



**NATIONAL COMMISSION FOR THE
CERTIFICATION OF CRANE OPERATORS (NCCCO)**

CANDIDATE HANDBOOK

- **SIGNALPERSON**



BOARD OF DIRECTORS

This handbook and application packet for the NCCCO signalperson certification program contains a Candidate Written and Practical Examination Application form. Please read this handbook carefully and retain it for reference throughout the certification process.

Do not discard this document.

PRESIDENT

J. Chris Ryan

Boh Bros. Construction Co.

VICE PRESIDENT

Joseph Collins

Becht Engineering Co.

SECRETARY/TREASURER

Thom Sicklesteel

Sicklesteel Cranes

IMMEDIATE PAST PRESIDENT

John Kennedy

Manitowoc Crane Group

CHAIRMAN, COMMISSIONERS

Kerry Hulse

Deep South Crane & Rigging

Vinal George Bell

Cianbro Equipment

Dale Daul

McGough Construction

Peter Juhren

Morrow Equipment Co.

Tim Watters

Hoffman Equipment

EXECUTIVE DIRECTOR

Graham J. Brent

National Commission for the
Certification of Crane Operators

NCCCO does not discriminate against any individual because of race, gender, age, creed, disability, or national origin.



This NCCCO certification program is accredited by the American National Standards Institute (ANSI) to ISO 17024—General requirements for bodies operating certification systems of persons.



**ANSI Accredited Program
PERSONNEL CERTIFICATION**
0756
Mobile, Tower, and Overhead
Crane Operator, Signalperson, and
Rigger Level I Programs Accredited

Dear NCCCO Signalperson Certification Candidate:

Welcome to the National Commission for the Certification of Crane Operators (NCCCO) national signalperson certification program.

NCCCO is a nonprofit organization founded in 1995 to establish a fair and independent evaluation of crane operator knowledge and skills. Key to this industry-led effort was the development of NCCCO Written and Practical Examinations leading to nationally recognized credentials, first for mobile crane operators, then for operators of other types of cranes. As personnel responsibilities in the lifting industry have become better defined, NCCCO has also developed certification programs for other occupations involved, including those for riggers and signalpersons.

This nationally recognized and internationally accredited signalperson certification program is the culmination of many years' hard work by experts from the varied industries and groups that use cranes, including construction, steel erection, ironworkers, operating engineers, utilities, and crane rental firms. The NCCCO task force that developed this program was made up of experts from all aspects of the crane industry—crane operators, ASME B30 members, signalpersons, training directors, managers, supervisors, insurance representatives—who together represent many thousands of hours of crane operating and signaling experience. These volunteers gave freely of their time and expertise with the goal of improving the safety of all whose work brings them into contact with cranes and lifting equipment.

Until recently signalperson certification was voluntary unless required by local jurisdictions or specific employers. However, in November 2010 the federal Occupational Safety and Health Administration (OSHA) enacted new national standards for cranes and derricks used in construction under 29 CFR 1926 Subpart CC. These new rules state that signalpersons need to be qualified (rather than certified) by a qualified evaluator and that certification by an organization such as NCCCO meets this requirement. Qualification can be either through a third-party qualified evaluator (such as an accredited certification body) or through an employer's qualified evaluator. All signalpersons must be qualified and tested through a written or oral test and a practical test, and the qualification must be documented. CCO signalperson certification meets this requirement.

To ensure NCCCO examinations are—and remain—valid measurements of the proficiency of personnel in the lifting industry, NCCCO teamed the task force's knowledge and experience with the exam development expertise of International Assessment Institute (IAI). Based in Clearwater, Florida, IAI continually analyzes the performance of NCCCO exams and reports to NCCCO's Exam Management Committees, which also guide the development of new examinations. IAI also assists in the administration of NCCCO Written and Practical Examinations. To be able to provide fair and independent assessments, neither NCCCO nor IAI conducts training, nor do they provide training materials.

This candidate handbook has been developed to provide you with comprehensive information about the NCCCO Written and Practical Examinations required to become a certified signalperson. NCCCO recognizes the commitment you are about to make, and we want your experience to be a positive and successful one. If, after reading this handbook, there is anything you do not fully understand or need clarified, please call NCCCO at 703-560-2391 or e-mail info@nccco.org, and NCCCO staff will guide you through any aspects of the NCCCO national signalperson certification program that you would like explained in more detail.

Thank you for your interest—and good luck with your efforts to become CCO-certified!

This page intentionally left blank



Table of Contents

Introduction	1
Program Description	1
NCCCO Examination Development.....	1
Certification Policies	3
Eligibility.....	3
Experience	3
Certification Time Frames	3
Signalperson Practical Examination.....	3
Recertification	3
Code of Ethics for Signalpersons	3
Disciplinary Policy	4
Substance Abuse Policy	4
Certification Cards.....	4
Change of Address	4
Written and Practical Examination Process	5
Application Process to Take the Signalperson Examinations.....	5
Submission of Application	5
Examination Fees	5
Rescheduling, Cancellations, and Withdrawals.....	6
Test Administration Schedule for NCCCO Examinations	6
Application Deadlines.....	7
Admission Letters	7
Test Site Information	7
Test Scoring Information.....	7
Retaking the Examination(s)	8
Information Release Policy	8
Written Examination Outline	9
Sample Questions	11
Reference List	12
Practical Examination Outline	13
Candidate Instructions.....	13
Candidate ID and Signature.....	13
Post-Test Procedures.....	13
Candidate Forms	15
Candidate Application	17
Candidate Recertification Application	19
Change of Address Form.....	21

This page intentionally left blank



Introduction

PROGRAM DESCRIPTION

The National Commission for the Certification of Crane Operators (NCCCO) is an independent, nonprofit organization formed to establish and administer a nationwide program of certification for crane operators and associated personnel. NCCCO sets standards for measuring the knowledge and proficiency required for the safe operation of cranes, including signaling of mobile and tower cranes.

Based on extensive discussions with representatives from all segments of business and industry who recognize the impact of safety issues, NCCCO has identified the following potential benefits of signalperson certification:

- Fewer accidents, injuries, and fatalities
- Assurance of signalperson's abilities
- Reduced risk of loss
- Less property damage
- Improved safety records
- Enhanced public image of signalpersons

All signalperson candidates are required to pass both the Written and Practical Examination(s) to be certified.

