



Australian Government

Department of Education, Employment and Workplace Relations

CPCBC4045A Perform advanced rigging

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to perform advanced rigging, including planning and preparing for work, conducting operational checks, safely and effectively performing advanced rigging activities for a range of tasks including the erection and dismantling of lifting devices, placing and securing hung prefabricated scaffolds, fixing and securing permanent guys, demolition activities, and load distribution and calculation in accordance with designated Australian standards.

A Certificate of Competency or Licence in Intermediate Rigging issued by a state or territory OHS authority is a prerequisite for this unit.

Application of the Unit

Application of the unit

This unit may have application in a range of industries, including civil construction, defence, electro technology, entertainment, maritime and mining, in addition to general construction.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operation.	<p>1.1. Applicable <i>safety (OHS), licensing, legislative</i> and <i>organisational requirements</i> relevant to performing advanced rigging are verified and complied with.</p> <p>1.2. <i>Work order</i> is reviewed, confirmed and clarified with <i>appropriate personnel</i>.</p> <p>1.3. Type of operations to be conducted for <i>advanced rigging</i> are assessed and prepared.</p> <p>1.4. <i>Equipment</i> is selected appropriate to work requirements and checked for operational effectiveness in accordance with manufacturer recommendations.</p> <p>1.5. Advanced rigging operations are planned in accordance with site procedures.</p> <p>1.6. <i>Environmental protection measures</i> are adhered to in accordance with environmental plans and regulations.</p> <p>1.7. Communication with others is established and maintained in accordance with OHS requirements.</p>
2. Select advanced rigging equipment.	<p>2.1. Advanced rigging equipment, resources and material are visually inspected prior to operation for evidence of damage, structural weakness or interference according to pre-operational safety check procedures.</p> <p>2.2. <i>Lifting equipment</i> is inspected in accordance with manufacturer recommendations and specifications.</p> <p>2.3. Lifting equipment verified as inconsistent with manufacturer specifications is labelled, rejected and disposed of to prevent its use in any circumstance.</p> <p>2.4. <i>Lifting devices</i> are specified and selected in accordance with job requirements.</p> <p>2.5. <i>Hung prefabricated scaffolding</i> is specified and selected in accordance with job requirements.</p> <p>2.6. <i>Permanent guys</i> are specified and selected in accordance with job requirements.</p> <p>2.7. Site <i>hazards</i> associated with dogging operations are detected, risks are assessed and safe operating techniques are used to eliminate or control risks.</p>
3. Connect equipment.	<p>3.1. Loads are slung to ensure <i>encapsulation</i> of the whole of load.</p> <p>3.2. Part loads are slung to ensure full encapsulation of the part load.</p> <p>3.3. Whole or part loads are slung to protect loads and</p>

ELEMENT	PERFORMANCE CRITERIA
4. Move or remove, place and secure loads.	<p>secured to prevent uncontrolled movement.</p> <p>3.4. Tag lines are attached and used to prevent unnecessary load movement.</p> <p>4.1. Load lifting or shifting order is specified to minimise necessity of double lifts.</p> <p>4.2. Lifting or shifting equipment is connected to the load.</p> <p>4.3. Test lift or shift is performed in conjunction with the crane operator to ensure lift suitability.</p> <p>4.4. Load is safely moved or removed to the required destination, placed and secured in position to client specifications or job requirements and tasks are completed effectively.</p> <p>4.5. Load is constantly monitored to ensure safety to personnel, load and structural stability with monitoring systems and alarms immediately acted upon in accordance with site requirements.</p> <p>4.6. Load is directed and safe movement coordinated using communications in compliance with recognised work practices.</p>
5. Remove advanced rigging equipment and clean up.	<p>5.1. Lifting or shifting equipment and packing are dismantled, lowered and inspected for wear, and logbook and site records are completed to company requirements.</p> <p>5.2. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specifications.</p> <p>5.3. Tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.</p> <p>5.4. Work completion procedures are applied and appropriate personnel is notified that work is finished.</p> <p>5.5. Advanced rigging operations and faults are recorded and reported to the appropriate personnel.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - clarify and confirm work order with appropriate personnel
 - participate in on-site meetings
 - read and interpret:
 - instructions
 - work orders
 - other relevant documentation
 - report faults and respond appropriately
 - use and interpret non-verbal communication
 - use language and concepts appropriate to cultural differences
 - written skills to:
 - document hazards
 - record and report faults
- comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for performing advanced rigging operations
- efficiently and safely perform advanced rigging operations
- numeracy skills to calculate rated capacity and working load limits
- use and maintain relevant tools, machinery and equipment
- verify problems and equipment faults and demonstrate appropriate response procedures.

