



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

CANDIDATE HANDBOOK

- **MOBILE CRANE INSPECTOR**
- **TOWER CRANE INSPECTOR**
- **OVERHEAD CRANE INSPECTOR**

®



This CCO certification program is accredited by the ANSI National Accreditation Board (ANAB) to ISO 17024 (General Requirements for Bodies Operating Certification Systems of Persons).



**ANSI National Accreditation Board
ACCREDITED
ISO/IEC 17024
PERSONNEL CERTIFICATION
BODY**

Mobile, Tower, Overhead,
Articulating, and Service Truck Crane
Operator, Digger Derrick Operator,
Signalperson, Rigger Level I and
Level II, Crane Inspector, and Lift
Director Programs Accredited

This handbook reflects CCO's current policies at the time of publication; to be sure that you have the latest version of this book, see the Handbooks and Forms page on the CCO website. Please read this handbook carefully and retain it for reference throughout the certification process.

Do not discard this document.

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

Dear Crane Inspector Certification Candidate:

Welcome to the National Commission for the Certification of Crane Operators (CCO) national crane inspector certification program.

CCO 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 the CCO written and practical examinations, initially for mobile crane operators but now also for tower, overhead, and articulating crane operators, digger derrick operators, riggers, signalpersons, and lift directors. These nationally recognized and internationally accredited certification programs are the culmination of many years' hard work by experts from the varied industries and groups that use cranes, including construction, steel erection, operating engineers, utilities, crane rental, petrochemicals, pulp and paper, and others.

The CCO Crane Inspector Task Force that developed this certification program was made up of experts from all aspects of the crane industry—crane inspectors, crane users, trainers, safety supervisors, manufacturers—who together represent many thousands of hours of crane-related experience. These volunteers gave freely of their time and expertise with the primary goal of improving the quality of crane inspections and promote additional training among crane inspection personnel.

To ensure CCO examinations are—and remain—valid measurements of crane inspectors' proficiency, CCO teamed its exam development expertise with the task force's knowledge and experience. In addition to guiding the development of new examinations, CCO continually analyzes the performance of CCO exams and reports to the Exam Management Committees. To be able to provide fair and independent assessments, CCO does not conduct training, nor does it provide training materials.

CCO, as a third-party certification body, is fully committed to, and understands the importance of, delivering all certification activities on a foundation of impartiality. All policies and procedures are established in an objective manner and ultimately strive to achieve fairness throughout all activities. CCO prevents any conflicts of interest through detailed policies and procedures observed by staff, governing body representatives, and those involved in written and practical exam administration.

This candidate handbook has been developed to provide you with comprehensive information about the CCO written examinations leading to certification. CCO recognizes the commitment you are about to make and will do everything it can to make your experience a positive and successful one. If, after reading this handbook, there is anything you do not fully understand, please call CCO at 703-560-2391 or email candidate@nccco.org. CCO staff will guide you through any aspects of the program that you would like explained in more detail.

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



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Introduction

PROGRAM DESCRIPTION

The National Commission for the Certification of Crane Operators (CCO) is an independent, nonprofit organization formed to set standards for fairly measuring the knowledge and proficiency required for the safe operation of cranes. CCO currently administers a nationwide program of certifications for crane operators, digger derrick operators, and related trades, including riggers, signalpersons, lift directors, and crane inspectors.

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

- Fewer accidents, injuries, and fatalities
- Reduced risk of loss
- Assurance of inspectors' abilities
- Less property damage
- Improved safety records
- Enhanced public image of crane industry

All candidates are required to pass the necessary written examination(s) to be certified.

The initial certification period is for five years. To maintain their certification, certificants are required to recertify prior to their expiration date. Periodic written examinations are necessary to ensure that certificants' knowledge of industry standards, equipment, and safety practices keeps pace with changes in these areas. CCO's subject matter experts, working in conjunction with psychometric consultants, reviewed the speed of such change in the industry and researched other comparable certification/licensing programs before determining that this goal could be achieved by setting the examination interval at five years; little, if any, additional benefit is believed would accrue by more frequent testing.

CCO EXAMINATION DEVELOPMENT

The first step in the development of an objective test to measure what is required for safe crane inspections was a job analysis study. The study identified the knowledge and skills necessary for effective crane inspections. A survey was given to a representative number of crane inspectors, who validated that the knowledge recommended by the experts was vital to effective inspections. The test blueprints and content specifications were then generated from the validation study.

Development of the Crane Inspector Written Examinations involved a panel of crane inspection content experts who worked with CCO staff to write and review all questions used in the examination. Each examination contains a unique combination of questions from the question bank. Questions are selected for examinations on the basis of the content areas and specialties defined by the test blueprints.

CCO teamed its exam development expertise with the task force's knowledge and experience. CCO guided the task force in establishing key elements of the program, including identifying essential skills, standardizing test conditions, developing the scoring process, establishing reliability among tests, and creating flexible application and scheduling procedures.



Certification Policies

CRANE INSPECTOR

ELIGIBILITY

To be eligible for certification, candidates must:

- Be at least 18 years of age
- Meet experience requirements
- Pass Written Examination(s)
- Comply with CCO's Substance Abuse Policy
- Comply with CCO's Code of Ethics

EXPERIENCE

All applicants for crane inspector certification shall have a minimum of 2,000 hours of documented work experience within a five-year period related to maintaining, inspecting, servicing, repairing, or modifying cranes.