The initial certification period is for five years, after which a signalperson is required to recertify. Periodic practical examination is necessary to ensure that certificants' knowledge of industry standards, equipment, and safety practices keeps pace with changes in these areas. NCCCO's subject matter experts, working in conjunction with psychometric consultants, reviewed the speed of such change in the industry and researched other comparable certification and licensing programs before determining that this goal could be achieved by setting the examination interval at five years; little, if any, additional benefit, it is believed, would accrue by more frequent testing. A written examination is not required for recertification.

NCCCO EXAMINATION DEVELOPMENT

The first step in the development of an objective test is to identify the knowledge necessary for safe signaling of crane operations. A representative number of crane operators and signalpersons then validated that the knowledge recommended by the experts is vital to safe operations. The content specifications and test blueprints were then generated from the validation study.

Development of the *Signalperson Written Examination* involved a panel of crane operation content experts who worked with the staff of International Assessment Institute to write and review all questions used in the examina-

tion. Each examination contains a unique combination of questions from the question bank. These questions are selected for the examination on the basis of the content areas defined by the test blueprints.

The *Signalperson Practical Examination* was developed as a fair and objective assessment of the essential skills a signalperson needs to signal mobile and tower crane operations safely.

These exams were developed over a one-year period by an NCCCO task force made up of experts from all aspects of the crane industry—crane operators, signalpersons, training directors, managers, supervisors, manufacturers, and ASME B30 members—who together represent many thousands of hours of crane operating experience.

NCCCO teamed its knowledge and experience with the exam development expertise of International Assessment Institute, which guided the NCCCO task force in establishing key elements of the program, including identifying essential skills, selecting tasks, standardizing test conditions, developing the scoring process, establishing reliability among tests, and creating flexible application and scheduling procedures.

In concert with the NCCCO task force, IAI also designed the Practical Examiner Accreditation Program whereby NCCCO trains and accredits NCCCO-certified signalpersons to administer NCCCO Practical Examinations.

This page intentionally left blank



Certification Policies

SIGNALPERSON PROGRAM

This information is specific to the signalperson program; information regarding other NCCCO certification programs is covered in their respective candidate handbooks.

ELIGIBILITY

To be eligible for CCO signalperson certification, candidates must:

- Be at least 18 years of age
- Comply with NCCCO Substance Abuse Policy
- Pass a Written Examination
- Pass a Practical Examination
- Comply with the Code of Ethics for Signalpersons

EXPERIENCE

NCCCO certification examinations are designed for signalpersons who are trained and who use hand and voice signals in crane operations.

CERTIFICATION TIME FRAMES

Candidates must pass both Written and Practical Examinations to be certified for a five-year period. The Written and Practical Exams may be taken in either order. Candidates have 12 months from the time they pass their first Written or Practical Exam in which to pass the corresponding (Written or Practical) Exam.

Any tests passed within a 12-month period count towards certification. For example, a candidate who fails the Signalperson Written Exam in January 2011 but passes the Signalperson Practical Exam in June 2011 has until June 2012 to retake (and pass) the Signalperson Written Exam.

SIGNALPERSON WRITTEN EXAMINATION

The Signalperson Written Examination consists of 60 multiple-choice questions. Candidates are allowed 60 minutes to complete the examination.

SIGNALPERSON PRACTICAL EXAMINATION

The Signalperson Practical Examination requires the candidate to demonstrate proficiency in giving both hand signals and voice commands. The practical exam also assesses the candidate's understanding of crane dynamics and crane operations per OSHA 29 CFR 1926.1428.

RECERTIFICATION

NCCCO certification is valid for five years. Candidates must complete their recertification requirements during the 12 months prior to their certification's expiration date.

Recertification requirements include:

- Passing the Recertification Practical Examination
- Compliance with the NCCCO Substance Abuse Policy
- Compliance with the Code of Ethics for Signalpersons

Recertification candidates are allowed two attempts to pass the Signalperson Recertification Practical Exam before their certification expires. Candidates who are unsuccessful after two attempts must take and pass the regular Signalperson Practical Exam.

Certified candidates may take their Recertification Practical Examination up to one year prior to their certification's expiration date. Regardless of the date of the recertification examination within that one-year period, the new five-year certification period begins from the date of expiration of the candidate's initial certification.

[Note: Candidates who recertify more than 12 months prior to their certification's expiration date will have their new certification period begin immediately, not from the end of their current certification period.]

Recertification exams are available at regularly scheduled test administrations. Candidates who want to recertify should contact the Test Site Coordinator who set up their initial certification exams. Candidates whose employment circumstances have changed should ask their new employer to schedule a practical test administration or visit the NCCCO website for a schedule of upcoming open Test Sites.

CODE OF ETHICS FOR SIGNALPERSONS

NCCCO-certified signalpersons must comply with the Code of Ethics for Signalpersons during their certification period, as defined below.

As an NCCCO-certified signalperson, I will perform my work in a manner:

- Free of bias with regard to religion, ethnicity, gender, age, national origin, and disability*
- So as to place the safety and welfare of workers associated with the lifting operation above all other considerations*
- So as to protect nearby general public property and the environment*

In addition, I will:

- Make my management aware if I have safety concerns relating to the lifting operations that I am engaged in*

- v. *Not knowingly violate safety-related regulations, warnings, or instructions set forth by OSHA, recognized safety standards, or the crane manufacturer*
- vi. *Not misrepresent or knowingly deceive others concerning my experience*
- vii. *Not misrepresent or misuse my certification card or the NCCCO logo, which are the property of NCCCO; I understand that I must return the card to NCCCO immediately if required to do so*

DISCIPLINARY POLICY

NCCCO's Ethics and Discipline Committee is responsible for establishing and implementing standards of conduct, such as ethical standards and policies and procedures for disciplinary action. Grounds for revocation of certification status include, but are not limited to, the following:

1. Period of certification exceeded without renewal
2. Evidence of falsification of any information on any documents submitted to NCCCO or its agents
3. Evidence of non-compliance with NCCCO's Substance Abuse Policy
4. Evidence of culpability in an accident during certification period
5. Evidence of non-compliance with the Code of Ethics

NCCCO has established policies and procedures to address alleged violations of the Code of Ethics fairly and consistently. The complaint procedures have been designed to ensure that only valid and actionable complaints are considered and investigated; they also ensure that all parties involved in the complaint have an opportunity to document circumstances warranting the complaint and to respond to the complaint.

