed by Chicago are mainly the same as those of New York, and are addressed in the discussion of the New York laws.

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[144] This means that tower cranes pose a risk to upwards of 60,000 people on any given day (40 × 1,500 = 60,000).

§ 1926.6 Incorporation by reference.

(a) The standards of agencies of the

(4) Section 1926.503 sets forth requirements for training in the installation and use of fall protection systems, except in relation to steel erection activities and the use of equipment covered by subparwiC. r

Subpart S—Underground Construction, Caissons, Cofferdams, and Compressed Air

■ 19. The authority citation for subpart S of 29 CFR part 1926 is revised to read as follows:

Authority: Sec. 107, Contract Work Hours

Subpart CC—Cranes and Derricks in Construction

Authority: Section 3704 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701); sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 5–2007 (72 FR 31159); and 29 CFR part 1911.

§ 1926.1400 Scope.

(a) This standard appli45 /T1ower-operated equipment, when used in construction, that can hoist, lower and horizontally move a suspended load. Such equipment includes, but is not limited to: Articulating cranes (such as knuckle-boom cranes); crawler cranes; floating cranes; cranes on barges; locomotive cranes; mobile cranes (such as wheel-mounted, rough-terrain, all-terrain, commercial truck-mounted, and boom truck cranes); multi-purpose machines when configured to hoist and lower (by means of a winch or hook) and horizontally move a suspended load; industrial cranes (such as carry-deck cranes); dedicated pile drivers; service/mechanic trucks with a hoisting device; a crane on a monorail; tower cranes (such as a fixed jib, *i.e.*,

"boom and

crane; oOverhead and gantry cranes; ntrddlve cranes;sSideboom crane;g such

paagraphs ck) of this Section arh

his/her sole responsibility is to watch the separation between the power line and the equipment, load line and load (including rigging and lifting accessories), and ensure through communication with the operator that the applicable minimum approach distance is not breached.

Directly under the load means a part or all of an employee is directly beneath the load.

Dismantling includes partial dismantling (such as dismantling to shorten a boom or substitute a different component).

Drum rotation indicator means a device on a crane or hoist which indicates in which direction and at what relative speed a particular hoist drum is turning.

Electrical contact occurs when a person, object, or equipment makes contact or comes in close proximity with an energized conductor or equipment that allows the passage of current.

Employer-made equipment means floating cranes/derricks designed and

Upperworks means the revolving frame of equipment on which the operating machinery (and many cases the engine) are mounted along with the operator's cab. The counterweight is typically supported on the rear of the upperstructure and the boom or other front end attachment is mounted on the front.

Up to means "up to and including."

Wire rope means a flexible rope constructed by laying steel wires into various patterns of multi-wired strands around a core system to produce a helically wound rope.

operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.

(iii) Power lines are presumed to be uninsulated unless the utility owner/operator or a registered engineer who is a qualified person with respect to electrical power transmission and distribution confirms that a line is insulated.

(iv) The limitations of an insulating link/device, proximity alarm, and range control (and similar) device, if used.

(v) The procedures to be followed to properly ground equipment and the limitations of grounding.

(2) Employees working as dedicated spotters must be trained to enable them to effectively perform their task, including training on the applicable requirements of this section.

(3) Training under this section must be administered in accordance with § 1926.1430(g).

(h) Devices originally designed by the manufaccsrbe rif ung : A safety) deviis erseiis

(d)(4)(i) of this section applies only when working inside the § 1926.950 Table V–1 clearance distances.

(iii) For work covered by subpart V of this part involving operations where use of an insulating link/device is infeasible, the requirements of § 1910.269(p)(4)(iii)(B) or (C) may be substituted for the requirement in (d)(4)(i) of this section.

(iv) Until November 8, 2011, the

equipment manufacturer's recommendations, both before each shift and after each move and setup.

(xii) Operator cab windows for significant cracks, breaks, or other deficiencies that would hamper the operator's view.

