



CCO Certification

CANDIDATE HANDBOOK

- **Lift Director**



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Program Description

Welcome to the CCO Lift Director certification program. This nationally recognized and accredited certification program is the culmination of hard work by experts from the various industries and groups that use lift directors.

The CCO Lift Director Exam Management Committee oversees the content of the certification exams. It is comprised of experts from all aspects of the crane industry, who collectively represent many thousands of hours of crane-related experience. These volunteers freely give their time and expertise to improve the safety of all those working in and around load-handling equipment.

WHO IS A CERTIFIED LIFT DIRECTOR?

Within the confines of the responsibilities outlined in ASME B30 and in accordance with OSHA 1926 Subpart CC, a Lift Director oversees the work being performed by a crane and associated rigging crew and has demonstrated competence in areas that include pre-lift planning, preparation, and coordination for crane operations; coordinating communications among relevant personnel; attending to aspects of safety associated with the crane(s), equipment, load, and environmental conditions, and addressing hazards where they exist; ensuring that personnel involved in crane operations understand their responsibilities, assigned duties, and the associated hazards; informing crane operators of the weight of loads to be lifted, as well as the lifting, moving, and placing locations for these loads; and ensuring proper rigging and balancing of loads.

Certifications exist for Mobile Crane Lift Director and Tower Crane Lift Director.

To earn certification, the candidate must pass the nationally standardized examinations built to job task analyses that define the required knowledge, skills, and abilities for a lift director of mobile and/or tower cranes.

WHAT IS AN ACCREDITED CERTIFICATION?

The certification process defines an exact and uniform standard to aid in identifying competent workers in specific job roles. The process of getting certified resembles obtaining a driver's license since candidates must pass both knowledge and practical skill assessments through standardized exams.

Accredited certification bodies meet an even higher standard by ensuring that the development process of certification exams includes job task analyses, which allows industry professionals to identify real-world scenarios for workers.

Accredited certification also includes subject matter experts along with psychometricians to create fair, valid and reliable assessments after analyzing the requirements and job-task analysis.



Certification Policies

ELIGIBILITY

To be eligible for certification, candidates must:

- Be at least 18 years of age
- Comply with CCO's Substance Abuse Policy
- Comply with CCO's Code of Ethics
- Pass the Core written examination
- Pass the Specialty written examination(s)

CERTIFICATION EXAM OPTIONS

IF YOU ARE SEEKING CERTIFICATION FOR:	TAKE THE CORRESPONDING WRITTEN EXAMS:
Lift Director Mobile Cranes	• Lift Director Core • Lift Director Mobile Crane Specialty
Lift Director Tower Cranes	• Lift Director Core • Lift Director Tower Crane Specialty
Lift Director Mobile Cranes and Lift Director Tower Cranes	• Lift Director Core • Lift Director Mobile Crane Specialty • Lift Director Tower Crane Specialty

EXAMINATION FEES

For all exam and related fees, visit:

- www.nccco.org/fees

CCO CERTIFICATION TIME FRAMES

For the CCO Lift Director certification, candidates must pass the Written Core Examination and the Written Specialty Examination(s) to be certified for five years. The Written Core and Specialty Exams may be taken in either order. Candidates have 12 months from the time they pass their first Written or Specialty Exam for each crane type in which to pass the corresponding (Core or Specialty) Exam.

Any tests passed within 12 months count towards certification. For example, a candidate who fails the Core Written Exam in January 2015 but passes the Lift Director of Mobile Cranes Specialty Exam in June 2015 has until the end of June 2016 to retake and pass the Written Core Exam.

RECERTIFICATION REQUIREMENTS

CCO Lift Director certification is valid for five years. Recertification candidates must complete all their recertification requirements during the 12 months before their certification's expiration date. Regardless of the date of the exams within that one year, the new five-year certification period begins from the date of expiration of the candidate's initial certification.

Recertificants must:

- Pass the Lift Director written Core examination
- Pass the written Specialty examination(s) for which they are certified
- Comply with CCO's Substance Abuse Policy
- Comply with CCO's Code of Ethics

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.