NCCCO has a two-tier process to ensure that issues regarding the practice and conduct of certified signalpersons are fairly and reasonably investigated and determined; this process also ensures that the public is protected against unprofessional and unethical conduct by certificants. Complaints against certificants are initially investigated by NCCCO's Manager of Test Integrity, who reports to NCCCO's Ethics and Discipline Committee. If the complaint is considered actionable, the Ethics and Discipline Committee informs both the certificant and the complainant of the official opening of the investigation.

Following the investigation of the complaint, the Ethics and Discipline Committee informs the certificant and the complainant of its decision. If a sanction is imposed, the certificant may request an appeal of the decision to the NCCCO Board of Directors.

All appeals should be addressed to:

Executive Director
National Commission for the Certification of Crane Operators (NCCCO)
2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031

The decision of the NCCCO Board of Directors is final.

SUBSTANCE ABUSE POLICY

It is the policy of NCCCO that signalpersons shall not use a prescribed or over-the-counter substance that would impair their ability to signal cranes safely. This includes illegal drugs, controlled substances (including trace amounts), look-alike drugs, designer drugs, or any other substance that may have an effect on the human body of being a narcotic, depressant, stimulant, or hallucinogen.

An exception to this rule is that a signalperson may use such a substance or drug if it is prescribed by a licensed medical practitioner who is familiar with the signalperson's medical history and all assigned duties and who has advised the signalperson that the prescribed substance or drug will not adversely affect the signalperson's ability to signal a mobile or tower crane safely.

NCCCO-certified signalpersons shall comply with the substance abuse testing provisions of ASME B30.5. It is a condition of certification that signalpersons certified by NCCCO attest to their compliance with this Substance Abuse Policy. Non-compliance with this policy automatically revokes a candidate's certification status.

CERTIFICATION CARDS

Certified signalpersons receive a laminated photo ID card at no cost when they certify for the first time and when they complete the requirements for recertification.

A certified signalperson may only hold one certification card at a time. If a candidate has previously certified in another NCCCO program and subsequently becomes certified as a signalperson, he/she may request an updated certification card. Updated or replacement cards may be obtained from International Assessment Institute at a cost of \$25.

CHANGE OF ADDRESS

Certificants who change their address must notify NCCCO as soon as possible. Failure to do so may cause important updates on the NCCCO program to be missed that could affect a certificant's status.

Changes of address should be sent to International Assessment Institute (IAI). They must be in writing but can be sent via letter or fax. A form is provided for this purpose in this handbook.



Written and Practical Examination Process

APPLICATION PROCESS TO TAKE THE SIGNALPERSON EXAMINATIONS

First-time Signalperson candidates must take both written and practical exams at an approved NCCCO Unitary test site.

Pencil-and-Paper Option

Candidates desiring to sit for a pencil-and-paper written exam should visit nccco.org to see a schedule of upcoming Test Dates and Locations and then submit a completed Candidate Application form with the appropriate documentation and payment to NCCCO's testing partner IAI. Applications are due two weeks prior to the scheduled examination date. Application deadline examples are shown on page 7. Information about the specific locations of the Test Sites will be available approximately four weeks prior to the examination. Candidates eligible to sit for the examination will receive an admission letter approximately one week before the scheduled test administration date.

Computer-Based Testing (CBT) Option

Candidates needing to *retest for their written exam* (only) may use the CBT option. Retest candidates should visit nccco.org and click on the Computer-Based Testing link under Test Dates and Locations. The CBT Frequently Asked Questions page includes links to a directory of PSI/LaserGrade locations and an online application form. After the candidate completes and submits the online application, IAI will send an authorization email within 48 hours. After receiving the authorization email, **wait 24 hours**. Then call the number provided in the email to schedule the test(s) with LaserGrade; LaserGrade will send an appointment confirmation email within 24 hours. Go to the selected test center at the scheduled date and time. Bring a valid photo ID and the authorization email, but be aware that materials such as cell phones, calculators, hats, coats, and bags are not permitted in the test room. Test results are available immediately.

Candidates Requesting Testing Accommodations

Arrangements for persons with disabilities will be provided upon request, in conformance with the Americans with Disabilities Act (ADA). Professional documentation in support of a request for accommodation must be submitted to NCCCO no later than four weeks prior to the scheduled test date. For further information, see the complete NCCCO Testing Accommodations Policy at: <http://www.nccco.org/general/accommodations.html>.

SUBMISSION OF APPLICATION

Candidate Application forms are located in the back of this handbook. Send completed Candidate Applications with the appropriate fees—as well as any correspondence and requests for information concerning the administration of the NCCCO certification examinations—to:

International Assessment Institute
—Attention: NCCCO Testing
4141 S. Highland Drive, Suite 225
Salt Lake City, Utah 84124
Phone: 727-449-8525
Fax: 801-938-9540

Check the application to ensure that all information is accurate and complete. In addition to the completed application, make sure to enclose the appropriate fees.

Candidates may also register for either CBT or paper-and-pencil exams and pay online at: www.iaixam.com.

Follow the directions carefully when filling in the information required. Incomplete applications, incorrect payment, and/or inaccurate documentation will delay the processing and incur additional fees.

Failure to follow instructions precisely could result in the candidate NOT being able to sit for the examination. Therefore, please be sure the application is complete and payment is correct.

Deadlines

Please note that all deadlines are UPON RECEIPT deadlines and that candidates and Test Site Coordinator are solely responsible for making sure that completed and accurate applications reach International Assessment Institute by the stated deadline.

EXAMINATION FEES

The appropriate fee must be enclosed with the completed application. Checks and money orders payable to *International Assessment Institute* are preferred. Candidates may also pay by credit card (VISA, MasterCard, or American Express). Do not send cash. Please do not staple checks or money orders to the application form, but do include payment in the envelope with all the other application materials.

All returned checks are subject to a \$30 fee.

Exam Fees for Signalperson candidates only:

- Signalperson Written and Practical Exams \$190

Retest Fees:

- Signalperson Written Exam—Retest \$95
- Signalperson Practical Exam—Retest \$95

Combined Signalperson & Rigger Level I Fees

- Signalperson & Rigger Level I Written and Practical Exams \$250

Exam Fees for current NCCCO card holders:

- Signalperson Written and Practical Exams \$100
- Signalperson & Rigger Level I Written and Practical Exams \$200

Retest fees for current NCCCO card holders:

- Signalperson Written Exam—Retest \$50
- Signalperson Practical Exam—Retest \$50

Other Fees:

An additional \$50 late fee will be charged if an application is late.

