



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

# **CANDIDATE HANDBOOK**

- **LIFT DIRECTOR—MOBILE CRANES**
- **LIFT DIRECTOR—TOWER CRANES**

®



***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).***



*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 Lift Director Certification Candidate:

Welcome to the National Commission for the Certification of Crane Operators (CCO) national lift director 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, pile driver, and drill rig operators; crane inspectors and lift directors; and riggers and signalpersons. 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 Lift Director Task Force that developed this certification program was made up of experts from all aspects of the crane industry—management, crane users, trainers, and safety supervisors—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 lift direction and promote additional training among lift directors.

To ensure CCO examinations are—and remain—valid measurements of lift directors' 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](mailto: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 and related trades, including riggers, signalpersons, crane inspectors, and lift directors.

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 lift director certification:

- Fewer accidents, injuries, and fatalities
- Reduced risk of loss
- Assurance of lift directors' 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 operations was a job analysis study. The study identified the knowledge and skills necessary for effective lift supervision. A survey was given to a representative number of lift directors, who validated that the knowledge recommended by the experts was vital for safe operations. The test blueprints and content specifications were then generated from the validation study.

Development of the Lift Director written examinations involved a panel of lift director 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

## LIFT DIRECTOR

### ELIGIBILITY

To be eligible for certification, candidates must:

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

### CCO WRITTEN EXAMINATIONS

The Lift Director Written Examination consists of a Core Examination and Specialty Examinations for the Lift Director—Mobile Cranes and Lift Director—Tower Cranes certifications. Each candidate must also successfully pass the respective operator exam and/or the Rigger Level II 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. Similarly, those who are certified as Rigger Level II do not need to take the Rigger Level II written exam.

The Core Lift Director Exam contains 40 questions that must be completed in 60 minutes. The Lift Director—Mobile Cranes Specialty Exam contains 15 questions that must be completed in 120 minutes. The Lift Director—Tower Cranes Specialty Exam contains 15 questions that must be completed in 60 minutes.

*The table below details the exams necessary for each Lift Director certification.*

IF YOU ARE SEEKING CERTIFICATION FOR:	TAKE THE CORRESPONDING WRITTEN EXAMS*:	
	LIFT DIRECTOR EXAMS	OPERATOR & RIGGER EXAMS**
Lift Director—Mobile Cranes	<ul style="list-style-type: none"> <li>• Lift Director <b>Core</b></li> <li>• Lift Director <b>Mobile Crane Specialty</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Mobile Crane Operator Core</b></li> <li>• <b>Mobile Crane Operator Specialty TLL or TSS</b></li> <li>• <b>Mobile Crane Operator Specialty LBC or LBT</b></li> <li>• <b>Rigger Level II</b></li> </ul>
Lift Director—Tower Cranes	<ul style="list-style-type: none"> <li>• Lift Director <b>Core</b></li> <li>• Lift Director <b>Tower Crane Specialty</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Tower Crane Operator</b></li> <li>• <b>Rigger Level II</b></li> </ul>
Lift Director—Mobile Cranes <b>AND</b> Lift Director—Tower Cranes	<ul style="list-style-type: none"> <li>• Lift Director <b>Core</b></li> <li>• Lift Director <b>Mobile Crane Specialty</b></li> <li>• Lift Director <b>Tower Crane Specialty</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Mobile Crane Operator Core</b></li> <li>• <b>Mobile Crane Operator Specialty TLL or TSS</b></li> <li>• <b>Mobile Crane Operator Specialty LBC or LBT</b></li> <li>• <b>Tower Crane Operator</b></li> <li>• <b>Rigger Level II</b></li> </ul>

\* No practical exams are required for Lift Director certification.

\*\*If you are currently CCO-certified as a mobile crane operator, you are not required to retake the Mobile Crane Operator Core and corresponding Specialty written exams. CCO-certified tower crane operators are not required to take the Tower Crane Operator written exam. CCO-certified Level II Riggers are not required to take the Rigger Level II written exam.

