

**USACE Crane Operator Certification/Qualification Options for
Contractor Operators
June 2012**

Presented here is a detailed description of USACE crane operator certification/qualification options available for Contractor crane operators.

- The first section details requirements presented in EM 385-1-1, Interim Change #6 which was effective 5 July 11 and the actual Change #6 text is presented after the explanatory material.
- The second section clarifies the requirements in EM 385-1-1, 2008 original text and the actual 2008 EM 385-1-1 text follows the explanatory material.

1. 2008 EM 385-1-1, CHANGE #6 Crane Operator Requirements:

All the requirements in 16.B.01 and 02 apply to all operators regardless of manner in which they become certified – to include successful completion of a written examination and practical examination.

16.B.03 states that the EMPLOYER is required to ensure his/her operators are designated as qualified and/or certified operators for whatever they are operating (Type, Class and Capacity).

16.B.03.a: Option 1 allows cranes operator to become qualified via an accredited crane operator testing organization. This means the testing organization must be accredited by a nationally recognized accrediting agency based on that agency's determination that industry recognized criteria for written testing materials, practical examinations, test administration, grading, facilities/equipment and personnel have been met.

This option has not changed from 2008 EM 385-1-1 requirements except for the fact that the last statement in 16.B.03.a (6) requiring equipment type and capacity on the license is not capable of being met at this time.

Explanation: Those testing agencies (i.e., NCCCO, NCCER, CIC, and others) that have achieved accreditation by the nationally recognized accrediting agencies do not list the class or capacity of equipment on the license. Instead, they list the type (TSS – Telescopic Boom Fixed Cab; TLL – Telescopic Boom Swing Cab; LBC – Lattice Boom Crawler Mounted; LBT – Lattice Boom Truck

Mounted, etc). Coordination with these testing agencies is being worked to see if USACE can impact their decision to ultimately list that information on the license. OSHA is going to issue an interpretation on the “capacity” issue but for now, based on the written and practical examinations, the operator is determined to be qualified by the employer (in writing) to operate DESIGNATED equipment (type, class and Capacity).

16.B.03.a(6) NOTE: States that “if no accredited testing agency offers certification examinations for a particular type and/or capacity of equipment, an operator will be deemed 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.”.

- Let’s say a contractor has a floating hydraulic pedestal mounted crane – there is no accredited organization that tests on floating cranes. So the operator, if they are after an Option 1 certification, would take the written/practical examination that most closely represents this equipment – he would take the TLL or TSS (depending on specific equipment) that he will operate. Once he successfully passes a written and practical exam on this type of equipment (which will be presented on a land-based crane in a land-based mode), the employer still needs to designate him as a qualified operator of this floating crane – meaning they know he can operate this floating crane successfully/safely. The employer will probably want to provide further hands-on training, and practical operational testing on this equipment to insure he truly is capable of operating it safely. Employer then designates this operator as a designated, qualified/certified operator for that specific type and class equipment.

16.B.03.b: Option 2 allows contractors to use a Qualified Person to qualify their operators as long as the program is an audited program and this documentation is submitted. The QP can be either 3rd party or in-house resource and can be used in lieu of a Certified Auditor until 14 Nov 2014 because a nationally accredited certified auditor program has not yet been developed.

A Qualified Person is defined in Appendix Q, EM 385-1-1.

The written and practical exams used shall either be those developed by an accredited testing organization (i.e., the organization is using NCCCO, NCCER, or others’ exams) OR the QP has approved them as meeting nationally recognized testing criteria per their auditing process. Program shall have been audited within 3 months of

existence and every 3 years afterwards and must meet the requirements in this paragraph.

So, what does a contractor submit to show that they are complying with Option 2 (refer to EM 385-1-1, Change #6, 16.B.03.b(1) – (6))?