An additional \$25 fee will be charged if a candidate:

- Wishes to reschedule without a valid reason (see Emergency Cancellations or Withdrawals)
- Needs a duplicate/replacement certification card or score report

An additional \$30 fee will be charged if:

- An application form is incomplete
- Full payment is not submitted
- A credit card cannot be processed for any reason
- A check is returned
- A candidate wants to add to or change the exams he/she plans to take after scheduling has been completed (in addition to the exam fee)

All application materials must be received at International Assessment Institute's office according to the sample test schedule outlined below.

Applications received after the main application deadline, but at least four business days prior to the exam administration deadline, will be accepted for an additional \$50 late fee. For example, for a test administration on a Saturday, late applications that arrive at IAI's testing office by 5 p.m. (ET) on the Monday evening prior to the test will be accepted. Candidate applications that arrive after that time cannot be accepted.

Walk-in candidates cannot be accepted under any circumstances.

RESCHEDULING, CANCELLATIONS, AND WITHDRAWALS

Should a candidate be unable to sit for the examination, International Assessment Institute **must** receive notification in writing no later than seven business days prior to the scheduled examination date. Fees will be held until the exam is rescheduled, at which time the candidate will need to pay an additional \$25 rescheduling fee.

Candidates who wish to reschedule their NCCCO Written Examination(s) **must** notify International Assessment Institute and submit the necessary documentation and fees to International Assessment Institute by the deadline for the rescheduled test date.

Candidates withdrawing or canceling after the deadline or not sitting for the examination will forfeit all application fees and will NOT receive a refund.

Emergency Cancellations or Withdrawals

ONLY the following situations will be accepted as grounds for emergency cancellations or withdrawals:

- ***Called to work***—supporting documentation required: *letter from employer*
- ***Candidate illness***—supporting documentation required: *doctor's note*
- ***Family death***—supporting documentation required: *death certificate or obituary notice*

Requests for medical and personal emergency withdrawals are handled by International Assessment Institute upon submission of a letter describing the situation. Full name, address, and social security number must be included along with the scheduled test date, site number, and supporting documentation indicated above.

International Assessment Institute MUST receive written notification within seven business days after the scheduled examination date or all application fees will be forfeited. Candidates will, however, be allowed to reschedule for a future examination administration.

Candidates will NOT receive a refund if they decide they no longer wish to take the test.

TEST ADMINISTRATION SCHEDULE FOR NCCCO EXAMINATIONS

The NCCCO signalperson examinations are available for administration on demand with at least four weeks' notice.

APPLICATION DEADLINES

Tests can be administered at any time as long as the application deadlines are adhered to. Sample deadlines shown are for a test date of January 29.

		January						
		S	M	T	W	Th	F	Sa
Unitary Test Site Application Request Form due four weeks prior to test date.	→	1	2	3	4	5	6	
Candidate Applications due two weeks prior to test.	→	7	8	9	10	11	12	13
	→	14	15	16	17	18	19	20
	→	21	22	23	24	25	26	27
Test Day	→	28	29	30	31			

ADMISSION LETTERS

Approximately one week before the scheduled test date, registered and eligible candidates approved to take the NCCCO signalperson certification examinations will receive an admission letter by mail. The admission letter will contain information regarding the test center address, the reporting time, the examination(s) the candidate is registered for, and the materials candidates need to bring with them on the day of the test administration. This admission letter must be presented at the Test Site to gain admittance to the examination(s).

TEST SITE INFORMATION

Identification at the Test Site

In addition to an admission letter valid for the specific test date, candidates must bring photo identification to the Test Site on the day of the administration. Candidates are required to show identification and sign the Test Site roster upon entry to the testing area. Acceptable forms of photo identification are:

- Passport
- Government-issued driver's license
- Work identification

Note: Candidates without appropriate identification documents will NOT be admitted to take the signalperson examination(s).

Materials to Bring to the Test Site

Each candidate must bring the following items to the test site:

- Valid photo identification
- Admission letter for the specific test date
- Two sharpened #2 pencils (to complete the examination answer sheet)
- A good eraser

Note: No books, scratch paper, calculators, beepers, cellular phones, or other materials will be allowed in the examination room.

Test Security

For the purposes of test security, candidates who sit for NCCCO examination(s) acknowledge that they understand the following:

- The examination is the exclusive property of NCCCO.
- The examination and the questions contained therein are protected by federal copyright law. No part of the examination(s) may be copied or reproduced in part or whole by any means whatsoever, including memorization.
- Theft or attempted theft of an examination booklet or any of its pages is punishable as a felony.
- Candidate participation in any irregularity occurring during the examination, such as giving or obtaining unauthorized information or aid, as evidenced by an observation or subsequent statistical analysis, may be sufficient cause to terminate participation, invalidate the results of the examination, or other appropriate remedy.
- Candidates verify that they are eligible to take this examination. If at any time it is confirmed that a candidate has not met all the requirements, the candidate will no longer be eligible for certification.
- A candidate's signature on the answer sheet for the administration of the examination confirms that the candidate has read and understands the above statements.

Candidate Question Comment Forms

Candidates can comment on the examination(s) as a whole or on specific items within an examination by writing the comments on the *Candidate Question Comment Form*. These comments should be accompanied by the candidate's name (which is optional), the specific examination and question referred to, the site code, and the test date. Examination comments are reviewed by NCCCO content experts on a regular basis.

Note: Only comments completed on the Candidate Question Comment Form at the test site will be considered for review.

TEST SCORING INFORMATION

Test Scoring—Written

NCCCO Written Examinations are criterion-referenced examinations; in other words, the passing score is set beforehand and candidate performance on the examination is not compared to the performance of others taking

the examination. In a criterion-referenced examination, a candidate must obtain a score equal to or higher than a predetermined passing score to pass the test. The passing score represents an absolute standard and is determined by a panel of NCCCO content experts using a psychometrically accepted standard-setting methodology.

Test Scoring—Practical

Candidate performance on the Practical Examination is recorded by Practical Examiners accredited by NCCCO. Examiner requirements include meeting NCCCO requirements for certification, passing the Written and Practical Exams, and successfully completing an accreditation workshop.

