



Roofing Contractor Compliance Program for Signal Persons Under the New Occupational Safety and Health Administration (OSHA) Crane Standard

NATIONAL ROOFING CONTRACTORS ASSOCIATION

Roofing Contractor's Compliance Checklist—Signal Persons

- Determine operations for which OSHA requires a qualified signal person to direct crane movement [see 29 CFR 1926.1419(a) and 29 CFR 1926.1400(c)(17)].
- Determine whether signal persons at your company will be assessed to have qualifications under the OSHA rule by a third-party qualified evaluator or qualified evaluator who is your employee [see 29 CFR 1926.1428(a)].
- Document for each qualified evaluator who is your employee relevant training, certificates, degrees, experience, licenses or other specialized knowledge that supports his or her capability to perform the function of assessing the qualification requirements of signal persons.
- Train workers who do not have the qualification requirements for signal persons set out in the new rule at 29 CFR 1926.1428(c).
- Train signal persons in the dangers related to power line contact [see 29 CFR 1926.1408(g)], including:
 - Procedures to follow in the event of the equipment contacting a power line
 - Presumption that power lines are energized
 - Presumption that power lines are uninsulated
- Have the qualified evaluator test and assess workers newly trained to meet the qualification requirements of the signal person rule and workers who already may meet the qualification requirements. Testing must be done with an oral or written test and a practical test to assess qualifications.
- Maintain documentation at job sites that specifies the type of signaling (hand, voice, etc.) for which the signal person has met the qualification requirements.
- Retrain and remove from signaling duties any worker whose subsequent signaling actions in the field indicate a lack of qualification requirements and have the qualified evaluator reassess whether the individual meets the signal person requirements.

Crane Signal Person Training Under OSHA's New Crane Standard

COMPLIANCE OVERVIEW FOR QUALIFIED EMPLOYER EVALUATORS

When is a signal person required during crane operations?

A signal person must be provided in each of the following circumstances [See 29 CFR 1926.1419(a)]:

- 1) If the crane operator does not have full view of the point of operation, that is the full travel route of the load or the area near or at the point that a load is to be placed
- 2) If the equipment is traveling and the operator's view of the travel direction is obstructed
- 3) If the operator or the person handling the load determines a signal person is necessary because of site-specific safety concerns

What qualifications* must a signal person have?

OSHA requires that a signal person [See 29 CFR 1926.1428(c)]:

- 1) Know and understand the type of signals used (hand, voice, audible or new signals)
- 2) Be competent in the application of the type of signals used
- 3) Have a basic understanding of crane operations and limitations, including the dynamics of swinging and stopping loads and boom deflection when hoisting loads
- 4) Know the OSHA rules related to all types of signals and signal person qualifications
- 5) Pass oral or written and practical tests to demonstrate compliance with the above qualifications

*A worker who does not have the qualifications in Nos. 1-4 must be trained by the employer on those requirements and then tested under No. 5. A worker who possesses those qualifications must successfully pass the tests under No. 5 as a means of evaluating those qualifications. The qualified evaluator does not necessarily have to be the individual to deliver that training but must evaluate all signal persons.

What documentation is required? [See 29 CFR 1926.1428(a)(3)].

- 1) The employer must have documentation at job sites that shows:
 - a. That the signal person meets the qualification requirements of the standard as determined by the employer's qualified evaluator or a third-party qualified evaluator
 - b. The types of signals (hand, voice, audible or new) that the signal person is qualified to use