### CCO PRACTICAL EXAMINATIONS

The practical exam component of the lift director certification is incorporated in the written specialty exams through the use of scenario-based questions using custom-designed lift plans and crane load charts. These real-world scenarios test crane lift directors’ abilities to read, understand, and interpret documents 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 24 months after they pass their first exam to pass the corresponding exam(s). For example, a candidate passing the Lift Director Core Exam in January 2022 has until the end of January 2024 to pass the Lift Director—Mobile Cranes Specialty Exam.

If a certified Lift Director—Mobile Cranes subsequently becomes certified as a Lift Director—Tower Cranes by taking the appropriate written exam(s), the five-year certification period for Lift Director—Tower Cranes begins at the same time as he/she was originally certified (i.e., certifications for all Lift Director designations 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 lift director 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.

### RECERTIFICATION REQUIREMENTS

CCO certification is valid for five years. *Recertification candidates must complete all recertification requirements during the 12 months prior to their certification's expiration date. There is no grace period after their certification expires.* Candidates whose certification has lapsed must take the same examinations as required for initial certification to be certified again.

Recertification requirements include:

- Passing the applicable written examination(s)
  - Lift Director—Mobile Crane Written Exam *and* Mobile Crane Operator Core Written Exam
  - Lift Director—Tower Crane Written Exam *and* Tower Crane Operator Written Exam
- Compliance with CCO's Substance Abuse Policy
- Compliance with the Code of Ethics

The written exams required for recertification are identical to the exams required for initial certification.

Currently CCO-certified operators (TLL, TSS, LBC, LBT, or TWR) are not required to take the corresponding operator written exam(s) as long as they maintain their certification status in good standing. Lift Director recertification candidates who are not currently CCO-certified in the corresponding operator category(ies) are required to take

and pass the corresponding operator written exam(s) at recertification.

To add an additional Lift Director specialty, see the table on page 2 for which operator exams are required to add a Lift Director specialty (e.g., if adding Lift Director Mobile Crane specialty to Lift Director Tower Crane certification, candidates must take and pass the Mobile Crane Operator Core Exam and two Specialty Exams, TLL or TSS and LBC or LBT). The Rigger Level II written exam is not required for either recertification or adding a Lift Director specialty.

Recertification candidates may take their written examinations up to one year prior to their certification's date of expiration. Regardless of the date of the written examinations 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 LIFT DIRECTORS

CCO-certified lift directors 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*

IF YOU ARE SEEKING RECERTIFICATION FOR:	TAKE THE CORRESPONDING WRITTEN EXAMS:	
	LIFT DIRECTOR EXAMS	OPERATOR EXAMS*
Lift Director—Mobile Cranes	• Lift Director <b>Mobile Crane</b>	• <b>Mobile Crane Operator Core</b>
Lift Director—Tower Cranes	• Lift Director <b>Tower Crane</b>	• <b>Tower Crane Operator</b>

*\*Currently CCO-certified mobile crane operators are not required to retake the Mobile Crane Operator Written Core Exam for recertification. Currently CCO-certified tower crane operators are not required to retake the Tower Crane Operator Written Exam for recertification. Current Lift Director certificants are not required to retake the Rigger Level II exam for recertification.*

*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 NCCCO 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](http://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](http://www.nccco.org/abuse).

## **CERTIFICATION CARDS**

Certified lift directors 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](http://www.nccco.org/newcard).

Please note that if a certified lift director is also a certified crane operator, inspector, rigger, or signalperson, a separate lift director 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](http://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](http://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](http://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](http://www.nccco.org/techreq). For more information, go to [www.nccco.org/OPT](http://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](http://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](http://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](http://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

## LIFT DIRECTOR

### 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](http://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](mailto: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](http://www.nccco.org/inforelease).