The testing procedure has been developed to provide the highest degree of standardization and reliability. The Practical Examiner's task is primarily to record the performance of the candidate. The scoring of candidates' performances is done off site at the facilities of International Assessment Institute.

Score Reporting—Written

The Written Examinations are electronically scored by International Assessment Institute. For this reason, it is important to complete the answer sheet according to the instructions provided by the Chief Examiner on the day of the exam. Candidates receive credit only for answers recorded on the scannable answer sheet.

Answers marked in the test booklet(s) will NOT be counted toward a candidate's score.

All candidates will receive a score report of their performance. Examination results are mailed to candidates approximately 12 business days after the examination administration.

In reporting the examination results to candidates, statistical procedures are used to convert raw scores (i.e., the number of test questions answered correctly) to scaled scores, which are the same for all administrations of the examination(s). The scaled score is not a number-answered-correctly score.

Candidate results are reported on a scale ranging from zero to 100 points, with a score of **70** representing the minimum passing score for the Signalperson written exam. Written exam score reports include a strength and weakness report by content domain.

Candidate scores cannot be given over the telephone.

Score Reporting—Practical

All candidates receive a score report of their performance. Examination results are mailed to candidates approximately 12 business days after the examination administration.

Candidate results will be reported as a percentage score, with a score of **75** representing the minimum passing score for the Practical Exam. Both the Practical Examination and the scoring system have been validated by NCCCO's pilot testing program and verified by International Assessment Institute.

Candidate scores cannot be given over the telephone.

Retest Policy for Practical Examination

If candidates think they may have failed the Practical Exam, they may attempt one additional Practical Exam after all candidates have tested, if time allows. No more than one additional attempt will be allowed.

Hand Score Requests

Candidates not passing the examination(s) may request from International Assessment Institute a hand scoring of the answer sheet(s), as long as the request is made in writing within three months of the test date. Requests must be accompanied by a processing fee of \$25 for each test score. Hand-scoring requests should be mailed to:

International Assessment Institute
— Attention: NCCCO Testing
600 Cleveland Street, Suite 900
Clearwater, Florida 33755
Phone: (727) 449-8525 Fax (727) 461-2746

In the event that the hand scoring of a failing candidate's answer sheet results in a passing score, the hand-scoring fee will be refunded in full.

Hand scored practical exam reports include details of a candidate's performance on each task.

RETAKE THE EXAMINATION(S)

Candidates who fail an examination(s) may retake the examination(s). They will need to reapply and pay all corresponding fees. Practical exam retests must be taken at Unitary Test Sites, while written exam retests may be taken at traditional test sites, Unitary test sites, or via computer-based testing (see page 5).

INFORMATION RELEASE POLICY

NCCCO may release any information regarding a candidate's examination application and a candidate's examination administration to any employer, regulatory agency, or any other person or entity that may inquire in writing to the Commission.

The name and certification status of individuals who have successfully passed NCCCO examinations may be published and released upon request to employers and other interested parties. NCCCO and International Assessment Institute will discuss score-related matters with the candidate or the candidate's legal representative only.



Written Examination Outline

SIGNALPERSON

The Written Examination for the NCCCO signalperson certification program tests the following knowledge areas:

Domain 1: Hand Signals

- Approximately 33% of test

Domain 2: Voice Communication

- Approximately 13% of test

Domain 3: Basic Knowledge of Crane Operations

- Approximately 27% of test

Domain 4: Situational Awareness (Site-Specific Considerations)

- Approximately 13% of test

Domain 5: Safety Standards and Regulations

- Approximately 13% of test

DOMAIN 1: HAND SIGNALS

Approximately 33% of test

1. Know the standard method hand signals for mobile cranes.
2. Know the standard method hand signals for tower cranes.
3. Understand the necessity of moving with the load while remaining visible to operator.
4. Know the importance of providing clear and visible hand signals.
5. Know the importance of keeping constant communication and understanding with the operator.

DOMAIN 2: VOICE COMMUNICATION

Approximately 13% of test

1. Know the proper use of the equipment being used, as well as its benefits and limitations.
2. Be aware of communication barriers, i.e. wind, language, interference.
3. Know the importance of ensuring fully charged batteries are used and the communication device is in acceptable working order.
4. Know the importance of keeping continuous communications and understanding with the operator.
5. Know the standard method pertaining to function/direction, speed and/or distance, and function/stop.

6. Understand the importance of operator perspective while swinging.
7. Know what action to take if the operator is not following signals correctly.

DOMAIN 3: BASIC KNOWLEDGE OF CRANE OPERATIONS

Approximately 27% of test

1. Know basic crane terminology and definitions.
2. Understand the effect of size, shape, weight, and center of gravity of load being lifted.
3. Understand boom deflection and how to compensate for it.
4. Know the effect a moving load has on a crane.
5. Understand that boom length, angle, and load weight may effect boom deflection.
6. Know the importance of keeping the hoist line vertical when a load is applied.
7. Understand what causes drift and how to compensate for it.
8. Know the effects of side loading.
9. Know the causes and consequences of two blocking.
10. Know the importance of keeping personnel from the load path.
11. Understand that when applying load to crane that center of gravity needs to be below the boom tip.

DOMAIN 4: SITUATIONAL AWARENESS (SITE-SPECIFIC CONSIDERATIONS)

Approximately 13% of test

1. Know the importance of reviewing lift requirements with site supervision/operator/crew.
2. Know how to identify and avoid hazards and obstacles.
3. Understand the effects of weather conditions.
4. Know how and when to use voice or hand signals.
5. Know emergency procedures.

DOMAIN 5: SAFETY STANDARDS AND REGULATIONS

Approximately 13% of test

1. Know the applicable OSHA and ASME standards, including but not limited to:
 - a. People under loads
 - b. Suspended personnel platforms
 - c. Hand signal posting requirements
2. Know electric power line hazards, applicable regulations, and safety practices.

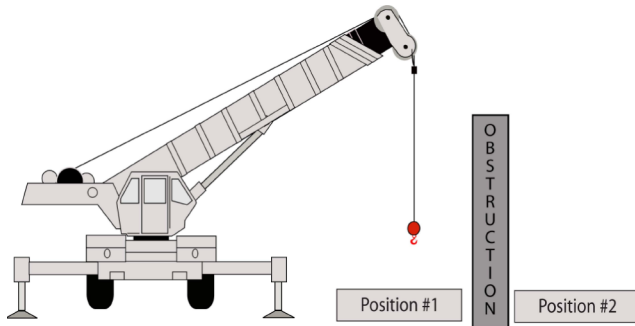


Sample Questions

The following are sample test questions typical of the style and content of the questions used in the NCCCO Signalperson Written Examinations. Additional sample questions can be found on NCCCO's website at <http://www.nccco.org/certification/SPSampleQuestions.html>.