Experience Form Submission

At least two weeks before submitting their exam candidate applications, all crane inspector candidates must demonstrate their qualifications by filling out a form detailing their pertinent experience, education, training, and references. *This Experience Form (see pp. 18-24) must be completed and reviewed by CCO prior to submitting applications for testing.* CCO will process candidates' completed form within two weeks of submittal; after being reviewed, candidates are notified by email whether they are eligible to register for the written exams or if more information is required. *A \$50 Experience Form Processing Fee will be invoiced when the Experience Form is submitted. Forms are not processed until payment is received.*

To avoid any delays, candidates are encouraged to be as detailed as possible when completing. Candidates must submit proof of experience (documentation, letters of recommendation, transcripts, résumé, etc.) along with their completed Experience Form submission.

CCO WRITTEN EXAMINATIONS

The Crane Inspector Written Examination consists of a Core examination and Specialty examinations for the Mobile Crane Inspector and Tower Crane Inspector certifications, and a single Comprehensive exam for the Overhead Crane Inspector certification. Each candidate must also successfully pass the respective operator exam; however, currently CCO-certified operators are not required to take the corresponding operator exam, as long as they maintain their certification status in good standing.

The tables on the following page detail the exams necessary to be certified for each crane type and the contents of those exams.

CCO PRACTICAL EXAMINATIONS

The practical exam component of the crane inspector certification is incorporated in the written exams through the use of scenario-based questions using images of real-life situations. These real-world scenarios test crane inspectors' abilities to identify deficiencies and hazards commonly seen in the field.

CCO CERTIFICATION TIME FRAMES

Certification is valid for five years. Candidates must pass written exam(s) in the category(s) for which they seek certification. Candidates may take their exams in any order. Candidates have 12 months after they pass their first exam to pass the corresponding exam(s). For example, a candidate passing the Crane Inspector Core Exam in January 2022 has until the end of January 2023 to pass the Mobile Crane Inspector Exam.

If a certified inspector subsequently becomes certified in additional crane types by taking the appropriate written exams, the five-year certification period for the additional crane types begins at the same time as he/she was originally certified (i.e., certification for all crane types expire on the same date, regardless of when in the five-year certification period the candidate passed them). If the new designation is added within the final 24 months of his/her certification period, the certificant is exempt from recertifying for the new designation after five years; after that, however, certificants must recertify for all designations during the 12 months prior to their certifications' expiration date. This ensures that all of the certificant's crane inspector designations maintain the same expiration date.

Candidates for certification or recertification may petition for an extension of CCO's standard timeline(s). CCO staff shall have the discretion to make the initial determination of whether a requested extension should be granted. Petitions for an extension of time are generally denied absent a showing of extraordinary circumstances. Denials of such petitions may be appealed to the Appeals Committee.

The following table details the exams necessary for each crane inspector certification:

IF YOU ARE SEEKING CERTIFICATION FOR:	TAKE THE CORRESPONDING WRITTEN EXAMS:	
	CRANE INSPECTOR EXAMS	CRANE OPERATOR EXAMS*
Mobile Crane Inspector	<ul style="list-style-type: none"> Crane Inspector Core Mobile Crane Inspector 	<ul style="list-style-type: none"> Mobile Crane Operator Core*
Tower Crane Inspector	<ul style="list-style-type: none"> Crane Inspector Core Tower Crane Inspector 	<ul style="list-style-type: none"> Tower Crane Operator*
Overhead Crane Inspector	<ul style="list-style-type: none"> Overhead Crane Inspector Comprehensive 	<ul style="list-style-type: none"> Overhead Crane Operator*
Mobile and Tower Crane Inspector	<ul style="list-style-type: none"> Crane Inspector Core Mobile Crane Inspector Tower Crane Inspector 	<ul style="list-style-type: none"> Mobile Crane Operator Core* Tower Crane Operator*
Mobile and Overhead Crane Inspector	<ul style="list-style-type: none"> Crane Inspector Core Mobile Crane Inspector Overhead Crane Inspector Comprehensive 	<ul style="list-style-type: none"> Mobile Crane Operator Core* Overhead Crane Operator*
Tower and Overhead Crane Inspector	<ul style="list-style-type: none"> Crane Inspector Core Tower Crane Inspector Overhead Crane Inspector Comprehensive 	<ul style="list-style-type: none"> Tower Crane Operator* Overhead Crane Operator*
Mobile, Tower, and Overhead Crane Inspector	<ul style="list-style-type: none"> Crane Inspector Core Mobile Crane Inspector Tower Crane Inspector Overhead Crane Inspector Comprehensive 	<ul style="list-style-type: none"> Mobile Crane Operator Core* Tower Crane Operator* Overhead Crane Operator*

* Currently CCO-certified operators are not required to take the corresponding operator exam(s), as long as they maintain their certification status in good standing.

The following table shows each crane inspector exam's contents and duration:

EXAM	# OF QUESTIONS	LENGTH OF EXAM
Crane Inspector Core Written Exam	50 questions	60 minutes
Mobile Crane Inspector Written Exam	50 questions	90 minutes
Tower Crane Inspector Written Exam	40 questions	60 minutes
Overhead Crane Inspector Comprehensive Written Exam	70 questions	90 minutes

Please see the applicable **crane operator handbooks** for information regarding the contents of the respective crane operator exams.

RECERTIFICATION REQUIREMENTS

CCO certification is valid for five years. Recertification candidates must complete all recertification requirements during the 12 months prior to their expiration date. This includes:

- Passing the applicable written examination(s)
- Compliance with CCO's Substance Abuse Policy
- Compliance with CCO's Code of Ethics

The written exams required for recertification are identical to the exams required for initial certification. Recertification candidates take written examinations that correspond to the exams they took to earn their initial Crane Inspector certification.