- Identify and submit a resume' for the QP (whether in-house or external) detailing experience, training and skills with cranes, hoists, rigging and/or signal person-related work so that a determination can be made as to this individual's associated competency level;

- Names and resumes that include qualifications of personnel performing classroom training (if other than the Qualified Person), and administering the written and practical examinations shall be included.

- A memorandum/letter, signed by the QP, that states the program has been audited and confirming that the program is structured upon nationally accredited programs and that the written and practical examinations are being provided by an accredited testing organization OR that the examiner has approved these examinations as meeting nationally recognized testing criteria.

2008 EM 385-1-1, Change #6 Text

16.B PERSONNEL QUALIFICATIONS

16.B.01 Cranes and hoisting equipment shall be operated only by designated qualified personnel. Proof of qualification shall be provided by the employer and shall be in writing. In addition to fully qualified crane and hoisting equipment operators, the following personnel may be designated to operate cranes and hoisting equipment under limited conditions (may not perform critical lifts):

- a. Trainees under the direct supervision of the designated operator of the crane or hoist;

- b. Maintenance personnel who have completed all operator qualification requirements. Operation is limited only to those functions necessary to perform maintenance or verify performance of a crane or hoist;

- c. Inspectors who have completed all operator qualification requirements. Operation is limited only to functions necessary to accomplish inspection.

16.B.02 Crane Operator Requirements – General.

- a. Crane Operators shall be able to communicate effectively with the lift supervisor, rigger(s), flagmen and other affected employees on site.

b. Prior to the start of a specific activity or task, documentation of operator qualifications shall be included in the AHA and provided to the GDA (contractor operators) or the supervisor/leader of the activity/task (government operators).

c. Qualification for all crane operators shall be by successful completion of written and operational testing and designation of all crane/hoist operators shall be by the employer after review of the qualification documents.

d. All crane operators shall have knowledge of USACE crane safety requirements and manufacturer requirements and recommendations provided in the crane operator manual.

e. Crane operators shall demonstrate their ability to read, write and comprehend in the language of the crane manufacturer's operation and maintenance instruction materials, exhibit acceptable arithmetic skills and load/capacity chart usage and use written manufacturer procedures applicable to the class, type and capacity of equipment for which certification is being sought.

16.B.03 Crane Operator Qualifications and/or Certifications. The employer must ensure that, prior to operating any equipment covered under Section 16, the person operating the equipment is covered by paragraph 16.B.01, or is qualified or certified to operate the equipment in accordance with one of the following options:

a. **Option 1.** A current certification by an accredited crane operator testing organization. For a testing organization to be considered accredited to certify operators, it must:

(1) Be accredited by a nationally recognized accrediting agency based on that agency's determination that industry recognized criteria for written and practical testing materials, conditions and administration are being met;

(2) Administer written and practical tests that assess operator applicants regarding necessary knowledge and skills and that provided different levels of certification based on equipment capacity and type;

(3) Have procedures for operators to re-apply and be retested in event operator applicant fails a test or is decertified;

(4) Have testing procedures for recertification;

(5) Have accreditation reviewed by the nationally recognized accrediting agency at least every 3 years;

(6) An operator is deemed qualified to operate a particular piece of equipment for that class, type, and capacity of equipment or for higher - capacity equipment of that type and class. **The operator's certificate must state the type, class and capacity of equipment on which the operator was certified;**

➤ **NOTE: If no accredited testing agency offers certification examinations for a particular type and/or capacity of equipment, an operator will be deemed 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.**

(7) Issue a certification under this option that is portable and is valid for 5 years from date of issuance.

b. Option 2. Qualification by an audited employer program. The employer's qualification of its employee must meet the following requirements:

➤ **NOTE: This "audited" option is associated with a 4-year phase-in period which Industry is working to meet because the Certified Auditor program training and auditing criteria are not yet available. However, until the 14 Nov 2014 deadline, to meet this Option 2, in lieu of a "Certified auditor that is not an employee of the employer", the employer's qualification of its employees may be performed by a "Qualified Person that may be an employee of the employer". In addition, the following must be met:**