KEY SIGNAL PERSON REGULATORY PROVISIONS IN SAMPLE TRAINING CONTENT FORMAT

Crane Operations Requiring a Signal Person

1. In roofing operations, a crane operator may not have full view of a load from the point where the load is first attached to the crane to where the load is placed. Examples of such instances include:
 - The roof of the building on which the load is placed or initially attached may have a substantial parapet wall blocking the view of the operator during the stage of load movement beyond the parapet.
 - The load may be placed or attached at a point significantly interior to the perimeter of the building so that the operator's angle of sight is blocked by the building.
 - Rooftop structures, mechanical equipment or architectural features, such as penthouses, HVAC units, water tanks or solar panels, may obstruct the operator's view.
 - Operations in dense urban areas may require setup of a crane somewhat removed from the building site, and other structures or large trees may obstruct the operator's line of sight.
 - Below-grade waterproofing operations may require load attachment or placement in areas at a distance below the grade on which the crane is set up resulting in an angle of sight that obstructs the operator's view.
2. Job-site conditions that require crane travel where the operator's view is obstructed are the exception on roofing job sites, but when they occur because of conditions such as adjacent structures, material staging areas, access road limitations or weather-related visibility issues, a signal person is required to direct the crane operator.
3. Site-specific safety concerns that may cause a crane operator or person handling a load to demand use of a signal person might include other crane or equipment operations such as concrete pumps, conveyors or pile drivers in close proximity to the subject crane's area of operation.
4. If crane operations take place inside the minimum clearance distances from power lines set out in 29 CFR 1926.1408 requiring a dedicated spotter, that individual must be qualified under the requirements for signal persons under 29 CFR 1926.1428.

Signal Person Qualifications

1. Knowledge and understanding of types of signals
 - a. Hand—Standard hand signals, which follow, are those found in Appendix A to Subpart CC of 29 CFR 1926. The hand signal chart must be posted on the equipment or in a conspicuous area in the vicinity of the hoisting operations. Use of other nonstandard hand signals is allowed if the operator, signal person and lift director (if any) meet before the start of the operation and agree on the hand signals to be used.
 - i. Signals must be given to an operator from the operator's direction perspective.

- ii. Only one person may give signals to a crane or derrick at a time; however, anyone who becomes aware of a safety problem must alert the operator or signal person by giving the “stop” or “emergency stop” signal.
 - iii. An operator must always obey a “stop” or “emergency stop” signal regardless of who gives such a signal.
- b. Voice—The crane operator, signal person and lift director (if any) need not communicate in English, but each must be able to communicate in whatever shared language is used. Before the start of operations, the crane operator, signal person and lift director must meet to agree on the voice signals that will be used.
- i. Each voice signal must contain the following three elements, which make up directions for a single, complete crane function from start of motion to end of motion:
 - 1. Function and direction (for example, “hoist—raise”; “boom—retract”)
 - 2. Distance and/or speed (for example, “slowly”; “10 feet”—with distances continuously signaled to the operator to keep the operator aware of load location, for example, “10 feet,” “5 feet,” “4 feet,” etc.)
 - 3. Function and stop command (for example, “hoist—stop”; “boom—stop”)
 - ii. Operations must be safely stopped by the operator if the ability to transmit signals between the signal person and the operator is interrupted at any time.
 - iii. Devices for transmitting a signal must be tested before the start of operations to make sure the signal is clear, effective and reliable.
 - iv. Signal transmission must be through a dedicated channel.
 - v. The crane operator’s reception of signals must be accomplished by a hands-free device.
- c. Audible—This type of signal may be accomplished through the use of bells, whistles, horns or buzzers. Its use is rare in the roofing industry, but examples of such signals might include: “stop”—one short blast; “hoist—raise”—two short blasts; “hoist—lower”—one long blast.
- d. New—These are signals other than hand, voice or audible signals that, to use, an employer must show are either:
- 1. Equally as effective a form of communication as other signals
 - 2. In compliance with a national consensus standard that provides equally effective communication as other signal types
2. Application of types of signals used
- a. The signals used and how they are transmitted to the crane operator must be appropriate for site conditions. For example, hand signals would not be proper if the crane operator’s view of the signal person during signaling of crane movement is blocked or obstructed.

- b. The signal person must be competent in applying the type of signals used in a given situation. This involves, for example, use of the proper hand or voice signal for the operation the signal person wants the crane operator to perform and the resulting action based on that signal. Most signals result in an easy-to-understand movement. For example, “hoist—lower” will lower the load, but a more complex result may occur when the signals “boom—retract” or “boom—extend” are given with a load suspended. The effect will be to raise or lower the load but also to move the load laterally in a certain direction, and a signal person must be aware of the result of the signal’s application.
3. Crane operations and limitations—The new OSHA qualification requirements for signal persons demand a basic understanding of how a crane operates and the limitations of the equipment. This includes crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads. This information may vary depending on the type and specific model of equipment used, but definitions of some basic terms and practical explanation of some core principles of crane dynamics applicable to all crane operations should be included in a training program and evaluated from written and practical test questions.