Currently CCO-certified operators are not required to take the corresponding operator exam(s), as long as they maintain their certification status in good standing. Otherwise, corresponding written operator exams are required for either recertification or for adding additional Crane Inspector specialties.

Recertification candidates may take their written examination(s) up to one year prior to their certification's expiration date. Regardless of the date of the written exam(s) 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 expiration date will have their new certification

period begin immediately, not from the end of their current certification period.

CODE OF ETHICS FOR CERTIFIED CRANE INSPECTORS

CCO-certified crane inspectors must comply with CCO's Code of Ethics during their certification, as set forth below.

In my occupation, I will conduct myself in a manner:

- i. *So as to place the safety and welfare of others associated with my work above all other considerations;*
- ii. *So as to protect and preserve nearby general public property and the environment; and*
- iii. *So as to be free of bias with regard to religion, ethnicity, gender, age, national origin, and disability.*

Furthermore, in connection with my work and in my dealings with CCO, I will:

- iv. *Make management and appropriate personnel aware promptly if I have any safety concerns relating to the work that I am performing or with which I am involved;*
- v. *Not knowingly violate any safety-related regulations, warnings, or instructions set forth by OSHA, recognized safety standards, prevailing jurisdictions, or equipment manufacturers; and,*
- vi. *Not mislead, misrepresent or knowingly deceive others concerning my experience or the capabilities of myself or the equipment I am operating or with which I am working.*

In addition, in my dealings with CCO, I will:

- vii. *Provide accurate and complete information and abide by CCO's policies and procedures, including this Code of Ethics, as they may be updated from time to time;*
- viii. *Not act dishonestly or unfairly in order to gain an advantage, or to provide another with an advantage, in connection with any dealings with CCO;*
- ix. *Cooperate fully and completely with any administrative inquiries or investigations by CCO; and,*
- x. *Not misrepresent or misuse any CCO card, or the CCO or CCO acronyms and logos, or any registered trademark or other intellectual property of CCO; and I understand that I must return the card to CCO immediately if required to do so.*

CCO-certified personnel who intentionally or knowingly violate any provision of the Code of Ethics will be subject to action by a peer review panel, the Ethics and Discipline Committee, which may result in suspension or revocation of certification.

DISCIPLINARY POLICY

All participants in CCO's certification programs, including CCO certified personnel, are held to very high standards of conduct and are expected to conduct themselves in an ethical manner.

In recognizing its responsibility to maintain the integrity of CCO's certification programs, CCO understands that action may be needed against a candidate or certificant upon receipt and investigation of allegations of violation(s) of the Code of Ethics or Substance Abuse Policy or similar policies, if they are found to be substantiated.

Find grounds for disciplinary action as well as the policies and procedures surrounding such action at www.nccco.org/discipline.

SUBSTANCE ABUSE POLICY

It is the policy of the National Commission for the Certification of Crane Operators (CCO) that certified personnel shall not perform duties related to their certification while under the influence of any substance that impairs or may reasonably be expected to impair their ability to work safely in the workplace.

See details of the CCO substance abuse policy at www.nccco.org/abuse.

CERTIFICATION CARDS

Certified inspectors receive a laminated photo ID card at no cost when they certify, add a designation, or recertify.

Replacement cards may be ordered online at: www.nccco.org/newcard.

Please note that if a certified crane inspector is also a certified crane operator, lift director, rigger, or signalperson, a separate inspector card (with separate expiration date) is issued.

Certification cards remain the property of CCO, are not transferable, and must be returned to CCO upon demand.

CHANGE OF ADDRESS

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

The fastest and easiest way to update your contact information is using the myCCO portal smartphone app, available for iPhones and Android phones. Alternatively, you may use the companion website (www.nccco.org/myCCO) to access and update your contact information and review your current certifications and expiration dates. The app also enables you to view your upcoming exams and recent exam history, including exam results.



How to Apply for CCO Exams

WRITTEN AND PRACTICAL

START WITH myCCO PORTAL

All candidates applying for CCO exams—both written and practical—need a myCCO account to submit their exam applications and payments. A myCCO account is free and takes only minutes to set up.

To apply for CCO exams, complete the following steps:

1. Go to my.cco-cert.org and login or register for an account.
2. Once you are logged in, submit an online application and pay for the exam(s).
3. Application deadlines and processing times vary by type of testing. Please see specifics below.
4. Candidates have six months from the date of application to take exam(s).

Examination Fees

For all exam and related fees, visit the Exam Fees page on CCO's website at www.nccco.org/fees.

WRITTEN EXAMINATION OPTIONS

The following exam administration options are available for CCO written exams:

Online Proctored Testing (OPT)

Take your exam(s) online using your internet-connected computer. You will be monitored by a live online proctor for the full duration of the exam. You can test from almost anywhere, 24/7/365. Computers must meet minimum technical requirements as found at www.nccco.org/techreq. For more information, go to www.nccco.org/OPT.

Applications may be submitted at any time, but no less than two business days before your preferred exam date.

Once the application has been processed, candidates will receive a scheduling authorization email with specific instructions on how to schedule the date and time of their exam. Scheduling exam appointment occurs through the myCCO portal. Once scheduled, candidates will receive a CCO appointment confirmation email with the date and time of their appointment.

Candidates will receive preliminary exam results immediately following testing.

Event Online Testing (EOT)

Take your exam(s) online using a computer at an authorized CCO test site. For more information, go to www.nccco.org/EOT.