1. What is the purpose of an anti-two block device?
 - a. Prevents contact between the load block and the boom point
 - b. Shuts down all crane functions
 - c. Prevents contact between the load block and the auxiliary ball
 - d. Prevents boom hoist-up function

2. With the boom fully retracted, which series of standard method hand signals would be required to move the hook from Position #1 to Position #2?
 - a. Hoist, stop, telescope out, stop, lower the hook, stop
 - b. Swing right, stop, boom down, stop, lower the hook, stop
 - c. Extend the boom, stop, boom down, stop, lower the hook, stop
 - d. Hoist, stop, boom down, stop, lower the hook, stop



3. When signaling a tower crane, which of the following is most reliable?
 - a. Two-way radio
 - b. Hard-wire intercom
 - c. Standard hand signals
 - d. Hands-free cell phone

4. What occurs when a heavy load is lifted?
 - a. Boom sag
 - b. Line pull increases
 - c. Boom deflection
 - d. Boom strength decreases

5. What is the signalperson directing the crane operator to do?



- a. Travel
 - b. Boom down and raise the load
 - c. Lower the load
 - d. Boom down
-
6. Which of the following describes the standard method hand signal to lower the hook?
 - a. With arm extended downward, forefinger pointing down, move hand in small horizontal circle.
 - b. Arm extended, fingers closed, thumb pointing downward.
 - c. With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.
 - d. One fist in front of chest, thumb pointing outward and heel of fist tapping chest.

A	6
D	5
C	4
B	3
A	2
A	1
Answer #	Question #



Reference List

The following reference materials are used by NCCCO's Examination Committee to verify the accuracy of NCCCO test questions. (Prices shown current at press time.)

ASME B30.5-2007 \$85.00
Mobile and Locomotive Cranes

Order by Internet: <http://catalog.asme.org>

Order by Mail:

American Society of Mechanical Engineers
22 Law Drive, Box 2900
Fairfield, NJ 07007
ph: 800-843-2763; fax: 201-882-1717

Payments accepted: Check, VISA, MasterCard, American Express, Discover, Diner's Club

OSHA 29 CFR 1926 Subpart CC—Cranes and Derricks in Construction

Download free PDF from:

http://www.osha.gov/FedReg_osha_pdf/FED20100809.pdf

Applicable sections start on Federal Register page 48135 (page 231 in PDF).

NCCCO SIGNALPERSON REFERENCE MANUAL

\$29.50

Order by Internet:

<http://www.nccco.org/store/index.html>

Download free PDF from:

<http://www.nccco.org/certification/signalperson.html>

This manual was created to assist candidates preparing to take the NCCCO signalperson certification examinations. The information contained in this manual has been compiled from a number of different sources. The sources and the relevant material selected for inclusion in the reference manual are as follows:

- ASME B30.5-2007 Mobile & Locomotive Cranes, Section 5-3.3: Signals
- ASME B30.3-2009 Construction Tower Cranes, Section 3-3.3: Signals
- OSHA 29 CFR Part 1926—Subpart CC: Cranes and Derricks Used in Construction (Sections 1419–1422, and 1428: Signalperson Requirements and Qualifications)
- Voice Signal Communication

Please note that candidates should be familiar with all sections of ASME B30.5-2007 and OSHA 29 CFR 1926 Subpart CC that are relevant to crane operations and signaling operations.



Practical Examination Outline

SIGNALPERSON

The following is an outline of the practical testing procedure, as provided to candidates at the time of testing.

CANDIDATE INSTRUCTIONS

The signalperson Practical Examination consists of 20 scenarios. There is no time limit for this examination. Candidates will typically complete the exam in approximately 15 minutes.

The Test Site Coordinator is responsible for setting the testing schedule. During the Practical Examination, candidates are under the direction of the Practical Examiner and must follow the Practical Examiner's directions at all times.

A Chief Examiner will also be present during Practical Examinations. The Chief Examiner's primary role is one of security and administration. He/She will not be able to provide information about the Practical Exam.

Only the candidate, Practical Examiner, and Chief Examiner are allowed in the testing area.

Prior to testing, you will watch a short video showing a typical Practical Examination as well as the following instructions:

1. There are two types of scenarios for which you will be asked to demonstrate proper hand or voice signals:
 - a. **Match Scenario:** In these scenarios, you observe the crane performing certain functions and give the necessary hand or voice signal(s) that match or matches the function.
 - b. **Candidate-Initiated Scenario:** In these scenarios, you give the necessary hand or voice signals to initiate and direct crane movement.
2. All signals must be given in accordance with current OSHA 1926 Subpart CC and ASME B30 standard signals (e.g., the *swing* signal is: Arm extended, point with finger in direction of swing of boom).
3. Make sure to give only one signal at a time.
4. Give all signals in a clear and precise manner.
5. Maintain the hand signal as long as the function is being performed. For voice signals, remember to maintain constant communication.
6. Remember to give *stop* signals whenever necessary.

NOTE: A proper *stop* hand signal is moving arm back and forth at least one time.

7. At no point in time will a signal be required that would result in an unsafe act. If at any time an unsafe act is being performed, immediately give an appropriate signal to stop the lift operation.
8. In scenarios where multiple signals are required, you must give all signals correctly to receive any points for that scenario (no partial credit).
9. During candidate-initiated scenarios, you will have up to five seconds to give the hand or voice signal.
10. During candidate-initiated scenarios, you will have **only** one attempt to reach the appropriate stopping area before giving the next function. You are not allowed to stop short and go further or go long and bring it back.
11. At the start of each scenario, the instructions will be shown on the screen and given verbally. You will be asked if you understand the instructions. Take time to make sure you understand the instructions before proceeding.
12. **Follow the instructions!** If you have any questions, ask the examiner before beginning each scenario.

CANDIDATE ID AND SIGNATURE

Prior to beginning the examination, the Practical Examiner will ask you for a photo identification, which you must provide in order to test.

The Practical Examiner will ask if you have read the Candidate Instructions and will answer any questions you may have. You will be asked to sign your application indicating you understand the instructions for the test.