# Written Examination Outline

## LIFT DIRECTOR—CORE EXAMINATION

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

### Domain 1: Site

- Approximately 20% of test

### Domain 2: Roles, Responsibilities, and Qualifications

- Approximately 17.5% of test

### Domain 3: Lifting Operations

- Approximately 20% of test

### Domain 4: Lift Plans

- Approximately 5% of test

### Domain 5: Rigging

- Approximately 25% of test

### Domain 6: Signals

- Approximately 12.5% of test

## DOMAIN 1: SITE

1. Know how to identify and address hazards related to ground/surface conditions during lifting operations, such as:
  - a. Subsurface (voids, tanks, utilities)
  - b. Ground conditions (slopes, drainage, soil type)
  - c. Traffic control
2. Know how to identify and address hazards related to site access/transportation, such as:
  - a. Clearance/obstructions
  - b. Slopes
  - c. Compaction
  - d. Ground bearing
  - e. Traffic control
3. Know how to determine appropriate matting/cribbing. Elements of concern include, but are not limited to:
  - a. Types
  - b. Materials
  - c. Sizing (PSI vs. PSF, mat size adjustment for ground condition)
4. Know how to identify and address hazards associated with power lines or transmitter/communication towers, such as:
  - a. Defined lift zone vs. non-defined lift zone
  - b. During operations (>350kV, <350kV, working closer than Table A)
  - c. During travel
  - d. Emergency procedures

5. Know how to identify and address environmental conditions that adversely affect lifting operations, such as:
  - a. Weather (wind, lightning, snow/ice/frost, rain, fog, extreme temperatures)
  - b. Lighting conditions (artificial or natural)

6. Know how to identify and address hazards associated with lifting operations, such as:

- a. Taglines
- b. Non-standard rigging (specialty lifting devices)

## DOMAIN 2: ROLES, RESPONSIBILITIES, AND QUALIFICATIONS

1. Know the roles, responsibilities, and qualifications of personnel involved in the lifting operations, such as:
  - a. Lift director
  - b. Site supervisor
  - c. Crane operator (mobile, tower)
  - d. Crane owner
  - e. Crane user
  - f. Signalperson
  - g. Rigger
  - h. Controlling entity
  - i. Dedicated spotter

## DOMAIN 3: LIFTING OPERATIONS

1. Know how to identify and address hazards associated with special lifting operations, such as:
  - a. Critical lifts
  - b. Personnel lifting
  - c. Multi-crane lifts
  - d. Multiple load line lifts
  - e. Pick and carry
  - f. Assembly/disassembly
  - g. Lifting on, from or to water (e.g., barges, trestles, docks, launching)
  - h. Duty cycle operations
  - i. Demolition
2. Know and understand the requirements for communications during lifting operations

#### **DOMAIN 4: LIFT PLANS**

1. Know when and how to conduct pre-lift meetings
2. Know how to read, interpret, and communicate lift plans
3. Know how to recognize and address deviations from the lift plan prior to or during a lift, including items such as:
  - a. Site / environmental (tail swing, clearance to structures)
  - b. Crane configuration/location
  - c. Personnel
  - d. Load
  - e. Rigging
4. Know how to plan for contingencies (i.e., emergency lay down, shutdown, securing, personnel rescue)

#### **DOMAIN 5: RIGGING**

1. Understand inspection standards and regulations
2. Understand non-inspection standards and regulations
3. Know the proper application of rigging
4. Know how to select the proper rigging equipment

#### **DOMAIN 6: SIGNALS**

1. Know standard method signals for:
  - a. Hand signals
  - b. Voice signals
  - c. New signals
2. Understand crane dynamic principles and limitations
3. Know signaling regulations and requirements
4. Know how to determine safe load paths and movements

*For operator and rigger exam outlines, refer to the appropriate candidate handbooks available at [nccco.org/handbooks-forms](http://nccco.org/handbooks-forms).*



# Written Examination Outline

## LIFT DIRECTOR SPECIALTY EXAMINATIONS

The lift scenario questions found on the Lift Director Specialty Exams are designed to evaluate a candidate's ability to comprehend the presented information and apply knowledge of lift planning and directing in circumstances that may be found in real life situations. During the exam administration, candidates will be provided a supplementary booklet that includes simulated lift plans intended to replicate real work conditions. These documents will be used to answer a series of scenario-based questions relating to the information on the plans.

As in actual work conditions, lift plans are made and approved using the best information available to those drafting those plans. However, actual site conditions are constantly changing, or mistakes may have been made during the initial design process and upon arrival at a site, a lift director often must make adjustments based on actual site conditions. Many of the lift scenario questions contained within the exam are specifically designed to test a candidate's ability to understand and adjust to these changing circumstances.