Applications may be submitted at any time, but no less than two business days before your preferred exam date.

Once the application has been processed, candidates will receive a scheduling authorization email with specific instructions on how to find an available authorized CCO test site. Scheduling your exam appointment occurs through the Test Site Coordinator. Once scheduled, candidates will receive a CCO appointment confirmation email with the date, time, and location of their appointment.

Candidates will receive preliminary exam results immediately following testing.

Computer-Based Testing (CBT)

Take your exam(s) online using a computer at any of the 400+ PSI test centers across the country. For more information about CBT, go to www.nccco.org/cbt.

Applications may be submitted at any time, but no less than five business days before your preferred exam date.

Once the application has been processed, candidates will receive a scheduling authorization email with specific instructions on how to schedule the date, time, and location their exam. Scheduling exam appointments occurs through PSI. Once scheduled, candidates will receive a CCO appointment confirmation email with the date, time, and location of their appointment.

Candidates will receive exam results immediately following testing.

Paper/Pencil Testing (PPT)

Take your exam(s) via paper/pencil on a specific date, time, and location. If interested in paper/pencil testing, go to www.nccco.org/findwritten to find a PPT exam administration convenient to you; then contact the Test Site Coordinator to confirm availability.

Paper/pencil CCO written examinations are electronically scored by CCO. For this reason, it is important to complete the answer sheet according to the instructions provided by the Written Exam Proctor on the day of the exam. Candidates will 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.

RESCHEDULING/CANCELLATION

The following policies apply should a candidate be unable to attend the scheduled exam appointment.

Online Proctored Testing (OPT)

- Candidates may reschedule or cancel their exam appointment at no cost through the myCCO portal at least one minute prior to the exam start time.
- Candidates who are 15 minutes late for their appointment, miss their exam appointment entirely, or do not test within six months of their application submission will forfeit their fees.
- Note that candidates who scheduled testing through OPT are able to cancel and reschedule through EOT if they so choose, at no additional cost.

Event Online Testing (EOT)

- Candidates may reschedule or cancel their exam appointment at no cost by contacting their Test Site Coordinator as long as the exam has not been started.
- Candidates who decide not to take exams, or do not test within six months of application submission will forfeit their fees.
- Note that candidates who scheduled testing through EOT are able to cancel and reschedule through OPT if they so choose, at no additional cost.

Computer-Based Testing (CBT)

- Candidates may reschedule their exam appointment at no cost through PSI as long as they do so at least 24 hours prior to the exam start time.
- To reschedule or unreschedule exams:
 - Log into PSI account, or
 - Call PSI at 833-333-4752
- Candidates who do not cancel their appointment by the deadline, miss their exam appointment, arrive late for their appointment, decide not to take exams, or do not test within six months of application submission will forfeit their fees.

Paper/Pencil Testing (PPT)

Standard Cancellation

- Candidates may cancel their application as long as they do so at least seven business days prior to the exam date.

- To cancel an application email candidate@nccco.org.
- Refunds, minus a cancellation fee, will be issued within 30 days of the cancellation.
- Candidates who miss their exam appointment, or miss the cancellation deadline will forfeit their fees.

Emergency Cancellation

Only the following are considered grounds for emergency cancellation:

- **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

To be considered for an emergency cancellation:

- Candidates must notify CCO within seven business days following the exam date.
- To cancel an application, email candidate@nccco.org along with required supporting documentation.
- Refunds, minus a cancellation fee, will be issued within 30 days of the cancellation.
- Candidates who miss their exam, decide not to take exams, or cancel after the deadline will forfeit their fees.

IDENTIFICATION AT THE TEST SITE

Candidates must bring valid (not expired) government-issued photo identification that includes date of birth to the test site on the day of the test administration. Candidates will be required to sign the test site roster upon entry to the testing area.

Acceptable forms of photo identification may include a current:

- Passport
- Government-issued driver's license
- Military identification card
- U.S. Government-issued alien registration card

NOTE: Candidates without appropriate identification documents will NOT be admitted to take the CCO examination(s) and all fees will be forfeited.

SCORE REPORTING

Online Proctored Testing (OPT) and Event Online Testing (EOT)

- Candidates will receive preliminary exam results immediately following testing.
- Candidates results will also be available in the myCCO Portal and mobile phone app.

Computer-Based Testing (CBT)

- CBT candidates will receive their test results immediately following their exams and should retain these score reports for their records.
- Candidates results will also be available in the myCCO mobile phone app.

Paper/Pencil Testing (PPT)

- Paper/pencil CCO written examinations are electronically scored by CCO. For this reason, it is important to complete the answer sheet according to the instructions provided by the Written Exam Proctor on the day of the exam. Candidates will 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.
- Examination results are emailed to candidates approximately 12 business days after the examination administration.



Written Examination Process

CRANE INSPECTOR

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 CCO no later than four weeks prior to the scheduled test date. For further information about testing accommodations, see the complete CCO Testing Accommodations Policy at: www.nccco.org/accommodations.

TEST SITE INFORMATION

Test Security

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

- The examination is the exclusive property of CCO.
- 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 is punishable as a felony.
- While at the examination site, candidates are considered professionals and shall be treated as such. In turn, candidates must conduct themselves in a professional manner at all times. While at the site, they shall not use words or take actions that are vulgar, obscene, libelous, or that would denigrate the staff or other candidates.
- No conversing or any other form of communication among the candidates is permitted once they enter the examination area.
- No smoking, eating, or drinking is allowed at the examination site.
- No guests, visitors, or family members are allowed in the testing room or reception areas.
- Candidate participation in any irregularity 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.