(xiii) Rails, rail stops, rail clamps and supporting surfaces when the equipment has rail traveling. This paBraph doacenot apply toen the

reasonable probability of damage or excessive wear (such as loading that may have exceeded rated capacity, shock loading that may have exceeded rated capacity, prolonged exposure to a corrosive atmosphere), the employer must stop using the equipment and a qualified person must:

(1) Inspect the equipment for structural damage to determine if the equipment can continue to be used safely.

(2) In light of the use/conditions determine whether any items/conditions listed in paragraph (f) of this section need to be inspected; if so, the qualified person must inspect those items/conditions.

(3) If a deficiency is found, the

determines under paragraph (c)(3)(ii) of this section must be monitored.

(3) Wire ropes on equipment must not be used until an inspection under this paragraph demonstrates that no corrective action under paragraph (a)(4) of this section is required.

(ii) Rotation resistant ropes may be used as boom hoist reeving when load hoists are used as boom hoists for attachments such as luffing attachments or boom and mast attachment systems. Under these conditions, all of the

or similar component). The device(s) must prevent such damage at all points

(2) Where rated capacities are available in the cab only in electronic

(ii) Guardrails, railings and other permanent fall protection attachments along walkways are:

(A) Not required.

(B) Prohibited on booms supported by pendant ropes or bars if the guardrails/railings/attachments could be snagged by the ropes or bars.

(C) Prohibited if of the removable type (designed to be installed and removed each time the boom is assembled/disassembled).

(D) Where not prohibited, guardrails or railings may be of any height up to, but not more than, 45 inches.

(c) *Steps, handholds, ladders, grabrails, guardrails and railings.*

mounted) poses a reasonably foreseeable risk of:

(i) Striking and injuring an employee; or

(ii) Pinching/crushing an employee against another part of the equipment or another object.

(2) To prevent employees from entering these hazard areas, the employer must:

(i) Train each employee assigned to work on or near the equipment ("authorized personnel") in how to recognize struck-by and pinch/crush hazard areas posed by the rotating superstructure.

(ii) Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas. *Exception:* When the employer can demonstrate that it is neither feasible to erect such barriers on the ground nor on the equipment, the hazard areas must be clearly marked by a combination of warning signs (such as "Danger—Swing/Crush Zone

military is considered qualified if he/she has a current operator qualification issued by the U.S. military for operation of the equipment. An employee of the U.S. military is a Federal employee of the Department of Defense or Armed Forces and does not include employees of private contractors.

(2) A qualification under this paragraph is:

(i) Not portable. Such a qualification meets the requirements of paragraph (a) of this section only where the operator is employed by (and operating the

lift), employees to be hoisted, and the person responsible for the task to be performed.

one or more qualified persons (lift director).

(2) The lift director must review the plan in a meeting with all workers who will be involved with the operation.

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spacing of guy lines do not result in the gin pole being stable in both boomed and vertical positions, the employer must ensure that the derrick is not used in an unstable position.

(ii) The base of the gin pole must permit movement of the pole (when necessary).

Option (2) or Option (4) of paragraph (n)(5) of this section.

(7) The barge, pontoons, vessel or other means of flotation used:

(i) Are structurally sufficient to withstand the static and dynamic loads of the crane/derrick when operating at the crane/derrick's maximum rated capacity with all anticipated deck loads and ballasted compartments.

(ii) Have a subdivided hull with one or more longitudinal watertight bulkheads for reducing the free surface effect.

(iii) Have access to void compartments to allow for inspection and pumping.

this section (*see* § 1926.1412(c) for post-assembly inspection requirements).

(3) *Manufacturer prohibitions.* The employer must comply with applicable manufacturer prohibitions.

(c) *Operation—procedures.*

(1) The employer must comply with all manufacturer procedures applicable to the operational functions of the equipment, including its use with attachments.

(2) *Unavailable operation procedures.* The employer must:

(i) When the manufacturer's

(4) Know how to use the load chart