



MEMORANDUM
Oregon Occupational Safety & Health Division

ISSUED: August 29, 2012
TO: All OSHA
FROM: Peggy Munsell, Technical and Appeals Manager
SUBJECT: Division 3, Subdivision CC of 1926, Cranes and Derricks in Construction:
Frequently asked Questions

General Information

1. What standard currently applies to the use of cranes and derricks in construction?

Subdivision CC of 1926, Cranes and Derricks in Construction, applies except for equipment including, but not limited to, equipment that is excluded under 1926.1400.

2. Where can I find the final rule for Cranes and Derricks in Construction?

The crane standard can be accessed at:

http://www.cbs.state.or.us/osha/pdf/rules/division_3/div3cc.pdf 1926 Subdivision CC, Cranes and Derricks in Construction. The preamble to the final rule can also be found on OSHA's website under "Federal Register Notices" for August 9, 2010 or on the Federal Register website (www.gpoaccess.gov) under Vol. 75, page 47906.

3. Why did OSHA believe that the former standard needed to be changed?

A number of factors led OSHA to decide to undertake rulemaking. One factor was the approximately 22 fatalities and 175 injuries that were occurring on average per year. To prevent more of these injuries and deaths, a number of hazards needed to be more adequately addressed such as: cranes and derricks contacting power lines; workers caught in or struck by the equipment; unsafe work practices; and equipment tipovers. In addition, there have been considerable technological advances in equipment since the publication of Subdivision N. Investigations of several high-profile crane incidents emphasized the need to update the crane standard to address hazards related to the use of newer equipment, technologies, and techniques used during hoisting activities. These

factors led Federal OSHA's Advisory Committee on Construction Safety and Health, a group of construction experts who advise the Agency on construction safety and health standards, to recommend that Federal OSHA update its Cranes and Derricks standard.

4. When was the last time the Cranes and Derricks in Construction standard had been updated?

The prior rule for Cranes and Derricks, 1926.550, was published in 1971. It was amended twice in 1988 to address the use of personnel platforms (1926.550(g)) and in 1993 to ensure that “all employees shall be kept clear of loads about to be lifted and of suspended loads” 1926.550(a)(19)).

5. How does the new final rule differ from the old rule, Subdivision N of Part 1926?

The former standard for cranes and derricks used in construction work (1926.550) incorporated requirements of certain pre-1970 national consensus standards. The new final rule sets forth most of its requirements in the text of the standard and incorporates national consensus standards by reference in only a few locations. In addition, this new standard includes a number of new provisions designed to improve safety. Several significant changes are:

- Effective November 10, 2014, most operators must be formally qualified or certified.
- Employers, including crane users and controlling contractors, must ensure that ground conditions are adequate to safely support the equipment.
- New requirements applicable to assembly and disassembly that will protect workers from being struck or crushed by unanticipated movement of crane components, as well as require equipment to be properly assembled.
- New requirements for maintaining sufficient clearance from power lines hazards.
- New requirements for pre-erection inspection of tower cranes, use of synthetic slings during climbing of tower cranes and other assembly activities, and use of qualified riggers for those activities.
- Fall protection requirements are clarified in the standard.
- The new rule expanded upon the requirements for equipment (such as floating cranes) that was subject to few requirements in the prior standard.

6. Who, besides crane operators and riggers, are affected by Subdivision CC?

Employers who use cranes and derricks in construction work must comply with the standard. In addition, other employers on construction sites where cranes and derricks are used are responsible for violations that expose their employees to hazards and, therefore, they need to address the requirements of the standard that may affect their employees. Crane lessors who provide operators and/or maintenance personnel with the equipment also have duties under the standard.

7. During the performance of water well drilling, a hoist is used to lower the pump and possibly other objects into the well and for other purposes related to the drilling process. Is use of the hoist covered by the requirements of Subdivision CC?

More than likely the hoist is not covered by Division 3 subdivision CC. When drilling a new well the process is generally considered construction, however, the equipment may or may not be considered a crane. Based on the scope of the cranes and derricks rule most “true” pump hoists are not considered cranes (hoists that mount to a stationary position and can only lift and lower, and can not swing side to side).

8. Who will determine if a state or local operator certification process meets the “Federal floor” requirements in new 1926.1427?