Required knowledge

Required knowledge for this unit is:

- advanced rigging capabilities and gear
- advanced rigging operations and operating techniques
- crane operations and limitations
- designs and functions of lifting equipment
- environmental protection requirements relating to the disposal of waste material
- established communication channels and protocols in the workplace
- federal, and state or territory OHS legislation, regulations, standards and codes of practice relevant to the full range of processes for performing advanced rigging operations
- job safety analysis (JSA) and safe work method statements

REQUIRED SKILLS AND KNOWLEDGE

- material safety data sheets (MSDS) and material handling methods
- organisational and site standards, requirements, policies and procedures for performing advanced rigging operations
- procedures for recording, reporting and maintaining workplace records and information
- rated capacity and working load limit tags
- risk assessment and management
- safe working at heights and fall arrest
- techniques for calculating rated capacity and working load limits
- types of tools and equipment and procedures for their use, operation and maintenance
- typical routine problems encountered in the process and with equipment and adjustments required for correction
- weather and ground considerations.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed by providing evidence of safely and efficiently performing advanced rigging according to organisational and regulatory requirements.

This unit of competency can be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with organisational and site policies and procedures including quality requirements and state or territory legislation applicable to workplace operations
- comply with OHS and environmental regulations, policies and procedures
- communicate effectively and work safely with others in the work area
- conduct risk assessment and management procedures
- erect and dismantle at least one lattice boom crane and fly with correct rigging and slinging techniques
- set up, erect, test, operate and dismantle a hoist, flying fox, gin pole and hung prefabricated scaffold
- conduct advanced rigging operations for a demolition project, including the deconstruction of major construction components
- apply both single and dual lifting techniques
- conduct pre and post-operational checks of advanced rigging equipment.

EVIDENCE GUIDE

Context of and specific resources for assessment This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- workplace location or simulated workplace
- materials and equipment relevant to performing advanced rigging
- specifications and work instructions.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and

EVIDENCE GUIDE

separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Safety (OHS) is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling activities that may require the assistance of others or the use of manual or mechanical lifting devices where size, weight or other issues, such as disability are a factor
- hazard control
- hazardous materials and substances
- housekeeping
- organisational first aid
- personal protective equipment (PPE)

RANGE STATEMENT

prescribed under legislation, regulations and workplace policies and practices

- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
 - machines
 - man-made structures
 - obstructions
 - recently filled trenches
 - restricted access barriers
 - safe parking
 - security from unauthorised access or movement
 - signage and barricades
 - surrounding structures
 - traffic control
 - underground or overhead services
 - uneven or unstable surfaces or terrain
 - work site visitors and the public
 - working at heights
 - working in proximity to others
- use of firefighting equipment
- use of tools and equipment
- workplace environmental requirements and safety.

Licensing includes:

- relevant recognition, permit, licence or permission to operate within any state or territory issued by the government regulatory authority of that jurisdiction.

Legislative requirements include:

- award and organisation agreements and relevant industrial arrangements
- confidentiality and privacy requirements
- environmental issues
- equal opportunity
- industrial relations and anti-discrimination
- OHS issues
- relevant industry codes of practice
- relevant legislation from all levels of government that affect business operation.