Written exams for recertification are available at any written test administration. Candidates wishing to recertify may take exams via Online Proctored Testing (OPT), Test Center Testing (TCT), Event Online Testing (EOT), or contact the Test Site Coordinator who set up their initial certification.

Candidates may add a new certification at the same time as they take their recertification examinations by taking the required examination(s) for the new certification.

CERTIFICATION CARDS

Certified lift directors receive laminated photo ID cards at no cost when they certify, add a designation, or recertify. Replacement cards may be obtained from CCO for \$30 and ordered online.

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



Certification Overview

WRITTEN EXAMINATION

The Lift Director written examinations consist of a Core examination and Specialty examination(s) for the Lift Director of Mobile Cranes and the Lift Director of Tower Cranes.

The Core examination has 45 multiple-choice questions, and candidates are allowed 60 minutes to complete the exam.

The Specialty examinations each have 50 multiple-choice questions, and candidates are allowed 90 minutes to complete each of the Specialty exams.

A calculator is permitted for the Core and Specialty exam(s).

CCO has three options for taking written exams:

Online Proctored Testing (OPT), Test Center Testing (TCT), and Event Online Testing (EOT). Testing fees remain the same regardless of the option you choose.

All methods of test delivery offer:

- Easy and fast online application
- No late application fees
- Quick and simple online scheduling
- No rescheduling fees
- Switch between testing options easily and at no cost
- Immediate score reporting *

**A preliminary score will be available immediately. Results are subject to review and approval in accordance with standard testing protocols.*

The same exam delivery platform is used to administer all written exams, so the look and feel is nearly identical, no matter which option is selected. Exams that require supplements (e.g., load charts) or calculators have these available on-screen. In place of scratch paper, candidates may use a physical whiteboard/dry-erase board up to 8.5 in. x 11 in. or an on-screen whiteboard that is built into the exam.

See how the testing platform works at:

- www.nccco.org/ESOdemo

COMPARING EXAM DELIVERY OPTIONS

Online Proctored Testing (OPT)

OPT allows individual candidates to take exams anytime, anywhere via computer, while being monitored virtually by a proctor. Benefits specific to OPT include:

- Available 24/7 – Test without missing work
- Test from anywhere – Home, office, hotel, anywhere with sufficient internet and a private room with a closed door
- Fast scheduling – Candidates may be able to schedule testing appointments in as little as 15 minutes (pending availability)
- Exams on your computer - Use your own computer that meets minimum technical requirements and has a microphone and webcam
- Flexible rescheduling – You may reschedule up to 30 minutes before your exam appointment time
- No additional fees – no “sitting fee” or other hidden charges

Test Center Testing (TCT)

TCT allows individual candidates to go to a professional computer lab environment established specifically for administering secure exams. Benefits specific to TCT include:

- Testing near you – Nearly 600 testing centers available nationwide
- Plan ahead – Candidates will schedule (or reschedule) exam appointments at least 2 days before testing
- Show up and test – No need to ensure your space, computer, or internet meet specifications
- Whiteboards provided – The test center provides an 8.5 in. x 11 in. whiteboard to each candidate
- In-person Proctor – Professional, experienced TCT staff on-site to get your exam started

- No additional fees – No “sitting fee” or other hidden charges

Event Online Testing (EOT)

EOT allows groups of candidates to take tests, usually at an employer's or training provider's facility. The EOT test site has complete flexibility with setting up exams on a schedule that meets the site and their stakeholders' needs. Benefits specific to EOT include:

- Familiar setting – Testing is typically done at your employer or training provider's facility
- On-site testing personnel – Individuals credentialed by CCO will be onsite to guide you through the test day process
- Scheduling flexibility – Work with testing personnel to schedule and reschedule, even if you miss your exam time
- Show up and test – No need to ensure your space, computer, and internet connection meet specifications

Length of Test Day

CCO policy permits candidates to take written exams totaling 5.5 hours of test time for written exams at a single test administration. Candidates needing to take written exams totaling over 5.5 hours will need to schedule multiple test administrations.