In accordance with 1926.1427(e)(2)(iii), OSHA does not require compliance with a state or local licensing requirement unless the state or local authority that oversees the licensing department/office assesses that program and determines that it meets the minimum requirements in 1926.1427(e)(2)(i) and (ii), including satisfying the substantive testing criteria of 1926.1427(j) through written and practical tests and providing testing procedures for re-licensing. Currently, Oregon OSHA does not have a state or local operator certification process.

Operator Certification/Qualification

9. Does the final rule require construction crane operators to be certified or qualified?

Yes. By November 10, 2014, all equipment operators (except operators of derricks, sideboom cranes, and equipment rated at 2,000 pounds or less) must be certified/qualified under one of four specified options. These options are:

- Certification by an accredited crane operator testing organization;
- Qualification by an audited employer program;
- Qualification by the U.S. military; or
- Licensing by a state or local government entity.

10. Must employers in states without state or local licensing do anything before November 10, 2014 to ensure the competency of their operators?

Yes, in the past, employers operating in Oregon must ensure that crane operators are qualified by training and experience to operate the equipment safely in accordance with 437-003-0081, Crane Operator Safety Training Requirements which is acceptable for training until the November 10, 2014 effective date.

11. How does an employer know whether an organization is an "accredited crane operator testing organization" and therefore qualified to certify operators?

To qualify for this title, the testing organization must be accredited by a "nationally recognized accrediting agency." The definition of "nationally recognized accrediting agency" in 1926.1401 states that the term includes, but is not limited to, the National Commission for Certifying Agencies (NCCA) and the American National Standards Institute (ANSI). NCCA and ANSI have accredited several testing organizations, and their websites identify the organizations they have accredited. Note that a testing organization's accreditation must be reviewed at least every three years, so employers looking for an accredited crane operator testing organization must make sure that an organization's accreditation is current.

12. How long is a certification by an accredited crane operator testing organization valid?

The above certification is valid for 5 years. After 5 years, it must be renewed to confirm that the operator's knowledge and skills are up-to-date.

13. I plan to hire a new crane operator. An applicant for the job was certified for the equipment by an accredited testing organization while working for another employer. May I rely on that individual's certification?

Yes, such a certification is portable. However, as stated above, the certification is valid for only 5 years, after which it must be renewed.

14. Does an operator's certification mean that the operator is qualified to operate any type of equipment covered by the standard?

No. An operator may operate a particular piece of equipment if the operator is certified for that type and capacity of equipment or for higher-capacity equipment of that type. For example, an operator certified for a 100-ton hydraulic crane may operate a 50-ton hydraulic crane but not a 200-ton hydraulic crane. If no accredited testing agency offers certification examinations for a particular type and/or capacity of equipment, an operator is considered to be qualified to operate that equipment if the operator has been certified for the type/capacity that is most similar to that equipment and for which a certification examination is available. The operator's certificate must state the type/capacity of equipment for which the operator is certified.

15. I acquired a certification from a testing organization before November 10, 2014 and the test did not cover the new requirements of the revised crane standard. Do I need to take the test again before November 10, 2014, or will my current certification be grandfathered until my next scheduled recertification test?

If the written or the practical testing did not meet the requirements of 1926.1427 your certification will not be valid. However, if your testing organization provides you with a supplemental test covering this material, and amends your documentation, your certification would be considered valid.

16. If the operator certification that I received from a testing organization does not identify the type and capacity of the equipment that I am certified to operate, will it be a valid certification?

No. After November 10, 2014, the revised rule requires your documentation to include the type and capacity of crane you have been certified to operate.

17. What is the crane operator certification examination like?

The exam consists of both a written and a practical test. The written test covers, among other topics, (1) the controls and operational/performance characteristics of the equipment; (2) use of, and the ability to calculate (manually or with a calculator), load/capacity information on a variety of configurations of the equipment; (3) procedures for preventing and responding to power line contact; (4) the ground conditions needed to support the equipment and load.

The practical test is conducted with the operator at the controls of the equipment. It requires the operator to demonstrate, among other things, operational and maneuvering skills, the ability to apply load chart information, and the ability to safely shut down and secure the equipment.