Organisational requirements

- access and equity principles and practices

RANGE STATEMENT

include legal, organisational and site policies, guidelines and procedures relating to:

- consultative processes
- emergency and evacuation procedures
- equipment maintenance and storage procedures
- ethical standards
- OHS policies
- own role and responsibility
- procedures and programs
- quality and continuous improvement processes and standards
- quality assurance or procedures manuals
- recording and reporting procedures.

Work order includes:

- organisational work specifications and instructions issued by authorised personnel for the performing of advanced rigging and its respective tasks.

Appropriate personnel includes:

- client
- colleague
- manager
- supervisor
- supplier.

Advanced rigging includes work involving the use of mechanical load shifting equipment and associated gear:

- to set up and dismantle cranes and hoists and demolition activities
- to ensure the stability of those members
- to move, place or secure a load using plant, equipment or members of a building or structure.

Equipment includes:

- advanced rigging lifting gear, including:
 - angle grinders
 - automatic levels
 - chains
 - drifts
 - elevated work platforms
 - explosive power tools
 - flexible steel wire ropes
 - hammers
 - laser levels
 - natural or synthetic fibre
 - oxy-acetylene equipment
 - pneumatic tools
 - podgers

RANGE STATEMENT

- rattle guns
- relevant maintenance equipment
- shifting spanners
- skids
- sledgehammers
- spanners
- spirit levels
- tape measures
- water levelling equipment
- wedges
- wrenches
- procedures:
 - for equipment lock-out protecting operators and co-workers from accidental injury by isolating the equipment
 - emergency shutdown and stopping
 - extinguishing fires
 - organisational first aid requirements
 - evacuation.
- clean-up management
- noise and dust
- waste management.
- includes:
 - air winches
 - chain blocks
 - chain winches
 - come alongs
 - hand operated creeper winches
 - L bolts
 - jacks
 - pulley blocks
 - shackles
 - trolleys
 - turn buckles
- may include:
 - electric chain motors
 - lifting clutches and snatch blocks

Environmental protection measures include organisational and project requirements, including:

Lifting equipment:

RANGE STATEMENT

- lifting lugs
 - rigging screws.
- Lifting devices*** include:
- cantilevered crane loading platforms
 - hoists
 - mast climbers.
- Hung prefabricated scaffolding*** includes:
- sections or componentry of suspended scaffolds.
- Permanent guys*** include:
- flying foxes and cable ways
 - gin poles
 - guyed derricks
 - shear legs.
- Hazards*** include:
- buildings
 - chemicals
 - fires
 - hazardous materials
 - movement of equipment, goods or material
 - structures
 - traffic
 - underground or overhead services
 - uneven or unstable surface or terrain.
- Encapsulation*** is to ensure:
- that the part load or whole load is fully contained within the slinging equipment.
- Tag lines*** include:
- lines to assist the directional guidance of the load.
- Shifting equipment*** includes:
- hydraulic jacks
 - rails
 - skates
 - winches.
- Cranes*** include:
- bridge and gantry cranes
 - city cranes
 - derrick cranes
 - fixed cranes
 - hydraulic mobile cranes
 - lattice boom mobile cranes
 - non-slewing cranes
 - portal cranes
 - slewing cranes
 - tower cranes, including self-erecting tower cranes.

RANGE STATEMENT

Tasks include:

- demolition activities
- erection and dismantling of lifting devices
- fixing and securing of permanent guys
- load distribution and calculation of loads
- placing and securing of hung scaffolds and prefabricated suspended scaffolds.

Records and reports include:

- advanced rigging operations and maintenance of equipment
- conclusions
- costs
- dangerous occurrences or equipment malfunctions using logbooks
- difficulties or issues faced
- environmental issues
- hazards
- incidents or injuries
- pro formas
- production reports
- recommendations and maintenance records
- recommendations for future work
- results.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area