PRACTICAL EXAMINATION

The practical exam component of the Lift Director certification is incorporated in the written specialty exams using scenario-based questions using custom-designed lift plans and crane load charts. These real-world scenarios test lift directors' abilities to read, understand, and interpret documents commonly seen in the field.

FIND TEST LOCATIONS

Written Exams

- CCO written examinations are offered via online proctored testing (OPT) using your equipment from nearly any place with an internet connection, and on-demand at official sites nationwide
- Find test center testing (TCT) locations by logging into your myCCO portal
- Explore event online testing (EOT) options by searching your myCCO portal

If you represent an employer or an organization, you can find out how to establish your site as an official CCO EOT written exam test site or practical exam test site. Review the Test Administration Handbooks for written exams and practical exams for more information.

NOTE: Test sites and Practical Exam Proctors are permitted to charge additional fees beyond the CCO exam fees for the use of their facilities and/or services.



Written Examination Content Outline Lift Director – Core Examination 45 Questions / 60 Minutes (Calculator Permitted)

The Lift Director Core Written Examination tests the following knowledge areas relating to the direction of crane lifts:

Domain 1: Roles, Responsibilities, and Qualifications

- Approximately 22% of the test

Domain 2: Rigging

- Approximately 29% of the test

Domain 3: Signals

- Approximately 16% of the test

Domain 4: Site Safety

- Approximately 33% of the test

DOMAIN 1: ROLES, RESPONSIBILITIES, AND QUALIFICATIONS

- Identify the roles, responsibilities, and qualifications of personnel involved in the lifting operations, such as:
 - Lift director to include but not limited to:
 - Describe how to conduct pre-lift meetings
 - Basic planning
 - Tag lines
 - Site supervisor
 - Crane owner
 - Crane user
 - Signalperson
 - Rigger (to include tag lines)
 - Controlling entity
 - Dedicated spotter

DOMAIN 2: RIGGING

- Identify inspection standards and regulations:
 - Periodic/annual
 - Frequent/shift

- Identify non-inspection standards and regulations
- Recognize the application of rigging
 - Safe
 - Unsafe
 - General application
- Determine the proper rigging equipment
 - Perform calculations relating to:
 - Weight/volume
 - Angle of loading
 - Center of gravity

DOMAIN 3: SIGNALS

- Recognize standard method signals for:
 - Hand signals
 - Voice signals
 - Non-standard signals
- Recognize crane dynamic principles and limitations
- Recognize signaling regulations and requirements
- Recognize safe load paths and movements including placement of personnel

DOMAIN 4: SITE SAFETY

- Identify and address hazards associated with power lines or transmitter/communication towers, such as:
 - Defined lift zone vs. non-defined lift zone
 - During operations (>350kV, <350kV, working closer than Table A)
 - During travel
 - Emergency procedures
- Identify and address hazards associated with special lifting operations, such as:
 - Critical lifts
 - Personnel lifting
 - Multi-crane lifts



Written Examination Content Outline

Lift Director Mobile Crane Specialty Exam

Lift Director Tower Crane Specialty Exam

50 Questions / 90 Minutes (Calculator Permitted)

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 presented with supplementary documents that include simulated lift plans intended to replicate real work conditions. These documents will be used to answer a series of scenario-based questions relating to 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, and a lift director often must adjust 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 of Mobile Cranes Specialty Exam uses the following load charts:

- Rough Terrain Telescopic Boom Crane — Swing Cab (TLL)
- Crawler Mount Lattice Boom Crawler (LBC)

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

- Hammerhead Tower Crane
- Luffing Boom Tower Crane

These load charts can be viewed and downloaded as PDFs from the Lift Director Load Charts page on the CCO website:

- <http://www.nccco.org/nccco/certifications/lift-director/written-exam/load-charts>

Each Specialty Exam includes five questions related to a single- or multi-crane lift plan. The Specialty examinations of the CCO Lift Director Written Examination test the following knowledge areas relating to mobile and tower cranes:

Domain 1: Site

- Approximately 40% of the test

Domain 2: Lifting Operations

- Approximately 14% of the test

Domain 3: Lift Plans (Single- and Multi-Crane Lift Requirements)

- Approximately 46% of the test

DOMAIN 1: SITE

1. 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)
2. 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. 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. Identify and address hazards associated with lifting operations, such as:
 - a) Taglines
 - b) Non-standard rigging (specialty lifting devices)
 - c) Power lines
 - d) Environment
 - i. Weather (wind, lightning, snow/ice/frost, rain, fog, extreme temperatures)
 - ii. Lighting conditions (artificial or natural)

DOMAIN 2: LIFTING OPERATIONS

- 1. Identify and address hazards associated with special lifting operations, such as:
 - a) Multiple load line lifts (Mobile Specialty only)
 - b) Pick and carry (Mobile and Tower Specialties)
 - c) Assembly/disassembly (Mobile Specialty only)
 - d) Erection/Dismantle (Tower Specialty only)
 - e) Lifting on, from, or to water (e.g., barges, trestles, docks, launching (Mobile and Tower Specialties)
 - f) Duty cycle operations (Mobile and Tower Specialties)
 - g) Demolition (Mobile and Tower Specialties)

DOMAIN 3: LIFT PLANS

(SINGLE- AND MULTI-CRANE LIFT REQUIREMENTS)

- 1. Read, interpret, and communicate lift plans
- 2. 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/setup
 - c) Personnel
 - d) Load
 - e) Rigging
- 3. Describe how to plan for contingencies (i.e., emergency laydown, shutdown, securing, personnel rescue)
- 4. 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
- 5. Apply knowledge of site factors which may affect lift plans and operations, including:
 - a) Ground conditions
 - b) Site controls (e.g., pedestrians, vehicle traffic)
 - c) Power lines



Reference List

The latest versions of the following reference materials are used by CCO's Lift Director Exam Management Committee to verify the accuracy of CCO test questions. Candidates are also strongly advised to become familiar with load charts in preparing for CCO certification examinations.

ASME B30.3 – Tower Cranes (2025):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-3-tower-cranes>

ASME B30.5 – Mobile and Locomotive Cranes (2021):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-5-mobile-locomotive-cranes>

ASME B30.9 – Slings (2025):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-9-slings>

ASME B30.10 – Hooks (2024):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-10-hooks>

ASME B30.20 – Below-the-Hook Lifting Devices (2025):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-20-hook-lifting-devices>

ASME B30.26 – Rigging Hardware (2020):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-26-rigging-hardware/2015/pdf>

ASME B30.29 – Self-Erecting Tower Cranes (2018):

- <https://www.asme.org/codes-standards/find-codes-standards/b30-29-self-erecting-tower-cranes>

Bob's Rigging & Crane Handbook:

- <https://www.bobsindustrialpublications.com/product/bobs-rigging-crane-handbook/>

CCO Rigger Reference Manual:

- https://www.nccco.org/docs/default-source/reference-materials-2014/nccco-rigger-reference-manual_060419a.pdf?sfvrsn=449dfa0e_2

CCO Tower Crane Reference Manual:

- https://www.nccco.org/docs/default-source/reference-materials-2014/tc_rm_032714a.pdf?sfvrsn=2

IPT's Crane & Rigging Training Manual:

- <https://iptbooks.com/product/crane-and-rigging-training-manual/>

OSHA 1926 Subpart CC – Cranes and Derricks in Construction:

- <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartCC>

OSHA 1910.180 – Crawler Locomotive and Truck Cranes:

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

OSHA 1910.184 – Slings:

- <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.184>

OSHA 1926.251 – Rigging Equipment for Material Handling:

- <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.251>

OSHA 1926 Subpart R – Steel Erection:

- <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926SubpartR>



CCO Policies

All program participants must adhere to CCO policies and procedures. Key policies can be found at:

- <https://www.nccco.org/nccco/about-nccco/policies>



CCO Certification
990 W. Bellwood Ln.
Suite 100
Murray, Utah 84123
Phone: 703-560-1291
info@ccocert.org
www.nccco.org