- A candidate's signature on the answer sheet or roster for the administration of the examination confirms that the candidate has read and understands the above statements.

Candidate Question Comment Forms

Computer-based testing candidates may provide comments for any question by clicking on the "Comments" button to the left of the Time button. This opens a dialogue box where candidates may enter comments.

NOTE: Only comments completed on the Candidate Question Comment Form or provided during the computer-based examination at the test site will be considered for review.

TEST SCORING INFORMATION

CCO written examinations are criterion-referenced examinations; i.e., 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 CCO content experts using a psychometrically accepted standard-setting methodology.

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 set for all administrations of the examination(s). The scaled score is not a number-answered-correctly score.

Candidate results are reported as a pass/fair status.

Candidate scores are never reported by telephone.

Score Review Requests

Candidates not passing exam(s) may request from CCO a hand scoring of their answer sheet(s), provided their request is made in writing within three months of the test date. A Score Review Processing Fee will be invoiced.

Scoring review requests should be emailed to candidate@nccco.org.

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

RETAKE THE EXAMINATION(S)

Candidates who fail an examination(s) may retake the examination(s); they must reapply and pay all corresponding retest fees. Written exam retest candidates are required to wait a minimum of four weeks before retesting on the same exam.

INFORMATION RELEASE POLICY

CCO releases information pertaining to individuals who have successfully passed one or more CCO examinations according to its Information Release Policy as detailed at www.nccco.org/inforelease.



Written Examination Outline

CRANE INSPECTOR—CORE EXAMINATION

The Core examination portion of the CCO Crane Inspector Written Examination tests the following knowledge areas relating to mobile and tower cranes:

Domain 1: Pre-Inspection Survey

- Approximately 20% of test

Domain 2: Records Review

- Approximately 8% of test

Domain 3: Visual Inspection

- Approximately 66% of test

Domain 4: Post-Inspection

- Approximately 6% of test

DOMAIN 1: PRE-INSPECTION SURVEY

1. Knowledge of the standards and regulations applicable to crane inspection, including, but not limited to ASME B30 and OSHA
2. Knowledge of responsible parties involved in or pertaining to the pre-inspection
3. Know what to communicate to the site supervisor/personnel on needs/requirements for inspection

DOMAIN 2: RECORDS REVIEW

1. Know if given documentation is correct
 - a. Application
 - b. Maintenance
 - c. Engineering
2. Knowledge of which inspection records are required
3. Know how to verify whether proper repairs have been performed with acceptable documentation
 - a. Repairs
 - b. Modifications/alterations

DOMAIN 3: VISUAL INSPECTION

1. Ability to identify the following conditions
 - a. Weld
 - b. Corrosion
 - c. Need for non-destructive testing
2. Knowledge in proper operation of
 - a. Safety devices
 - b. Operational aids

3. General knowledge of wire rope
 - a. Construction and specifications
 - b. Reeving
 - c. Rejection criteria
 - d. Termination hardware
4. Ability to recognize existing or potential problems
5. Know how to identify modifications and alterations
6. General knowledge of the manufacturers' requirements
 - a. Inspections
 - b. Maintenance
 - c. Service requirements
 - d. Limitations
7. Ability to understand the requirements for component guarding
8. General knowledge of inspection criteria for
 - a. Hooks
 - b. Load blocks
 - c. Sheaves
 - d. Rigging
9. General knowledge of upper and lower operating station (cab) inspection requirements
10. General knowledge of the following for specific job site situations
 - a. Assist equipment (e.g., aerial work platform)
 - b. Tools
 - c. Personal protective equipment (PPE)

DOMAIN 4: POST-INSPECTION

1. Know and understand that the inspection/test procedure(s) did not cause damage per regulations and manufacturer's requirements
2. Know how to document/communicate the deficiencies and recommendations on the final report
3. Knowledge of responsible parties involved in or pertaining to the post-inspection



Written Examination Outline

MOBILE CRANE INSPECTOR EXAMINATION

The Mobile Crane Specialty examination portion of the CCO Crane Inspector Written Examination tests the following knowledge areas relating to mobile cranes:

Domain 1: Pre-Inspection Survey

- Approximately 12% of test

Domain 2: Visual Inspection

- Approximately 40% of test

Domain 3: Operational Testing

- Approximately 24% of test

Domain 4: Load Testing and Manufacturer's Load Charts

- Approximately 24% of test

DOMAIN 1: PRE-INSPECTION SURVEY

1. Knowledge of standards and regulations applicable to crane inspection, including, but not limited to ASME B30 and OSHA
2. Have specific knowledge of cranes and crane types, including:
 - a. Configuration/types
 - b. Terminology
 - c. Applications
 - d. Components

DOMAIN 2: VISUAL INSPECTION

1. Know and understand systems, including, but not limited to:
 - a. Pneumatic
 - b. Hydraulic
 - c. Mechanical
 - d. Electrical
 - e. Structural
2. Know the requirements for access and egress
3. General knowledge of tire requirements
4. Knowledge of proper operation of:
 - a. Safety devices
 - b. Operational aids
5. General knowledge of wire rope, including:
 - a. Rejection criteria
 - b. Reeving specifications
 - c. Termination hardware

DOMAIN 3: OPERATIONAL TESTING

1. Knowledge of crane signals
 - a. Hand signals
 - b. Voice signals
2. Knowledge necessary to verify the accuracy of operational aids
3. Knowledge of control characteristics/functions