(1) Successful completion of written and practical tests that are either developed by an accredited crane operator testing organization (see Option 1 above) or approved by an auditor (Qualified Person) in accordance with the following:

(a) The auditor (Qualified Person) is certified to evaluate such tests by an accredited crane operator testing organization (see Option 1 above);

(b) The auditor is not an employee of the employer (see note above);

(c) The approval must be based on the auditor's determination that the tests meet nationally recognized test development criteria and are valid and reliable in assessing the operator applicants' knowledge and skill needed;

(d) The audit must be conducted in accordance with nationally recognized auditing standards.

(2) The employer program shall be audited within 3 months of the beginning of the program and every 3 years thereafter;

(3) The employer program shall have testing procedures for recertification;

(4) Any significant deficiencies identified by the auditor shall be corrected prior to further qualification of any operators;

(5) Records of audits shall be retained for 3 years and made available to the GDA upon request;

(6) A qualification issued under this option:

(a) is not portable. Such a qualification meets the requirements of this Section only where the operator is employed by (and operating the equipment for) the employer that issued the qualification;

(b) is valid for 5 years from date of issuance.

c. Option 3. Qualification by the U.S. Military

d. Option 4. Licensing by a State or Local Government Entity

Neither Option 3 or 4 are discussed here as these 2 options are not available to contractor operators.

16.B.04 USACE/U.S. Military Operator Qualification (to include DOD civilians).
Not discussed here – USACE-specific.

16.B.05 Operator Physical Qualifications/Examination. All crane/derrick operators shall be physically qualified to operate the equipment. **Physical examinations for operators are required to be conducted every 2 years** and any time a condition is observed that may impact safe operation. Written proof, **signed by a physician** stating that the operator has had a physical examination and meets the medical requirements set forth below shall be submitted to the GDA for acceptance prior to allowing an operator to operate the equipment.

➤ **Note: Operators of Hoisting Equipment are exempt from this requirement UNLESS this equipment is used to hoist/lift personnel. This activity is considered a Critical Lift and as such, requires a physical examination for the operator. See also 16.A.01.i and Section 16.U;**

a. Operators shall have a current physician's certification, dated within the past 2 years, that states the operator meets the following physical qualifications:

(1) Vision of at least 20/30 Snellen in one eye and 20/50 in the other, with or without corrective lenses;

(2) Normal depth perception and field of vision;

(3) Ability to distinguish colors, regardless of position;

(4) Adequate hearing, with or without hearing aid, for the specific operation;

(5) Sufficient strength, endurance, agility, coordination, manual dexterity, and speed of reaction to meet the demands of equipment operation;

(6) No tendencies to dizziness or similar undesirable characteristics; and

b. Evidence of physical defects, emotional instability that could render a hazard to the operator, others, or safe operation of the equipment, or evidence that the operator is subject to seizures or loss of physical control shall be sufficient reason for disqualification. In such cases, specialized medical tests may be required to evaluate these conditions and determine their impact.

c. All contractor crane/derrick operators shall participate in a drug testing program and have a negative result for a substance abuse test. The level of testing will be in accordance with standard practices for industry or by the agency's random drug testing program. This test will be confirmed by a recognized laboratory service.

16.B.06 Signal Person Qualifications. **I believe this section is self-explanatory and does not need further interpretation. Contractor/USACE/Gov't would submit signal person qualifications which would include 3rd party Qualified Evaluation or employer's QE documentation.**

a. All signal persons must be qualified by either a third party Qualified Evaluator or the employer's Qualified Evaluator.

b. Documentation must be provided by the Evaluator and must specify each type of signaling (e.g., hand signals, radio signals, etc.) for which the signal person meets the requirements of this section.

c. If subsequent actions by the signal person indicate that the individual does not meet the qualification requirement of this section the employer must not allow the individual to continue working as a signal person until retraining is provided and a re-assessment is made.