Terms related to crane operations defined in 29 CFR 1926.1401 of the new rule that would be useful for signal persons to read and understand include:

Audible signal

Blocking

Boom

Center of gravity

Counterweight

Dedicated spotter

Directly under the load

Electrical contact

Fall zone

Free fall of the load line

Load

Operational aids

Power lines

Proximity alarm

Qualified rigger

Rated capacity

Tagline

Signal persons should also be instructed in the dangers related to power line contact [see 29 CFR 1926.1408(g)], including:

- Procedures to follow in the event of equipment contacting a power line
 - Danger of an energized zone around equipment
 - Danger to the crew from touching the load or equipment
 - Safe clearance distances from power lines (see 29 CFR 1926.1408(a) and Table A, which is attached)
 - Presumption that power lines are energized
 - Presumption that power lines are uninsulated
4. OSHA rules—Workers qualifying to act as signal persons must be made aware of the relevant requirements of 29 CFR 1926.1419-1422 and 1428. General requirements for signals are found in 29 CFR 1926.1419. Section 1419(a) describes the three situations when a signal person is required under the new OSHA rule. The types of signals allowed (hand, voice, audible and new) are discussed in 1419(b), (c) and (d). The suitability of signals in relation to site conditions is discussed in 1419(e). Transmission interruptions, protocols for communicating safety problems to the signal person, emergency signaling, signaling perspective and multiple-crane signaling are discussed in 1419(f)-(m). Electronic transmission of signals is discussed in 1420(a), (b) and (c), and voice signals are discussed in more detail in 1421(a), (b) and (c). Posting of the hand signal chart is discussed in 1422, and signal person qualifications are set out in 1428.
5. Testing—The qualified evaluator is responsible for assessing the qualifications of signal persons by means of written and practical tests. However, the qualified evaluator may not necessarily facilitate the training required to qualify workers as signal persons. The written test of knowledge and understanding of the OSHA rules, types of signals and their application, and crane operations and limitations may also be given verbally. The practical test assesses the signal person's ability to properly describe the desired crane movement through the use of hand, voice, audible or new signals. A passing grade of 70 percent of the questions answered correctly is common in most testing protocols; however, a higher passing score may be appropriate because of the implications of a signal person not knowing how to properly signal all specific crane movements. It is anticipated that many students will require time to study and practice proper hand and voice signals with feedback from the instructor before taking the practical test. If your company does not use a specific type of signal, it is not necessary to spend time describing and teaching the particular requirements and features of that signal. A signal person who is trained in only certain types of crane signals must have those types set out on the documentation that he or she carries and the employer maintains at job sites.

Sample Written Signal Person Test

Name: _____ Date: _____

1. A crane operator must obey a “stop” or “emergency stop” signal:
 - a. Only if given by a qualified signal person
 - b. From a qualified signal person or foreman
 - c. From anyone who gives the signal to the operator
 - d. From a qualified signal person or certified crane operator
2. A device used to transmit signals to an operator must be tested on site:
 - a. Before beginning operations
 - b. After each shift
 - c. Only if found inoperable
 - d. Every five work days
3. Voice signals to a crane operator may only be given in English.
 - a. True
 - b. False
4. Each voice signal must contain the following three elements in this order:
 - a. Hoist/direction; boom/location; load/placement
 - b. Function/direction; distance/speed; function/stop
 - c. Line/direction; load speed/location; boom angle/deflection
 - d. Voice clarity; understandable language; repetition
5. The type of hand signals authorized by the OSHA crane rule is:
 - a. American National Standards Institute-approved
 - b. Nationally-accredited
 - c. The standard method
 - d. Line of sight