18. Must a candidate for operator certification take a training course before taking the exam?

No. The standard requires that the certification exam cover certain topics relevant to safe crane operation, but does not require any particular type of training. An experienced operator may have the necessary knowledge and skills without further training. However, a number of organizations offer courses that are designed to prepare an individual to take the exam. Even for experienced crane operators, such a course can help update the individual's knowledge.

19. Does OSHA have a list of approved training providers?

No. Neither OSHA nor Oregon OSHA evaluate or approve crane operator training courses.

20. Is the option for qualification by the U.S. Military available to employees of private contractors working under contract to the Department of Defense?

No. This option is only available to civilian and uniformed employees of the Department of Defense. Private contractors must use one of the other options for operator certification/qualification available under 1926.1427.

21. I am planning to lease a crane with an operator. The lease provides that the operator will be certified in accordance with Oregon OSHA requirements. Can I rely on the leasing company, or do I need to check the operator's certification card?

In general, you are responsible for ensuring that the operator is certified. However, the standard does not specify how to ensure certification of the operator. Some methods for ensuring certification include, but are not limited, to examining the operator's certificate; and if there is any question as to whether the operator's certification is valid, you should contact the testing organization that issued the certification.

22. Does Oregon OSHA require an operator to speak English in order to become certified?

No. The examination may be administered in any language the operator candidate understands. It may be administered verbally as long as the operator can demonstrate that he or she is literate in the language of the exam and demonstrates the ability to use the type of written manufacturer procedures applicable to the class/type of equipment for which the candidate is seeking certification. The operator's certificate must note the language in which the exam was given, and the employee may only operate a crane that is furnished with materials required by the standard that are written in the language of the certification.

It should be noted that in accordance with 1926.1421(c), if there is a lift director or signal person used during the operation of the equipment, the operator must be able to effectively communicate with those individuals.

23. Is a person who is being trained to be an operator permitted to operate the equipment as part of that individual's training before becoming certified?

Yes. An operator-in-training may operate equipment under the conditions and limitations set forth in 1926.1427(f).

24. An employer rents and delivers cranes to job sites. When this employer rents a crane for use on a construction site and one of its employees is required to move the equipment on or from the transportation trailer, must that employee be a certified operator?

No. An employee only delivering equipment to a construction site would not be engaged in a construction activity when, for example, the employee merely moves the equipment on and off the transportation trailer at access roads or areas adjacent to the construction site. Under the General Industry standard at 1910.180(b)(3), the employee designated to move the crane on and off the trailer must be qualified to operate the crane.

In general, when the operator certification requirement of 1926.1427 becomes effective on November 10, 2014, a rental company employee must meet the requirements of section 1926.1427 when the employee performs activities specified in Subdivision CC such as assembly/disassembly, hoisting loads, or traveling from place to place on the worksite.

Inspections

25. What crane inspections are required by the standard?

A variety of inspections are required to ensure that equipment is in safe operating condition. These include, but are not limited to:

- Shift inspections for all equipment;
- Monthly inspections for all equipment;
- Annual inspections for all equipment;
- Shift, monthly, and annual inspections for all wire rope;
- Post-assembly inspections upon completion of assembly;
- Pre-erection inspections of tower cranes;
- Inspections of modified or repaired/adjusted equipment;
- Four-year inspections of the internal vessel/flotation device for floating cranes/derricks.

26. Must crane inspectors be certified?

No. Crane inspectors are not required to be certified. They must, however, possess a level of expertise that is based on the complexity and type of inspections they perform (competent). For more complex inspections (such as an annual inspection or an inspection after the completion of a modification or repair), the inspector must be qualified through possession of a recognized degree, certificate, or professional standing; or by extensive knowledge, training, and experience, and be able to successfully demonstrate the ability to solve/resolve problems related to the inspection of cranes and related activities (qualified).

27. Why does the final rule require pre-erection inspections of tower cranes?

In response to public comments and the results of several crane investigations, the rule now requires a pre-erection inspection for tower cranes to enable the employer to identify crane components that have been damaged when transported to the worksite and prevent damaged components from being used to erect the crane.

Material Delivery

28. I deliver materials to a construction site using a flatbed truck equipped with an articulating crane. At the site, I use the crane to move the materials from the flatbed onto the ground. Must I comply with the standard?

No, in accordance with 1926.1400(c)(17)(i), Subdivision CC does not apply when construction materials are delivered from the flatbed to the ground at a construction site and the crane is not used to arrange those materials in a particular sequence for hoisting. This is considered a general industry activity covered by applicable requirements of 1910.