DOMAIN 4: LOAD TESTING AND MANUFACTURER'S LOAD CHARTS

1. Knowledge and understanding of the differences between types of load tests, including:
 - a. Proof
 - b. Stability
 - c. Structural
 - d. Line pull
 - e. Devices
2. Understand how to interpret and apply load charts



Written Examination Outline

TOWER CRANE INSPECTOR EXAMINATION

The Tower Crane Specialty examination portion of the CCO Crane Inspector Written Examination tests the following knowledge areas relating to tower cranes:

Domain 1: Pre-Inspection Survey

- Approximately 10% of test

Domain 2: Records Review

- Approximately 10% of test

Domain 3: Visual Inspection

- Approximately 50% of test

Domain 4: Operational Testing

- Approximately 20% of test

Domain 5: Load Testing

- Approximately 10% of test

DOMAIN 1: PRE-INSPECTION SURVEY

1. Knowledge of the standards and regulations applicable to crane inspection, including, but not limited, to ASME B30 and OSHA
2. Have specific knowledge of cranes, including:
 - a. Configuration/types
 - b. Terminology
 - c. Applications
 - d. Components

DOMAIN 2: RECORDS REVIEW

1. Know what engineering documentation must be provided for:
 - a. Foundation/base engineering
 - b. Tie-in to host structure engineering
 - c. Manufacturer specific

DOMAIN 3: VISUAL INSPECTION

1. Know and understand systems, including, but not limited to:
 - a. Pneumatic
 - b. Hydraulic
 - c. Mechanical
 - d. Electrical
 - e. Structural
2. Know the requirements for access and egress
3. Knowledge in proper operation of:
 - a. Safety devices
 - b. Operational aids

4. General knowledge of wire rope, including

- a. Rejection criteria
- b. Reeving specifications
- c. Termination hardware

5. General knowledge of the manufacturer's limitations, including, but not limited to, signage

DOMAIN 4: OPERATIONAL TESTING

1. Knowledge of crane signals
 - a. Hand signals
 - b. Voice signals
2. Knowledge necessary to verify the accuracy of operational aids
3. Knowledge of control characteristics/functions

DOMAIN 5: LOAD TESTING

1. Knowledge and understanding of differences between types of load tests, including:
 - a. Proof
 - b. Stability
 - c. Structural
 - d. Line pull
 - e. Devices



Written Examination Outline

OVERHEAD CRANE INSPECTOR—COMPREHENSIVE EXAMINATION

The Overhead Crane Comprehensive examination portion of the CCO Crane Inspector Written Examination tests the following knowledge areas relating to overhead cranes:

Domain 1: Pre-Inspection Survey

- Approximately 14% of test

Domain 2: Records Review

- Approximately 6% of test

Domain 3: Visual Inspection

- Approximately 50% of test

Domain 4: Operational Testing

- Approximately 17% of test

Domain 5: Load Testing

- Approximately 7% of test

Domain 6: Post-Inspection

- Approximately 6% of test

DOMAIN 1: PRE-INSPECTION SURVEY

1. Knowledge of the standards and regulations applicable to crane inspection, including, but not limited to ASME B30 and OSHA
2. Knowledge of responsible parties involved in or pertaining to the inspection
3. Know what to communicate to the site supervisor/ personnel on needs/requirements for inspection
4. Have specific knowledge of cranes including
 - a. Configurations/types
 - b. Terminology
 - c. Applications
 - d. Components
 - e. Operator controls
5. Knowledge of crane capacity as it relates to crane configuration
 - a. Multiple trolleys
 - b. Permanently attached material handling devices
6. Know access to the work site
7. Know how to identify job site hazards (e.g., obstructions, multiple cranes on the same runway)
8. Know specific lock-out/tag-out procedures/ requirements

DOMAIN 2: RECORDS REVIEW

1. Know if given documentation is correct
 - a. Application
 - b. Maintenance
 - c. Engineering
2. Knowledge of what inspection records are required
3. Know how to verify that the following have been performed with acceptable documentation
 - a. Repairs
 - b. Modifications/alterations

DOMAIN 3: VISUAL INSPECTION

1. Ability to identify the following conditions
 - a. Weld
 - b. Corrosion
 - c. Need for non-destructive testing
2. Knowledge in proper operation of
 - a. Safety devices
 - b. Operational aids
3. Knowledge of wire rope, including:
 - a. Construction and specifications
 - b. Rejection criteria
 - c. Reeving specifications
4. Ability to recognize existing or potential problems
5. Know how to identify modifications and alterations
6. General knowledge of the manufacturer's requirements
 - a. Inspection
 - b. Maintenance
 - c. Service requirements
 - d. Limitations
7. Know and understand the following components
 - a. Pneumatic
 - b. Hydraulic
 - c. Mechanical
 - d. Electrical
 - e. Structural
8. Understand the requirements for component guarding
 - a. Mechanical components
 - b. Electrical

9. Knowledge of inspection criteria for:
 - a. Hooks
 - b. Load blocks
 - c. Sheaves
 - d. Drums
10. Knowledge of inspection requirements for operator controls
 - a. Pendant
 - b. Radio/remote
 - c. Cab
11. General knowledge of the following for job site situations
 - a. Assist equipment (e.g., aerial work platform)
 - b. Tools
 - c. Personal protective equipment (PPE)
12. Know how to verify requirements for safe access and egress
13. Knowledge of travel systems
 - a. Tire requirements
 - b. Wheels and end trucks
 - c. Runway systems
14. Know how to verify capacity markings of cranes
15. Knowledge of load chains