6. A signal person is required if:
 - a. A crane's rated capacity exceeds 2,000 pounds.
 - b. A load is in excess of 2,000 pounds.
 - c. A load has not been rigged by a qualified rigger.
 - d. A crane operator does not have full view of the point of operation.
7. Except for emergency situations, only one person may give signals to a crane operator at a time.
 - a. True
 - b. False
8. An example of an audible type of signal is:
 - a. The use of a two-way radio
 - b. A short horn blast
 - c. A dedicated channel radio
 - d. A hands-free cellular telephone connection
9. A dedicated spotter under the crane rules related to power lines must be a qualified signal person.
 - a. True
 - b. False
10. The signal to "move slowly" is given by:
 - a. Placing a hand in front of the hand giving the action signal
 - b. Tapping the top of the head with one hand
 - c. Rotating the fists around each other in front of the body
 - d. Holding hands together at waist level
11. Extending a telescoping crane's boom with the load line stopped and load suspended moves the load:
 - a. Higher and away from the crane
 - b. Lower and toward the crane
 - c. Lower and away from the crane
 - d. Higher and toward the crane

12. The signal to “swing” directs the crane operator to:
 - a. Reposition the crane in a different setup area
 - b. Hoist the load at a rapid speed
 - c. Release the load in an emergency maneuver
 - d. Move the boom to a different position
13. “With arm and index finger pointing down, hand and finger make small circles” is the description for the signal to:
 - a. Lower the boom
 - b. Dog everything
 - c. Lower
 - d. Swing
14. Once voice signals are agreed upon by the signal person and crane operator, these workers do not have to meet again to discuss signals unless:
 - a. Another worker is added or substituted
 - b. There is confusion about the voice signals
 - c. A voice signal needs to be changed
 - d. All of the above
15. All directions given to a crane operator must be given:
 - a. Based on north, south, east or west directions
 - b. Based on the 360-degree format
 - c. Using a clock face approach
 - d. From the operator’s direction perspective
16. Hand signal charts must be posted on the equipment or:
 - a. Maintained in the training files of the signal person and operator
 - b. Be readily available to any worker who asks to see them
 - c. Conspicuously posted in the vicinity of hoisting operations
 - d. Maintained in an electronic file accessible to the crane operator

17. An operator who becomes aware of a safety problem and needs to communicate with the signal person must first:
- Safely stop operations
 - Contact the job foreman
 - Give the “communication” hand signal to the signal person
 - Activate a warning bell or horn
18. When a signal person is in communication with more than one crane, a system must be used to identify the crane to which each signal is directed.
- True
 - False
19. When signal transmission is done electronically through a dedicated channel, multiple cranes and signal persons may share the channel for purposes of coordinating operations.
- True
 - False
20. “With arm extended horizontally to the side, thumb points down with other fingers closed” describes the hand signal for:
- Lower the boom
 - Trolley travel
 - Use main hoist
 - Retract telescoping boom

Signal Person Sample Test Answer Key

1. C
2. A
3. B
4. B
5. C
6. D
7. A
8. B
9. A
10. A
11. A
12. D
13. C
14. D
15. D
16. C
17. A
18. A
19. A
20. A

Signal Person Qualification Documentation

(Company name)

(Signal person name)

(Date qualified)

(Qualified evaluator's name and company)

Signal person training. (List here the date(s) that the named signal person was trained based on the qualification requirements of 29 CFR 1926.1428).

Other relevant signal person training, certifications and experience. (List specific courses, licenses, degrees, certifications or programs with dates of issue of certificates, licenses or course completion. Also list months and years of experience in field operations related to signaling).

Date of qualified evaluator's assessment that signal person named meets qualification requirements: _____

Types of signals for which qualified (circle all that apply): Hand Voice Audible New (describe below)

Signature of qualified evaluator

Signature of signal person

Date

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Qualified Signal Person's Wallet Card Template

Directions: Insert qualified signal person's name on line 1 and the type of signals the worker is qualified to give (hand, voice, audible) on the next line. The card must then be signed and dated by the qualified evaluator on the last line. Cut out card; laminate if desired; and instruct signal person to carry the card at all times on the job.