The Lift Director Specialty Exams contain questions related to standard load chart usage, as well as questions using single-crane and multiple-crane lift plans. Many of the questions require the use of one or more load charts, and it is recommended that candidates become familiar with the charts prior to taking the examinations.

The Lift Director—Mobile Cranes Specialty Exam uses the following load charts:

- Grove (Rough Terrain) TLL
- Manitowoc LBC

The Lift Director—Tower Cranes Specialty Exam uses the following load charts:

- Tower Crane (Hammerhead) Chart D
- Tower Crane (Luffing Boom) Chart F

These load charts can be viewed and downloaded as PDFs from the Lift Director Load Charts page on the CCO website ([nccco.org/LDloadcharts](http://nccco.org/LDloadcharts)).

The content domains in the outline for the Specialty Exams represent the knowledge areas that are generally relevant to load chart usage or lift planning. However, no specific percentage breakdown for the individual content domains has been generated, since multiple knowledge areas may be addressed in a single question.

Each Specialty Exam includes 15 multiple-choice questions broken down into three sections, each having five different scenarios:

- Load Chart Interpretations and Calculations (5 questions)
- Single-Crane Lift Plan (5 questions)
- Multi-Crane Lift Plan (5 questions)

### LOAD CHARTS

1. Know how to read and interpret load charts for mobile and tower cranes, including how to:
  - a. Determine net capacity with a given configuration (including limiting factors)
  - b. Determine maximum/minimum radius using a known load weight
  - c. Determine crane configuration to optimize lifting capacity
  - d. Calculate and apply percentage of rated capacity used

### LIFT PLANS

1. Apply knowledge of requirements for single crane and multi-crane lifts, including:
  - a. Critical lifts
  - b. Pick and carry operations
  - c. Duty cycle operations
  - d. On rubber lifts
  - e. Personnel lifting
2. Apply knowledge of site factors which may affect lift plans and operations, including:
  - a. Obstructions and clearances
  - b. Ground conditions
  - c. Environment/weather
  - d. Power lines
  - e. Site controls (e.g. pedestrians, vehicle traffic)
3. Apply knowledge of crane factors which may affect lift plans and operations, including:
  - a. Crane set-up (e.g. placement, outrigger spread, blocking/cribbing)
  - b. Crane configuration

4. Apply knowledge of personnel requirements which may affect lift plans and operations, including:
  - a. Qualifications and responsibilities
  - b. Communications
  - c. Traffic controls
  - d. Placement of personnel
5. Apply knowledge of factors which may affect lift plans and operations, including:
  - a. Load weight
  - b. Unusually shaped loads
  - c. Use of taglines
  - d. Load paths and movements
  - e. Load elevation and placement
6. Know how to recognize and address deviations from the lift plan prior to or during the lift.
7. Know how to plan for contingencies (e.g. emergency lay down, shutdown, securing, personnel rescue)





# Reference List

## LIFT DIRECTOR

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

### OSHA References

1. OSHA 1926 Subpart CC – Cranes and Derricks in Construction
2. OSHA 1910.180 – Crawler Locomotive and Truck Cranes
3. OSHA 1910.184 – Slings
4. OSHA 1926.251 – Rigging Equipment for Material Handling

*CFR 1910.180:* <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.180>

*CFR 1926 Subpart CC:* <https://www.osha.gov/laws-regs/regulations/standardnumber/1926>

### ASME References

1. ASME B30.3 (2016) – Tower Cranes (for Tower Specialty) ..... \$62.00
2. ASME B30.5 (2014) – Mobile and Locomotive Cranes (for Mobile Specialty) ..... \$92.00
3. ASME B30.9 (2010) – Slings ..... \$85.00
4. ASME B30.10 (2009) – Hooks ..... \$58.00
5. ASME B30.26 (2010) – Rigging Hardware ..... \$50.00

*Order by Internet:* <https://www.asme.org/codes-standards/find-codes-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

*For operator and rigger exam reference materials, refer to relevant candidate handbooks available at [www.nccco.org/handbooks-forms](http://www.nccco.org/handbooks-forms).*



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