DOMAIN 4: OPERATIONAL TESTING

1. Knowledge of crane signals
 - a. Hand signals
 - b. Voice signals
2. Knowledge necessary to verify operational aids and limits are functioning properly
3. Knowledge of:
 - a. Control characteristics/functions
 - b. Operating parameters/dynamic effects

DOMAIN 5: LOAD TESTING

1. Know the requirements and limits of a load test and applicable environmental limits (temperature, etc.)
 - a. Proof
 - b. Load limiters
2. Know the requirements for full operation of bridge and trolley movements

DOMAIN 6: POST-INSPECTION

1. Know and understand that the inspection/test procedure(s) did not cause damage per regulations and manufacturer's requirements
2. Know how to document/communicate the deficiencies and recommendations on the final report
3. Knowledge of responsible parties involved in or pertaining to the post-inspection



Reference List CRANE INSPECTOR

The following reference materials are used by CCO's Crane Inspector Exam Management Committee to verify the accuracy of CCO test questions.

ALL EXAMS

Primary References

1. ASME B30.10 (2009) – Hooks
2. OSHA 1926 Subpart CC – Cranes and Derricks in Construction
3. SAE J159 – Rated Capacity Systems

MOBILE CRANES

Primary References

1. ASME B30.5 (2011) – Mobile and Locomotive Cranes
2. ASME B30.22 (2010) – Articulating Boom Cranes

Secondary References

1. NCCCO Articulating Crane Reference Manual (7/16)

TOWER CRANES

Primary References

1. ASME B30.3 (2012) – Tower Cranes
2. ASME B30.29 (2018) – Self-Erecting Tower Cranes

Secondary References

1. NCCCO Tower Crane Reference Manual (03/14)

OVERHEAD CRANES

Primary References

1. ASME B30.2 (2011) – Top Running, Double Girder Cranes
2. ASME B30.11 (2010) – Monorails and Underhung Cranes
3. ASME B30.16 (2012) – Underhung Hoists
4. CMAA #70 – Specifications for Top Running Bridge & Gantry Type Multiple Girder Electric Overhead Traveling Cranes
5. CMAA #78 – Standards and Guidelines for Professional Services Performed on Overhead Traveling Cranes and Associated Hoisting Equipment
6. OSHA 1910.179 – Overhead and Gantry Cranes

WHERE TO OBTAIN CITED REFERENCES

ASME

Order by Internet: <https://www.asme.org/shop/standards>

Order by Mail:

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

OSHA

Order by Internet: <http://www.osha.gov/>

CCO References

Order by Internet: <http://www.nccco.org/store/>

Or download free PDFs from: <http://www.nccco.org/>

SAE

Order by Internet: <http://standards.sae.org/>

Order by Mail:

SAE Customer Service
400 Commonwealth Drive
Warrendale, PA 15096-0001
ph: 1-877-606-7323

CMAA

Order by Internet:

<http://imis.mhi.org/iMIS/MHI/Shop/MHI/Search.aspx>

Order by Mail:

Material Handling Institute Literature Department
8720 Red Oak Blvd., Ste. 201
Charlotte, NC 28217-3992
ph: 704-676-1190



Candidate Forms

CRANE INSPECTOR CERTIFICATION

- **Crane Inspector Experience Form**
- **Directory of CCO-Certified Crane Inspectors Request for Inclusion form**
- **Change of Address Form**



Crane Inspector Experience Form

SUBMISSION INSTRUCTIONS

Please complete and submit the following form at least two weeks prior to submitting your Crane Inspector certification exam Candidate Application. CCO will review all information provided before determining your eligibility to apply for the Crane Inspector certification exams. You will be notified by email of your eligibility to sit for the exam(s) within 10 business days of receipt of your materials.

All applicants for crane inspector certification shall have a minimum of 2,000 hours of documented work experience within a five-year period related to maintaining, inspecting, servicing, repairing, or modifying cranes.

Complete as many copies of each of the following pages as you need to demonstrate the extent of your experience and/or relevant education:

Crane Inspector Experience Form pages:

- 1. Contact Information & Attestation Statement**
- 2. Work History Documentation**
- 3. Industry References**
- 4. Other Comments or Attachments**

All Crane Inspector candidates must submit this form for review to be eligible to apply to take the certification exams. Candidates must make their best attempt to complete all sections of the form. Please be as specific as possible regarding the extent of your experience. Applications that are deemed incomplete or inadequate will be rejected and additional information may be required.

Please send your completed Crane Inspector Experience Form and appropriate documentation to:

CCO—Testing Services Department
5250 S. Commerce Drive, Suite 100
Murray, Utah 84107

Phone: 703-560-2391
Email: candidate@nccco.org



Crane Inspector Experience Form

CONTACT INFORMATION & EXPERIENCE ATTESTATION

Please complete the following page and sign the attestation statement for review of your Crane Inspector Experience Form.

Please type or print neatly. (*Required fields)

FULL LEGAL NAME* (as shown on driver's license)		First	Middle	Last	Suffix (Jr., Sr., III)
CCO CERTIFICATION NUMBER (if previously certified)		DATE OF BIRTH*		CANDIDATE ID: (if previously tested)	
MAILING ADDRESS					
CITY*			STATE*	ZIP	COUNTRY
DAYTIME PHONE*			EMAIL*		

ARE YOU CURRENTLY CCO-CERTIFIED? Yes No

If you checked "yes" above, indicate your CCO certification number below:

CCO certification #: _____

EXPERIENCE ATTESTATION:

I declare that the foregoing statements and those in all required accompanying documentation are true. I understand and agree that my failure to provide accurate and complete information or abide by CCO'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 CCO reserves the right to verify any information in this application, my documented crane-related experience and/or education, or in connection with my certification. I consent to CCO's release of any information regarding this application and my examination administration to third parties, consistent with CCO's Information Release policy. I further affirm that I have at least five years of crane-related experience as demonstrated on my Experience Form and accompanying proof-of-experience documentation.