Qualified Crane Signal Person

This card documents that

_____ has met the
Qualification Requirements for Signal Person under
29 CFR 1926.1428 for _____ signals

(Signature, Qualified Evaluator, Date)

Sample Practical Signal Person Test Protocol

1. Hand Signals

Appendix A of the new crane standard contains illustrations depicting the proper way to signal 19 crane actions. Not all hand signals apply to every crane; for example, some crane signals apply to crawler crane or tower crane operations. If your company does not use such equipment, it would not be necessary to test workers on those signals.

The goal of the practical test is to evaluate workers' abilities to properly signal each specific crane movement they will use or are likely to use in the field. It is suggested each worker be assessed individually outside of a group or class setting on each of the crane movements they need to be able to signal. This can be done by the evaluator asking the worker to give the proper hand signal for each of the following 19 crane movements applicable to the signal person's duties using a scoring sheet similar to the one shown on the following page.

Hand Signal Evaluation Form

Worker name: _____

Qualified evaluator: _____

Company: _____

Date: _____

(Put a check in the box reflecting the worker's action in describing the crane movement indicated.)

- | | | |
|---------------------------------------|----------------------------------|------------------------------------|
| 1. Stop | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 2. Emergency stop | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 3. Hoist | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 4. Raise boom | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 5. Swing | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 6. Retract telescoping boom | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 7. Raise the boom and lower the load | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 8. Dog everything | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 9. Lower | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 10. Lower boom | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 11. Extend telescoping boom | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 12. Travel/tower travel | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 13. Lower the boom and raise the load | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 14. Move slowly | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 15. Use auxiliary hoist | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 16. Crawler crane travel, both tracks | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 17. Use main hoist | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 18. Crawler crane travel, one track | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 19. Trolley travel | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |

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2. Voice Signals

A practical test for the use of voice signals can be based on some of the crane movements described and illustrated in Appendix A and listed on the following page. The evaluator should be reminded that the OSHA rule requires all voice signals to contain the three elements listed in 29 CFR 1926.1421(b)—function/direction; distance/speed; function/stop—given in the described order and the evaluation process must recognize that requirement (for example, “hoist-raise”; “50 feet”; hoist-stop”). The format on the next page may be used as an evaluation. The evaluator may use some of the crane movements described but will have to inform the worker of a distance or speed component for the worker to properly execute the voice signal for evaluation purposes. If other voice signals or crane movements are used at your company in addition to, or in lieu of those listed workers should be trained and evaluated on those voice signals but each signal must have the three required elements to be considered correct.

Voice signal evaluation form

Worker name: _____

Qualified evaluator: _____

Company: _____

Date: _____

(Check each box if the worker includes the element in the voice signal described. All three boxes must be checked for a voice signal to be considered correct. Add addition movements if necessary.)

- | | | | |
|-----------------------------|---|---|--|
| 1. Hoist | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 2. Raise boom | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 3. Swing | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 4. Retract telescoping boom | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 5. Lower | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 6. Lower boom | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 7. Extend telescoping boom | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 8. Travel/tower travel | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |
| 9. Trolley travel | <input type="checkbox"/> Function/direction | <input type="checkbox"/> Distance/speed | <input type="checkbox"/> Function/stop |

3. Audible

If a bell, horn or whistle is used to direct crane movement, use the sheet on the next page to describe (in the blank spaces provided) the specific crane functions that workers have been trained to signal, and check the appropriate box next to the description indicating the worker's response. If audible signals are not used, it is not necessary to evaluate workers on their use.

Audible signal evaluation form

Worker name: _____

Qualified evaluator: _____

Company: _____

Date: _____

(List the crane movements for which audible signals are used, and check the box that reflects the worker's action in signaling the movement.)