d. The qualification means that the Evaluator has assessed the individual's capabilities and has determined that the signal person has met the qualification requirements below:

(1) Know and understand the type of signals used (radio, cell, hand, etc). If hand signals are used, the signal person must know and understand the Standard Method for hand signals;

(2) Be competent in the application of the type of signals used;

(3) Have a basic understanding of crane operation and limitations, including crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads;

(4) Demonstrate that he/she meets the requirements above through a written and practical test.

e. An assessment by an employer's Qualified Evaluator is not portable other employers are not permitted to use it to meet these requirements.

2008 EM 385-1-1, Crane Operator Requirements:

All the requirements in 16.B.02 apply to all operators regardless of manner in which they become certified – to include successful completion of a written examination and practical examination.

16.B.03.a: Option 1 allows crane operator to become qualified via an accredited crane testing organization (NCCCO, NCCER, etc).

16.B.03.b: Option 2 allows contractors to use a 3rd party or in-house resource to qualify their operators as long as the program is an audited program and this documentation is submitted. The written and practical exams shall either be those developed by an accredited testing organization (i.e., the organization is using NCCCO, NCCER, or others' exams) OR the examiner has approved them as meeting nationally recognized testing criteria. Program shall have been audited by the employer within 3 months of existence and every 3 years afterwards.

2008 EM 385-1-1, Original Text

16.B PERSONNEL QUALIFICATIONS

16.B.01 Cranes and hoisting equipment shall be operated only by designated qualified personnel. Proof of qualification shall be in writing. In addition to fully qualified crane and hoisting equipment operators, the following personnel may be designated to operate cranes and hoisting equipment under limited conditions (may not perform critical lifts).

- a. Trainees under the direct supervision of the designated operator of the crane or hoist;
- b. Maintenance personnel who have completed all operator qualification requirements. Operation is limited only to those functions necessary to perform maintenance or verify performance of a crane or hoist;
- c. Inspectors who have completed all operator qualification requirements. Operation is limited only to functions necessary to accomplish inspection.

16.B.02 Crane Operator Requirements - General (excluding vehicle mounted, rotating aerial devices (i.e., bucket trucks), see Section 22.M; excluding hydraulic excavating equipment. > **See Section 16.S**).

a. Crane Operators shall be able to communicate effectively with the lift supervisor, rigger(s), flagmen and other affected employees on site.

b. Prior to the start of work, documentation of operator qualifications shall be provided to the GDA.

c. Qualification for all crane operators shall be by written examination and practical operational testing.

d. All crane operators shall have knowledge of USACE crane safety requirements and manufacturer requirements and recommendations provided in the crane operator manual.

e. Crane operators shall demonstrate their ability to read, write and comprehend in the language of the crane manufacturer's operation and maintenance instruction materials, exhibit arithmetic skills and load/capacity chart usage and use written manufacturer procedures applicable to the class/type of equipment for which certification is being sought.

16.B.03 Crane Operator Qualifications and/or Certifications. Crane operators shall possess at least one of the following licenses or certifications:

a. **Option 1.** A current certification by an accredited (a nationally recognized accrediting agency) crane/derrick operator testing organization. The organization shall:

(1) Administer written and practical tests that assess operator applicants regarding necessary knowledge and skills;

(2) Provide different levels of certification based on equipment capacity and type;

(3) Have procedures for operators to re-apply and be retested in event operator applicant fails a test or is decertified;

(4) Have testing procedures for recertification;

(5) Have accreditation reviewed by the nationally recognized accrediting agency at least every 3 years;

(6) A certification issued under this option is portable and is valid for 5 years from issuance.

b. Option 2. Qualification by a professional source that qualifies crane operators (e.g., independent testing and qualifying company, a union, or a qualified consultant who can be an in-house resource) as long as the program is an audited employer program. Employer's qualification of its employee shall meet the following:

