

**Cranes and Derricks in Construction: Operator Qualification
Section 1926.1427(a)--Operator Training, Certification, and Evaluation**

SUMMARY

Introduction

The Crane and Derrick Standard establishes minimum requirements for determining operator competency. An employer's duty is to ensure the competency of crane operators through required training, certification or licensing, and evaluation to be qualified.

The employer's responsibility is to ensure that each operator is certified/ licensed in accordance with subpart CC, and is evaluated on his or her competence to safely operate the equipment that will be used, before the employer permits him or her to operate equipment without continuous monitoring.

Exceptions. Operator certification/licensing and training is not required for operators of derricks (see Sec. 1926.1436), sideboom cranes (see Sec. 1926.1440), or equipment with a maximum manufacturer-rated hoisting/lifting capacity of 2,000 pounds or less (see Sec. 1926.1441).

Note: The training requirements in those other sections continue to apply (for the training requirement for operators of sideboom cranes, follow section 1926.1430(c)).

Operator Certification/Licensing

The employer must ensure that each operator is certified or licensed by December 10, 2018, to operate the equipment. Certification can be by: (1) Type; or (2) Type and Capacity.

Certifications must be based on the following:

- A determination through a written test that the individual knows the information necessary for safe operation of the specific type of equipment the individual will operate, including all of the following:
 - The controls and operational/performance characteristics.
 - Use of, and the ability to calculate (manually or with a calculator), load/capacity information on a variety of configurations of the equipment.
 - Procedures for preventing and responding to power line contact.
 - Technical knowledge of the subject matter criteria listed in appendix C of this subpart applicable to the specific type of equipment the individual will operate. Use of the appendix C criteria meets the requirements of this provision.
 - Technical knowledge applicable to the suitability of the supporting ground and surface to handle expected loads, site hazards, and site access.
 - The individual is able to read and locate relevant information in the equipment manual and other materials.

- A determination through a practical test that the individual has the skills necessary for safe operation of the equipment, including the following:
 - Ability to recognize, from visual and auditory observation, the items listed for shift inspections.
 - Operational and maneuvering skills.
 - Application of load chart information.
 - Application of safe shut-down and securing procedures.

Certification/License Types and Criteria

Employers must provide operator certification/licensure to the employee at no cost to employees.

- Licensing.
When a state or local government issues operator licenses for equipment covered under subpart CC, the equipment operator must be licensed by that government entity for operation of equipment within that entity's jurisdiction if that government licensing program meets the following requirements:
 - The requirements for obtaining the license include an assessment, by written and practical tests, of the operator applicant regarding, at a minimum, the knowledge and skills listed for certification;
 - The testing meets industry-recognized criteria for written testing materials, practical examinations, test administration, grading, facilities/equipment, and personnel;
 - The government authority that oversees the licensing department/office has determined that the requirements for certification have been met;
 - The licensing department/office has testing procedures for re-licensing designed to ensure that the operator continues to meet the technical knowledge and skills requirements of certification;
 - The license must specify the type, or type and capacity, of equipment for which the individual is licensed; and
 - A license is valid for the period of time stipulated by the licensing department/office, but no longer than 5 years.
- Certification by an accredited crane operator testing organization.
For a certification to satisfy the requirements of this section, the crane operator testing organization providing the certification must:
 - Be accredited by a nationally recognized accrediting agency;
 - Administer written and practical tests that assess the operator knowledge and skills to show that the individual knows the information necessary for safe operation of the specific type of equipment the individual will operate;
 - Provide certification based on equipment type, or type and capacity. If no accredited testing agency offers certification examinations for a particular type of equipment, an operator will be deemed certified for that equipment if the operator has been certified for the type that is most similar to that equipment and for which

- a certification examination is available. The operator's certificate must state the type of equipment for which the operator is certified;
- A certification is portable among employers who are required to have operators certified under this option; and
 - A certification is valid for 5 years.
- Audited employer program.
The employer's certification of its employee must meet all of the requirements of an accredited agency's program.
 - It is NOT portable and is only valid while working for that employer.
 - A certification is valid for 5 years.
 - Qualification by the U.S. military
An operator who is an employee of the U.S. military meets the requirements of this section 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.

Certification language and literacy requirements

Tests may be administered verbally, with answers given verbally, where the operator candidate:

- Passes a written demonstration of literacy relevant to the work; 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.

Tests may be administered in any language the operator candidate understands, and the operator's certification documentation must note the language in which the test was given. The operator is only permitted to operate equipment that is furnished with materials required by this subpart, such as operations manuals and load charts that are written in the language of the certification.

Employer/Operator Training

The employer must assure each operator is trained or train each operator as an operator-in-training on the safe operation of the equipment the operator will be using.

An employee who has not been certified/licensed and evaluated as qualified may only operate the equipment as an operator-in-training under supervision of an operator trainer. The employer must provide each operator-in-training with sufficient training, through a combination of formal and practical instruction, to ensure that the operator-in-training develops the skills, knowledge necessary to operate the equipment safely for assigned work as well as the ability to recognize and avert risk.

The employer must provide instruction on the knowledge and skills needed to operate the crane in its various configurations and as described under the Evaluation section.

The employer may only assign tasks within the operator-in-training's ability. However, except as provided in paragraph (b)(3)(v) of this section, the operator-in-training shall not operate the equipment in any of the following circumstances unless certified in accordance with paragraph (c) of this section:

- If any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone (see Sec. 1926.1408(a)(1)), could get within 20 feet of a power line that is up to 350 kV, or within 50 feet of a power line that is over 350 kV.
- If the equipment is used to hoist personnel.
- In multiple-equipment lifts.
- If the equipment is used over a shaft, cofferdam, or in a tank farm.
- In multiple-lift rigging operations, except where the operator's trainer determines that the operator-in-training skills are sufficient for this high-skill work.