- | | | |
|----------|----------------------------------|------------------------------------|
| 1. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 2. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 3. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 4. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 5. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 6. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 7. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |
| 8. _____ | <input type="checkbox"/> Correct | <input type="checkbox"/> Incorrect |

Qualified Evaluator's Worker Evaluation Tally Sheet—Signal Person

Worker's name: _____

Company name: _____

Date: _____

Written test score: _____

Practical test score: _____

Does the worker meet the signal person qualification requirements of 29 CFR 1926.1428? YES NO

Qualified evaluator's name: _____

Qualified evaluator's signature: _____

NATIONAL ROOFING CONTRACTORS ASSOCIATION

Roofing Contractor Assessment Tool for Qualified Riggers and Maintenance and Repair Personnel Under the New Occupational Safety and Health Administration (OSHA) Crane Standard

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Roofing Contractor's Compliance Checklist for Qualified Riggers and Maintenance and Repair Personnel

- Determine operations for which OSHA requires a qualified rigger [see 29 CFR 1404(r) and 1425(c)]. Riggers are required generally during assembly and disassembly of cranes if rigging is used and during lifts where workers are within the fall zone. Only qualified riggers may rig those loads under the new OSHA standard.
- Determine whether crane maintenance and repair personnel at your company are qualified to operate equipment within the scope of performing the maintenance and repair tasks assigned and to perform the specific maintenance and repair tasks related to crane operations [see 29 CFR 1429(a) and (b)].
- Document for each qualified rigger and maintenance and repair person relevant training, certificates, degrees, experience, licenses or other specialized knowledge that supports his or her capability to perform the specific functions related to your company's crane operations.
- Train qualified riggers and maintenance and repair personnel, under the new standard, in the dangers related to power line contact [see 29 CFR 1926.1408(g)], including:
 - Procedures to follow in the event of the equipment coming in contact with a power line
 - Presumption that power lines are energized
 - Presumption that power lines are uninsulated
- Document for each individual the dates, training providers, past experience, licenses, certificates, degrees or other training completed that help establish a worker's qualification as a qualified rigger or maintenance and repair person for crane operations. Provide wallet cards that workers may carry indicating the particular qualifications they have related to crane operations.

KEY REGULATORY PROVISIONS RELATED TO QUALIFIED RIGGERS AND CRANE MAINTENANCE AND REPAIR PERSONNEL IN SAMPLE TRAINING CONTENT FORMAT

Qualified Riggers

Riggers must follow the requirements found in Subpart H related to material handling (29 CFR 1926.251) when rigging loads. In addition, when rigging is required during assembly or disassembly of equipment covered by the new crane standard (essentially, any equipment that can hoist, lower and horizontally move a suspended load), it must be done by a qualified rigger.

- During assembly and disassembly operations, synthetic slings must be protected from abrasive, sharp or acute edges and sling configurations, such as distortion or localized compression, that could reduce a sling's rated capacity must be avoided [29 CFR 1926.1404(r)].
- When workers in the fall zone are engaged in hooking, unhooking or guiding a load or in the initial connection of a load to a component or structure:
 1. Materials must be rigged by a qualified rigger.
 2. Hooks with self-closing latches must be used.
 3. Materials must be rigged to prevent unintentional displacement.
- Only workers needed to receive a load are permitted within the fall zone when landing a load.

Power lines

According to the new OSHA crane standard, a qualified rigger must be trained in procedures to follow in the event of equipment contacting a power line. Included in the procedures must be information regarding the danger to the crane operator of touching energized equipment and the ground simultaneously. In addition, if a crane contacts a power line, it is critical to the safety of the crane operator that he or she remain in the crane cab unless a danger of fire or explosion overrides the electrical danger.

Qualified riggers must also be trained on:

- The safest means to evacuate energized equipment
- The danger of the ground being energized around equipment in contact with power lines
- The importance of instructing the crew not to approach or touch the equipment or load if a power line is contacted
- Safe clearance distances from power lines [generally, 20 feet but see 29 CFR 1408(a)-(e)]
- The presumption that power lines are energized
- The presumption that power lines are not insulated

Definitions

Terms related to crane operations defined in 29 CFR 1926.1401 of the new rule that would be useful for qualified riggers to read and understand include:

Attachments

Blocking

Boom

Center of gravity

Counterweight

Dedicated spotter

Directly under the load

Electrical contact

Fall zone

Free fall of the load line

Load

Nonconductive

Operational aids

Power lines

Proximity alarm

Qualified rigger

Rated capacity

Tagline

Two blocking

Wire rope

Maintenance and Repair Personnel

According to the new OSHA crane standard, maintenance, inspection and repair personnel may operate equipment covered under the rules if the operation is limited to functions necessary to maintain, inspect or verify the performance of the equipment. Maintenance, inspection and repair personnel who operate the equipment must do so under the direct supervision of a qualified or certified operator or be familiar with the operation, limitations, characteristics and hazards associated with the particular type of equipment.