29. I deliver materials to a construction site using a flatbed truck equipped with an articulating crane. At the site, I use the crane to move the materials from the flatbed onto the structure being erected. Must I comply with the standard?

Coverage under Subdivision CC under these circumstances depends on the type of materials being moved. In general, movement of material onto a structure under construction is a construction activity that is subject to OSHA construction standards. However, Subdivision CC contains a limited exclusion from coverage of the Cranes and Derricks standard when goods are delivered directly to the structure and when the cradle/fork is attached to the boom and the truck is equipped with a properly functioning automatic overload prevention device.

The typical building supply materials and sheet good loads such as, sheets of sheet rock, sheets of plywood, bags of cement, sheets or packages of roofing shingles, and rolls of roofing felt, pose a reduced risk of falling off the forks of the truck crane because of the way the materials are typically packaged and bound for bulk delivery. In addition, the risk is reduced because the truck crane was specifically designed to safely handle this type of material and prevent hazards of material handling that are more appropriately addressed by the requirements of Subdivision O.

This exclusion is limited to the operations described above. In situations where the equipment is used to hoist and hold any materials in support of their application or installation, articulating/knuckle-boom equipment must comply with Subdivision CC. The use of articulating/knuckle-boom cranes to deliver materials onto a structure is also covered by Subdivision CC when the types of materials delivered are similar to materials such as: steel joists, beams, columns, steel decking, or components of systems engineered

metal buildings; precast concrete members or panels; roof trusses, (wooden, cold formed metal, steel or other material); and prefabricated building sections such as but not limited to, floor panels, wall panels, roof panels, roof structures, or similar items.

Rigger Qualifications

30. The standard requires that a rigger be a "qualified rigger" to perform certain tasks. What qualifications must a rigger possess to be a "qualified rigger?"

A qualified rigger is a rigger who meets the criteria for a qualified person. A qualified rigger must therefore possess a recognized degree, certificate, or professional standing, or have extensive knowledge, training, and experience, and successfully demonstrate the ability to solve problems related to rigging loads.

A qualified rigger must be able to properly rig the load for a particular job. He or she need not be qualified to do every type of rigging job. Each load that requires rigging has unique properties that can range from the simple to the complex. However, previous experiences does not automatically qualify the rigger to rig unstable, unusually heavy, or eccentric loads that may require a tandem lift, multiple lifts, or use of custom rigging equipment. In essence, employers must make sure that the person can do the rigging work needed for the exact types of loads and lifts for a particular job with the equipment and rigging that will be used for that job.

31. Does a certified operator also meet the requirements of a qualified rigger?

A certified operator does not necessarily meet the requirements of a qualified rigger. The person designated as the qualified rigger must have the ability to properly rig the load for a particular job. A certified or qualified operator may meet the requirements of a qualified rigger, depending on the operator's knowledge and experience with rigging. In general, the qualifications of a rigger and an equipment operator are not considered one in the same.

32. Do qualified riggers have to be trained or certified by a third party?

No. Riggers do not have to be certified by an accredited organization or assessed by a third party. Employers may choose to use a third party entity to assess the qualifications of the rigger candidate, but they are not required to do so.

33. Must a "qualified rigger" carry documentation of his or her rigger qualifications?

No. The employer must determine the qualifications of the rigger as applicable to the hoisting job to be performed. While documentation, such as a card from an assessing organization indicating that the individual has demonstrated specified skills, could serve as evidence of a rigger's qualifications, Subdivision CC of 1926 does not require that a rigger carry such documentation.

Signal Person Qualifications

34. What qualifications must a signal person possess?

A signal person must:

- Know and understand the type of signals used;
- Be competent in the application of the type of signals used;
- Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads; and
- Know and understand the relevant requirements of the provisions of the standard relating to signals.

35. How does an employer know whether a signal person is qualified?

Under 1926.1428, employers must determine that a signal person is qualified through the assessment of a qualified evaluator, who must meet one of the following definitions in 1926.1401:

Third party qualified evaluator ("an entity that, due to its independence and expertise, has demonstrated that it is competent to accurately assess whether individuals meet the qualification requirements in this subdivision for a signal person."). The signal person must have documentation from a third party qualified evaluator showing that he or she meets the qualification requirements.