Trainer

While operating the equipment, the operator-in-training must be continuously monitored by an individual ("operator's trainer") who meets all of the following requirements:

- The operator's trainer is an employee or agent of the operator-in-training's employer.
- The trainer has the knowledge, training, and experience necessary to direct the operator-in-training on the equipment in use.
 - This is a performance-based qualification.
 - Employers would determine the level of knowledge and experience that the trainer must possess based on the skill level of the operator-in-training and the nature of the activity performed.
 - The trainer's experience with the task and equipment used could be sufficient for experienced personnel to provide training even without being a certified operator.
- While monitoring the operator-in-training, the operator's trainer performs no tasks that detract from the trainer's ability to monitor the operator-in-training.
- For equipment other than tower cranes: The operator's trainer and the operator-in-training must be in direct line of sight of each other. In addition, they must communicate verbally or by hand signals.
- For tower cranes, the operator's trainer and the operator-in-training must be in direct communication with each other.

Continuous Monitoring of Operators-in-Training

The employer must ensure that an operator-in-training is continuously monitored by a qualified trainer when operating the equipment. The only exceptions to Continuous Monitoring are for short breaks where all of the following are met:

- The break lasts no longer than 15 minutes and there is no more than one break per hour;
- Immediately prior to the break the operator's trainer informs the operator-in-training of the specific tasks that the operator-in-training is to perform and limitations to which he/she must adhere during the operator trainer's break; and

- The specific tasks that the operator-in-training will perform during the operator trainer's break are within the operator-in-training's abilities.

Retraining

The employer must provide refresher training in relevant topics for each operator when, based on the performance of the operator or an evaluation of the operator's knowledge, there is an indication that retraining is necessary. This may include operating a different type of equipment such as moving from an all-terrain hydraulic crane to a crawler truss boom crane. It could also include essentially different configurations such as much longer booms or jibs.

Qualification of the Operator by an Employer 1926.1427(f)

Effective February 7, 2019, the employer must assure through an evaluation that each operator is “qualified” to operate the equipment they are using.

The definition of “qualified” in section OSHA 29CFR 1926.32 does not apply to crane operator evaluation and qualification. Possession of a certificate or degree cannot, by itself, cause a person to be qualified for crane operation.

The Standard establishes minimum requirements for determining operator competency to be qualified. An operator can be qualified by the employer if:

- The operator is fully trained in the operation of the equipment he/she will operate;
- Is certified or licensed as described in Certification/Licensing; and
- Has been fully evaluated by the operator’s employer’s trainer on the equipment he/she will operate

Qualification is valid only where the operator is employed by (and operating the equipment for) the employer that issued the qualification and is NOT portable.

Qualification is valid for the period of time stipulated by the employer.

Evaluation to be Qualified

The operator must be qualified through an evaluation by the employer. The employer must ensure that each operator demonstrates the skills and knowledge necessary to operate the equipment safely as well as the ability to recognize and avert risk including use of safety devices, operational aids and software.

The operator must be evaluated based on the size and configuration of the equipment used such as:

- lifting capacity
- boom length
- attachments
- luffing jib
- counterweight set-up

The operator must also be evaluated on his or her ability to perform the hoisting activities required for assigned work, such as:

- communicating with qualified signalers
- blind lifts
- personnel hoisting
- multi-piece lifting
- multi-crane lifts
- barge work

An evaluation is not required in every crane. The operator can be considered qualified to operate other cranes as long as the employer can show that they are similar to the crane that the operator was originally evaluated and qualified in.

A new evaluation is not necessary when a crane is moved as long the configuration of the crane and the conditions the crane will operate under are essentially similar to the crane the operator was originally evaluated and qualified in.

For operators employed prior to December 9, 2018, the employer may rely on its previous assessments of the operator in lieu of conducting a new evaluation of that operator's existing knowledge and skills.

It is the employer's responsibility is to ensure that each operator is evaluated on his or her competence to safely operate the equipment that will be used, before the employer permits him or her to operate equipment without continuous monitoring.

Evaluator

The evaluation must be conducted by an individual who has the knowledge, training, and experience necessary to assess equipment operators.

The evaluated does not need to be a certified operator. The evaluator can be the same individual as the trainer as long as he or she is qualified to perform both roles.

The evaluator must be an employee or agent of the employer. Employers that assign evaluations to an outside agent retain the duty to ensure that the requirements for qualification are satisfied.

Once the evaluation is completed successfully, the employer may allow the operator to operate other equipment that the employer can demonstrate does not require substantially different skills, knowledge, or ability to recognize and avert risk to operate.

Documentation - Paragraph (f)(6)

The employer must document the completion of the evaluation. This document must provide:

- the operator's name;
- the evaluator's name and signature;
- the date; and
- the make(s), model(s), and configuration(s) of equipment used in the evaluation.

The employer must make the documentation available at the worksite while the operator is employed and operating the equipment.

For operators that were assessed prior to December 9, 2018, the documentation must reflect the date of the employer's determination of the operator's abilities and the make(s), model(s) and configuration(s) of equipment on which the operator has previously demonstrated competency.

Derricks - 1926.1436

The employer must train each operator of a derrick on the safe operation of equipment the individual will operate. Section 1926.1427 (Operator training, certification, and evaluation) does not apply, except for the evaluation requirements of Sec. 1926.1427(f).

Sec. 1926.1440 Sideboom cranes.

Sec. 1926.1441 Equipment with a rated hoisting/lifting capacity of 2,000 pounds or less.