Maintenance and repair personnel must meet the definition of qualified person with respect to the equipment and the maintenance and repair tasks they perform.

Power lines

According to the new OSHA crane standard, maintenance and repair personnel must be trained in procedures to follow in the event equipment contacts a power line. Included in the procedures must be information regarding the danger to the crane operator of touching energized equipment and the ground simultaneously. In addition, if a crane contacts a power line, it is critical to the safety of the crane operator that he or she remain in the crane cab unless a danger of fire or explosion overrides the electrical danger.

Maintenance and repair personnel also must be trained on:

- The safest means to evacuate energized equipment
- The danger of the ground being energized around equipment in contact with power lines
- The importance of instructing the crew not to approach or touch the equipment or load if a power line is contacted
- Safe clearance distances from power lines [generally, 20 feet but see 29 CFR 1408(a)-(e)]
- The presumption that power lines are energized
- The presumption that power lines are not insulated

Definitions

Terms related to crane operations defined in 29 CFR 1926.1401 of the new rule that would be useful for maintenance and repair personnel to read and understand include:

Attachments

Blocking

Boom

Center of gravity

Counterweight

Dedicated spotter

Directly under the load

Electrical contact

Fall zone

Free fall of the load line

Load

Nonconductive

Operational aids

Power lines

Proximity alarm

Qualified person

Rated capacity

Two blocking

Wire rope

Qualified Rigger Documentation

(Company name)

(Qualified rigger's name)

Specialized training. (List here the date(s) of delivery and program title(s) or description(s) that the named qualified rigger received training for rigging or rigging-related requirements in crane operations.)

Certifications, licenses and degrees. (List specific licenses, degrees and certifications with dates of issue of degrees, certificates and licenses related to rigging or material handling operations.)

Experience. (List months and years of experience in field operations related to rigging and material handling for crane operations.)

Signature of supervisor or safety director

Date

NATIONAL ROOFING CONTRACTORS ASSOCIATION

Crane Maintenance and Repair Personnel Documentation

(Company name)

(Maintenance and repair person's name)

Specialized training. (List here the date(s) of delivery and program title(s) or description(s) that the named worker received training for crane maintenance and repair operations.)

Certifications, licenses and degrees. (List specific licenses, degrees and certifications with dates of issue of degrees, certificates and licenses related to crane maintenance and repair operations.)

Experience. (List months and years of experience in field operations related to crane maintenance and repair operations.)

Signature of supervisor or safety director

Date

NATIONAL ROOFING CONTRACTORS ASSOCIATION

Qualified Rigger's Wallet Card Template

Directions: Insert qualified rigger's name on line 1 and company name on line 2. The card must then be signed and dated by the qualified rigger's supervisor. Cut out card; laminate if desired; and instruct the qualified rigger to carry the card at all times on the job.

<p style="text-align: center;">Qualified Rigger</p> <p style="text-align: center;">This card documents that</p> <p>_____ has met the</p> <p>Requirements for Qualified Rigger in Crane Operations at</p> <p>_____</p> <p style="text-align: center;">(Company Name)</p> <p>_____</p> <p style="text-align: center;">(Supervisor's Signature, Date)</p>

Crane Maintenance and Repair Person's Wallet Card Template

Directions: Insert crane maintenance and repair person's name on line 1 and company name on line 2. The card must then be signed and dated by the maintenance and repair person's supervisor. Cut out card; laminate if desired; and instruct the maintenance and repair person to carry the card at all times on the job.

<p>Crane Maintenance & Repair Person</p> <p>This card documents that</p> <p>_____ has met the</p> <p>Requirements for Crane Maintenance & Repair Person at</p> <p>_____</p> <p>(Company Name)</p> <p>_____</p> <p>(Supervisor's Signature, Date)</p>