POST-TEST PROCEDURES

Once you have completed the Practical Examination:

- The Practical Examiner will record your performance.
- The Practical Examiner is not permitted to review your score sheet or discuss your performance on the test.
- Exam results will be mailed to you within approximately 12 business days of International Assessment Institute's receipt of the score sheet.
- Once you have completed your test, you must leave the Test Site.

This page intentionally left blank



Candidate Forms

Please photocopy and complete all sides of the following forms when applying for NCCCO Written and Practical Examinations.

- **Candidate Application—Written and Practical Examinations: Rigger/Signalperson**
- **Candidate Recertification Application: Rigger/Signalperson**
- **Change of Address Form**

This page intentionally left blank



Candidate Application

WRITTEN & PRACTICAL EXAMINATIONS—RIGGER/SIGNALPERSON

Please type or print neatly.

NAME		First	Middle	Last
NCCCO CERTIFICATION NUMBER (if currently certified)			SOCIAL SECURITY #	
MAILING ADDRESS				DATE OF BIRTH
CITY			STATE	ZIP
PHONE	CELL	FAX		E-MAIL
COMPANY/ORGANIZATION			PHONE	
COMPANY MAILING ADDRESS				
CITY			STATE	ZIP
<input type="checkbox"/> I AM REQUESTING TESTING ACCOMMODATIONS IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA). (For details on NCCCO's Testing Accommodations policy, please see http://www.nccco.org/general/accommodations.html .)				
WRITTEN TEST SITE # (contact Test Site Coordinator)		DATE YOU INTEND TO TEST (MM/DD/YYYY)		TEST SITE COORDINATOR

Note: Applications received without a Test Site Number will be marked incomplete and cannot be processed. (Not applicable when Practical Exam is taken first.)

FILL IN the circles next to the exam(s) for which you are applying.

EXAM DESCRIPTION	EXAM FEES	RETEST FEES
<i>New NCCCO certification candidates only (includes CCO certification card):</i>		
<input type="radio"/> Rigger Level I (652801) & Rigger Level II (652802) Written and Practical Exams	\$250	<input type="radio"/> One Exam \$95
<input type="radio"/> Rigger Level I (652801) & Signalperson (652701) Written and Practical Exams	\$250	<input type="radio"/> Two Exams \$190
<input type="radio"/> Rigger Level I Written Exam (652801)	\$95	<input type="radio"/> Three or Four Exams \$250
<input type="radio"/> Rigger Level I Practical Exam	\$95	
<input type="radio"/> Rigger Level II Written Exam (652802)	\$95	
<input type="radio"/> Rigger Level II Practical Exam	\$95	
<input type="radio"/> Signalperson Written Exam (652701)	\$95	
<input type="radio"/> Signalperson Practical Exam	\$95	
<i>Current CCO card holders*:</i>		
<input type="radio"/> Rigger Level I Written Exam (652801)	\$50	<input type="radio"/> One Exam \$50
<input type="radio"/> Rigger Level I Practical Exam	\$50	<input type="radio"/> Two Exams \$100
<input type="radio"/> Rigger Level II Written Exam (652802)	\$50	<input type="radio"/> Three Exams \$150
<input type="radio"/> Rigger Level II Practical Exam	\$50	<input type="radio"/> Four Exams \$200
<input type="radio"/> Signalperson Written Exam (652701)	\$50	
<input type="radio"/> Signalperson Practical Exam	\$50	
<i>Other fees:</i>		
<input type="radio"/> *Updated/Replacement Certification Card (required for all current CCO card holders)		\$25
<input type="radio"/> Candidate Late Fee		\$50
<input type="radio"/> Incomplete Application Fee (see Candidate Handbook for details)		\$30
TOTAL AMOUNT ENCLOSED		\$

To receive discounted pricing, written exams must be taken at the same test administration. For logistical reasons it is recommended that candidates take no more than four exams on the same day.

CANDIDATE APPLICATION (CONT'D)

WRITTEN & PRACTICAL EXAMINATIONS—RIGGER/SIGNALPERSON

NCCCO CERTIFICATION CARD

Candidates who meet all the requirements for certification in any one category are issued a certification card at no charge. Replacement and updated cards are available for an additional fee; see previous page.

Please attach a passport color photo without hat or sunglasses, and enclose any required payment based upon the information listed below with your application form.

A digital photo may be substituted for a passport photo.

Attach Color
Passport Photo
Here

1-3/8" W x 1-3/4" H




Under penalties of perjury, I declare that the foregoing statements and those in any required accompanying documentation are true. I understand and agree that my failure to provide accurate and complete information or abide by NCCCO's policies and procedures, including the Code of Ethics, shall constitute grounds for the rejection of my application, or denial or revocation of my certification. I understand that NCCCO reserves the right to verify any information in this application or in connection with my certification. I consent to NCCCO's release of any information regarding this application and my examination administration to third parties. I have received a copy of the NCCCO Signalperson Candidate Handbook and have read it, and I do understand and agree to be bound by all prevailing NCCCO policies and procedures.

CANDIDATE SIGNATURE

DATE

METHOD OF PAYMENT FOR CANDIDATE EXAMINATION FEES

Do not send cash.


 
 
 Personal check enclosed
 Employer check enclosed
 Money order enclosed
 Please do not staple your check or money order.

If paying by credit card, complete the following information:

CREDIT CARD NUMBER	<input type="text"/>	EXPIRATION DATE	<input type="text"/>
NAME (Print as it appears on card)	SIGNATURE (on card)	SECURITY CODE*	<input type="text"/>

* Three- or four-digit security code located on the back of the card in the signature panel.

Checks and money orders should be payable to: International Assessment Institute—Attention: CCO Testing

Please send application and payments to:

International Assessment Institute—Attention: CCO Testing
 4141 S. Highland Drive, Suite 225
 Salt Lake City, Utah 84124

 Phone: 727-449-8525
 Fax: 801-938-9540

CANDIDATE APPLICATION CHECKLIST

- I have completed and signed the *Candidate Application*.
- I have provided credit card information or a check or money order for the correct amount.



Candidate Recertification Application

RIGGER/SIGNALPERSON

Please type or print neatly.