(1) Administer written and practical tests that assess operator applicants regarding necessary knowledge and skills. These tests shall be either developed by an accredited crane/derrick operator testing organization (see Option 1 above) OR approved by an examiner in accordance with the following:

(a) The examiner is certified to evaluate such tests by an accredited crane/derrick operator testing organization (see Option 1 above);

(b) The approval shall be based on the examiner's determination that the tests meet nationally recognized test development criteria and are valid and reliable in assessing the operator applicant's knowledge and skill needed;

(2) The employer program shall be audited within 3 months of the beginning of the program and every 3 years thereafter;

(3) The employer program shall have testing procedures for recertification;

(4) Any significant deficiencies identified by the examiner shall be corrected prior to further qualification of any operators;

(5) Records of audits shall be retained for 3 years and made available to the GDA upon request;

(6) A qualification under this option is non-portable and is valid for 5 years from date of issuance.

c. Option 3. Qualification by the U.S. Military:

d. Option 4. Licensing by a Government Entity

Neither Option 3 or 4 are discussed here as these 2 options are not available to contractor operators.

16.B.04 USACE Examiner Qualifications. Not discussed here – USACE-specific.

16.B.05 Operator Practical Examination Requirements. Crane operators shall pass a practical operational test that demonstrates the following:

- a. Ability to recognize, from visual and audible observation, the items listed in 16.D.08 for shift inspections;
- b. Ability to establish a stable foundation and leveling the crane;
- c. Operating skills - Raising, lowering, extending, retracting, and swinging the boom, raising and lowering the load line;
- d. Attaching the load, holding the load, and moving the load;
- e. Reading and applying load, boom angle, and other indicator devices;
- f. Maneuvering skills; and
- g. Applying safe shut-down and securing procedures.

16.B.06 Operator Physical Qualifications/Examination. All crane/derrick operators shall be physically qualified to operate the equipment. Physical examinations for operators are required to be conducted every 2 years and any time a condition is observed that may impact the safe operation of a crane. Written proof, signed by a physician stating that the crane operator has had a physical examination and meets the medical requirements set forth below shall be submitted to the GDA for acceptance prior to allowing an operator to operate a crane.

a. Crane operators shall have a current physician's certification, dated within the past 2 years, that states the operator meets the following physical qualifications:

- (1) Vision of at least 20/30 Snellen in one eye and 20/50 in the other, with or without corrective lenses;
- (2) Normal depth perception and field of vision;
- (3) Ability to distinguish colors, regardless of position;
- (4) Adequate hearing, with or without hearing aid, for the specific operation;
- (5) Sufficient strength, endurance, agility, coordination, manual dexterity, and speed of reaction to meet the demands of equipment operation;
- (6) No tendencies to dizziness or similar undesirable characteristics; and
- (7) Has a negative result for substance abuse test.

b. Evidence of physical defects, emotional instability that could render a hazard to the operator, others, or safe operation of the crane, or evidence that the operator is subject to seizures or loss of physical control shall be sufficient reason for disqualification. In such cases, specialized medical tests may be required to evaluate these conditions and determine their impact.

c. All crane/derrick operators shall participate in a drug testing program and have a negative result for a substance abuse test. The level of testing will be in accordance with standard practices for industry or by the agencies random drug testing program. This test will be confirmed by a recognized laboratory service.

16.B.07 Signal Person Qualifications

a. The employer shall insure that the signal person is qualified either by a third party qualified evaluator or the employer's qualified evaluator.

b. The qualification means that the evaluator has assessed the individual's capabilities and knowledge and has determined that the individual meets the following qualification requirements:

(1) Know and understand the type of signals used (radio, cell, hand, etc). If hand signals are used, the signal person must know and understand the Standard Method for hand signals.

(2) Be competent in the application of the type of signals used.

(3) Have a basic understanding of crane operation and limitations, including crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.

(4) Demonstrate that he/she meets the requirements above through a practical test.