CANDIDATE SIGNATURE	DATE
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METHOD OF PAYMENT

CCO will invoice by email for the payment of the \$50 Experience Form fee. Invoice will be sent from noreply@nccco.org. Your request will not be processed until payment has been received. Please pay promptly to avoid delays in processing.

Email invoice to: _____

Please email this form to CCO at candidate@nccco.org.



Crane Inspector Experience Form

WORK HISTORY DOCUMENTATION

Use separate copies of this form to list all relevant crane-related experience, *using one form for each employer*, starting with the most recent. Also please provide documented proof of employment for each position. Documentation can include, but is not limited to, copies of invoices, work orders, pay stubs, and/or letters of recommendation.

Work History: Page ____ of ____
 When submitting corresponding documentation, please indicate which page of this Work History form each document applies to.

Employer/Customer*:	
Type of Work:	<input type="checkbox"/> Inspector <input type="checkbox"/> Mechanic <input type="checkbox"/> Operator <input type="checkbox"/> Shop Foreman <input type="checkbox"/> Other: _____
Date(s) of Employment:	
Employer/Customer City, State:	
Contact Person:	
Contact Phone, Fax, and/or Email:	
Type(s) of Cranes:	<input type="checkbox"/> Mobile Cranes <input type="checkbox"/> Overhead Cranes <input type="checkbox"/> Tower Cranes <input type="checkbox"/> Other: _____
Approximate Hours of Relevant Work per Year:	
Description of Work:	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____

**If self-employed, please include contact information for customers.*



Crane Inspector Experience Form

INDUSTRY REFERENCES

Please use this form to list three industry references.

When submitting corresponding documentation, please indicate which contact on this Industry References form each document applies to.

1.	Contact Name:	
	Relationship:	<hr/> <hr/> <hr/> <hr/>
	Phone Number:	
	Email:	
2.	Contact Name:	
	Relationship:	<hr/> <hr/> <hr/> <hr/>
	Phone Number:	
	Email:	
3.	Contact Name:	
	Relationship:	<hr/> <hr/> <hr/> <hr/>
	Phone Number:	
	Email:	



Crane Inspector Experience Form

OTHER COMMENTS OR ATTACHMENTS

Please include any additional comments, attachments, or relevant experience:

Comments/Attachments: Page _____ of _____

When submitting corresponding documentation, please indicate which page of this Other Comments or Attachments form each document applies to.

[Large empty lined area for writing comments or attachments.]



Directory of CCO-Certified Crane Inspectors

REQUEST FOR INCLUSION FORM

Please type or print neatly.

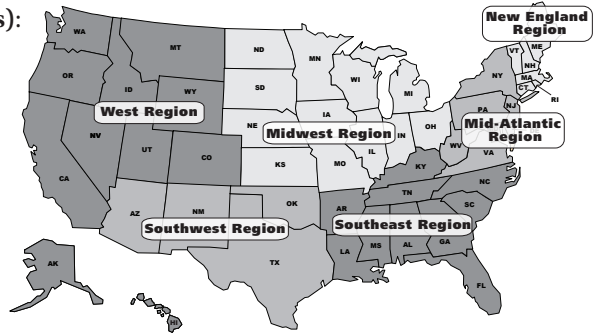
FIRST NAME*	LAST NAME*
-------------	------------

CCO CRANE INSPECTOR CERTIFICATION NUMBER*	EXPIRES*
---	----------

COMPANY/ORGANIZATION NAME*

Area(s) of operation: National **OR** the following region(s):

- New England (ME, NH, VT, MA, RI, CT)
- Mid-Atlantic (NY, NJ, PA, DE, MD, WV, VA, DC)
- Southeast (KY, TN, NC, SC, GA, FL, AL, MS, LA, AR)
- Midwest (ND, MN, WI, SD, NE, MI, IA, IL, IN, OH, MO, KS)
- Southwest (AZ, NM, OK, TX)
- West (CA, NV, UT, CO, OR, ID, WY, MT, WA, AK, HI)



COMPANY/HEADQUARTERS MAILING ADDRESS

CITY*	STATE*	ZIP	COUNTRY
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PHONE*	FAX*	E-MAIL*
--------	------	---------

Is your physical location different from your company address? No Yes

If "Yes," list: City*: _____ State*: _____ (Provide copy of Driver's License as proof of location.)

WEBSITE*

DESIGNATIONS FOR WHICH YOU HAVE OBTAINED CCO CRANE INSPECTOR CERTIFICATION*

Check all that apply:

- Mobile Cranes Tower Cranes Overhead Cranes

Please include me in the CCO Directory of CCO-Certified Crane Inspectors.

***Only items marked with asterisks will be published.**

SIGNATURE	DATE
-----------	------

Please return this Request for Inclusion Form to:

CCO
 2750 Prosperity Avenue, Suite 505
 Fairfax, Virginia 22031-4312
 Phone: 703-560-2391
 Email: info@nccco.org



FOR CCO USE ONLY:
VERIFIED BY CCO: _____ DATE: _____



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

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

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info@nccco.org

www.nccco.org