NAME		First	Middle	Last
NCCCO CERTIFICATION NUMBER (if currently certified)			SOCIAL SECURITY #	
MAILING ADDRESS				DATE OF BIRTH
CITY			STATE	ZIP
PHONE	CELL	FAX		E-MAIL
COMPANY/ORGANIZATION				PHONE
COMPANY MAILING ADDRESS				
CITY			STATE	ZIP
<input type="checkbox"/> I AM REQUESTING TESTING ACCOMMODATIONS IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA). (For details on NCCCO's Testing Accommodations policy, please see http://www.nccco.org/general/accommodations.html .)				
WRITTEN TEST SITE # (contact Test Site Coordinator)		DATE YOU INTEND TO TEST (MM/DD/YYYY)		TEST SITE COORDINATOR

Note: Applications received without a Test Site Number will be marked incomplete and cannot be processed.

FILL IN the circles next to the exam(s) for which you are applying.

EXAM DESCRIPTION	EXAM FEES
Recertification Exams (Signalperson and/or Rigger certified only):	
<input type="radio"/> Rigger Level I Recertification Written Exam	<input type="radio"/> One Exam \$95
<input type="radio"/> Rigger Level II Recertification Written Exam	<input type="radio"/> Rigger Level I & Rigger Level II Exams* \$145
<input type="radio"/> Signalperson Recertification Practical Exam	<input type="radio"/> Rigger Level I & Signalperson Exams \$190
	<input type="radio"/> All Three Exams \$240
Recertification Exams (current NCCCO-certified crane operators):	
<input type="radio"/> Rigger Level I Recertification Written Exam	<input type="radio"/> One Exam \$50
<input type="radio"/> Rigger Level II Recertification Written Exam	<input type="radio"/> Two Exams \$100
<input type="radio"/> Signalperson Recertification Practical Exam	<input type="radio"/> Three Exams \$150
Additional Exams (new certifications):	
<input type="radio"/> Rigger Level I Written Exam (652801)	<input type="radio"/> One Exam \$50
<input type="radio"/> Rigger Level I Practical Exam	<input type="radio"/> Two Exams \$100
<input type="radio"/> Rigger Level II Written Exam (652802)	<input type="radio"/> Three Exams \$150
<input type="radio"/> Rigger Level II Practical Exam	<input type="radio"/> Four Exams \$200
<input type="radio"/> Signalperson Written Exam (652701)	
<input type="radio"/> Signalperson Practical Exam	
Other Fees:	
<input type="radio"/> Updated Certification Card	\$25
<input type="radio"/> Candidate Late Fee	\$50
<input type="radio"/> Incomplete Application Fee (see Candidate Handbook for details)	\$30
TOTAL AMOUNT ENCLOSED (or amount to be charged to credit card)	\$ <input style="width: 100px;" type="text"/>

*To receive discounted pricing, Rigger Level I and Rigger Level II recertification exams must be taken at the same test administration.

CANDIDATE RECERTIFICATION APPLICATION (CONT'D)




RIGGER/SIGNALPERSON

Under penalties of perjury, I declare that the foregoing statements and those in any required accompanying documentation are true. I understand and agree that my failure to provide accurate and complete information or abide by NCCCO's policies and procedures, including the Code of Ethics, shall constitute grounds for the rejection of my application, or denial or revocation of my certification. I understand that NCCCO reserves the right to verify any information in this application or in connection with my certification. I consent to NCCCO's release of any information regarding this application and my examination administration to third parties. I have received a copy of the NCCCO Candidate Handbook, have read it, and understand and agree to be bound by all prevailing NCCCO policies and procedures.

CANDIDATE SIGNATURE	DATE
---------------------	------

METHOD OF PAYMENT FOR CANDIDATE EXAMINATION FEES

Do not send cash.

<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	Personal check enclosed	<input type="checkbox"/>	Employer check enclosed	<input type="checkbox"/>	Money order enclosed	<i>Please do not staple your check or money order.</i>
--------------------------	---	--------------------------	---	--------------------------	---	--------------------------	-------------------------	--------------------------	-------------------------	--------------------------	----------------------	--

If paying by credit card, complete the following information:

CREDIT CARD NUMBER	EXPIRATION DATE
--------------------	-----------------

NAME (Print as it appears on card)	SIGNATURE (on card)	SECURITY CODE*
------------------------------------	---------------------	----------------

* Three- or four-digit security code located on the back of the card in the signature panel.

Checks and money orders should be payable to: International Assessment Institute—Attention: CCO Testing

Please send application and payments to:

International Assessment Institute—Attention: CCO Testing
 4141 S. Highland Drive, Suite 225
 Salt Lake City, Utah 84124
 Phone: 727-449-8525
 Fax: 801-938-9540

CANDIDATE APPLICATION CHECKLIST

<input type="checkbox"/> I have completed and signed the <i>Candidate Application</i> . <input type="checkbox"/> I have provided credit card information or a check or money order for the correct amount.



Change of Address Form

Please use this form to advise of any changes of address. Please mail or fax this to:

International Assessment Institute (IAI)
600 Cleveland Street, Suite 900
Clearwater, Florida 33755

Phone: 727-449-8525
Fax: 727-461-2746

Please type or print neatly.

NAME	FIRST	MIDDLE	LAST
NCCCO CERTIFICATION NUMBER		SOCIAL SECURITY #	

OLD ADDRESS

MAILING ADDRESS			
CITY		STATE	ZIP
PHONE	FAX	E-MAIL	
COMPANY / ORGANIZATION		PHONE	
COMPANY MAILING ADDRESS			
CITY		STATE	ZIP

NEW ADDRESS

MAILING ADDRESS			
CITY		STATE	ZIP
PHONE	FAX	E-MAIL	
COMPANY / ORGANIZATION		PHONE	
COMPANY MAILING ADDRESS			
CITY		STATE	ZIP

EFFECTIVE DATE OF CHANGE

--

This page intentionally left blank

IMPORTANT CONTACT INFORMATION



NATIONAL COMMISSION FOR THE CERTIFICATION OF CRANE OPERATORS

2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031-4312

Phone: 703-560-2391

Fax: 703-560-2392

E-mail: info@nccco.org



INTERNATIONAL ASSESSMENT INSTITUTE

Attention: NCCCO Testing
600 Cleveland Street, Suite 900
Clearwater, Florida 33755

Phone: 727-449-8525

Fax: 727-461-2746



**NATIONAL COMMISSION FOR THE
CERTIFICATION OF CRANE OPERATORS**

2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031-4312

Phone: 703-560-2391

Fax: 703-560-2392

info@nccco.org

www.nccco.org