Employer's qualified evaluator (not a third party) ("a person employed by the signal person's employer who has demonstrated that she or he is competent to accurately assess whether individuals meet the qualification requirements in this subdivision for a signal person."). The employer's qualified evaluator assesses the individual, determines that the individual meets the qualification requirements, and provides documentation of that determination. This assessment may not be relied on by other employers.

36. Must the required training and qualification of a signal person be performed by an accredited organization?

No, but employers must have documentation of the signal person's qualifications available at the worksite, either in paper form or electronically. For example, the documentation may be accessed from a laptop, via e-mail, or be transmitted from an offsite location by facsimile. While a physical card may serve as proof of a signal person's qualifications, it is not the only means allowed by Subdivision CC. The documentation must specify each type of signaling (e.g., hand signals, radio signals, etc.) for which the signal person is qualified under the requirements of the standard. The purpose of this documentation is to ensure the onsite availability of a means for crane operators and others to determine quickly whether a signal person is qualified to perform a particular signal for the hoisting job safely.

37. Do union and trade association apprenticeship certification programs qualify as third party qualified evaluators for purposes of evaluating signal person qualifications in accordance with 1926.1428(a)(1)?

Oregon OSHA requires each employer of a signal person to use a qualified evaluator (a third party or an employee) to verify that the signal person possesses a minimum set of knowledge and skills [1926.1428(a)]. In general, Oregon OSHA does not evaluate or endorse specific products or programs, and therefore makes no determination as to whether a certification program meets the definition of a "qualified evaluator (third party)." It should be noted, however, that in the preamble to the final rule for Subdivision CC, Federal OSHA stated that "labor-management joint apprenticeship training programs that train and assess signal persons would typically meet the definition for a third-party qualified evaluator....." 75 Federal Register 48029, (August 9, 2010). With regard to training, the employer is ultimately responsible for assuring that its employees are adequately trained regardless of whether the employees' qualification is assessed by the employer or a third party.

38. Does a certified operator automatically satisfy the criteria for being a qualified signal person under 1926.1428?

No. To qualify as a signal person, the operator would need to be evaluated by a qualified evaluator, satisfy the specified testing requirements for signal persons under 1926.1428, and documentation must identify the types of signaling (e.g., hand, radio, etc.) for which the operator has been evaluated. In some cases, the operator's certification process may also satisfy the signal person qualification requirements, depending on the qualifications of the certifying organization, the content of the certification exam, and the documentation provided by the certifying organization. In general, the qualifications of a signal person and an equipment operator are not considered one in the same.

39. Does being an accredited trainer for signaling and rigging automatically qualify an individual as an evaluator of the qualifications of riggers and signal persons?

Not necessarily. While being an accredited trainer may be an indicator that the trainer possesses the skills for effectively communicating subject matter to trainees, a qualified evaluator must also have demonstrated that she or he is competent in accurately assessing whether individuals have the qualifications required by Subdivision CC.

Equipment Issues

40. Sections 1926.1425(c)(2) and 1926.1433(d)(4) require the use of hooks with self-closing latches or the equivalent. Must slings designed and manufactured with integral hooks meet a similar requirement?

Sections 1926.1425(c)(2) and 1926.1433(d)(4) do not apply to slings. However, if the use of slings without self-closing latches for a particular rigging job would be inconsistent with industry-recognized precautions designed to protect against the load becoming displaced, such as manufacturer's recommendations or a consensus standard for rigging, Oregon OSHA could cite such a hazard under the Oregon Safe Employment Act's general duty clause.

41. Must all cranes have outriggers?

No. Subdivision CC does not require all equipment to be equipped with outriggers. However, if the equipment is manufactured with outriggers, they must be either fully extended or, if the manufacturer's procedures permit, deployed as specified in the load chart.

42. Must outrigger position sensors/devices shut down equipment operation when outriggers are not extended in accordance with the load chart?

No. The outrigger sensor/device required by Subdivision CC must enable the operator to accurately confirm the position of the outriggers in order to comply with the manufacturer's procedures and load charts. However, this requirement does not prohibit advances in safety through design and engineering, such as when a manufacturer chooses to exceed OSHA's minimum safety requirements by equipping cranes with interlocks that prohibit operation if the outriggers are not extended properly.