



Australian Government

Assessment Requirements for TLILIC3003 Licence to operate a bridge and gantry crane

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Performance Evidence

A person who demonstrates competency in this unit must provide evidence safely operating a bridge and gantry crane and satisfy all of the elements, performance criteria and foundation skills requirements of the unit on at least one occasion including:

- applying appropriate mathematical procedures to estimate loads
- applying hazard prevention/control measures including:
 - adequate illumination
 - disconnected power
 - insulated electric lines
 - moving obstructions
 - pedestrian barricades
 - personal protective equipment
 - safety tags on electrical switches/isolators
 - using safety observer inside exclusion zone
 - traffic barricades and control
- applying risk assessment and hazard control strategies, including hierarchy of control as applied to the safe operation of the crane
- applying risk assessment and management procedures
- completing pre- and post-operational checks of a bridge and gantry crane
- communicating with other workplace personnel through:
 - appropriate worksite protocols
 - bells
 - buzzers
 - listening
 - making and interpreting hand signals
 - questioning to confirm understanding
 - signage
 - two-way radios
 - verbal and non-verbal language
 - written instructions

- complying with work health and safety (WHS)/occupational health and safety (OHS) licensing legislation
- operating a bridge and gantry crane including all functions to their maximum for lifting and moving loads to the maximum rated capacity in conjunction with other personnel while applying relevant crane movements including:
 - hoisting (raising and lowering)
 - traversing (moving hoisting mechanisms along bridge)
 - travelling (at minimum speed, gentle acceleration and braking, to minimise load swing)
- receiving and interpreting workplace instructions, safety information, emergency procedures
- recording and maintaining accurate information relating to bridge and gantry crane operations
- shutting down bridge and gantry crane in accordance with manufacturer specifications and workplace procedures including:
 - isolating power to crane
 - locking and securing cabin as required
 - removing key from control panel as required
 - retracting hoist rope and hook block
 - travelling crane to park position
- test-lifting load just clear of lifting plane to ensure:
 - adjustments to slinging can be made in a safe manner
 - all crane equipment is functioning properly
 - load measuring equipment can be used to verify calculated weight of load
 - loads of unusual shape or weight distribution are correctly slung
 - near capacity loads do not overload crane
- using and interpreting crane manufacturer specifications and data, including maximum load to ensure crane is not overloaded
- using communications signals including:
 - hoist up – hand
 - hoist up – whistle
 - hoist down - hand
 - hoist down- whistle
 - stop – hand
 - stop – whistle
 - traverse – hand
 - travel – hand
 - creep - hand
- verifying problems and equipment faults, and applying appropriate response procedures to unplanned and/or unsafe situations including:
 - environmental conditions (e.g. wind, lightning, storms, etc.)

- failure/loss of control (e.g. brakes and steering)
- failure of equipment (e.g. hydraulic system)
- obstacles and obstructions
- unusual or difficult terrains.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, and performance criteria and include knowledge of:

- appropriate mathematical procedures for estimating loads
- Australian and industry standards relevant to operating a bridge and gantry crane
- bridge and gantry crane characteristics and capabilities to allow for operating a crane to suit the range of loads
- Commonwealth, state or territory WHS/OHS legislation, standards and codes of practice relevant to the full range of processes for the crane class
- emergency procedures including escape routes
- hazards including:
 - environmental conditions (e.g. wind, lightning, storms)
 - ground stability (e.g. ground condition or slopes for load placement)
 - insufficient lighting
 - other specific hazards (e.g. dangerous materials)
 - overhead hazards (e.g. electric lines, service pipes)
 - traffic (e.g. pedestrians, vehicles, plant)
- hierarchy of hazard identification and control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)
- organisational and workplace standards, requirements, policies and procedures for conducting operations for the crane class
- procedures for recording, reporting and maintaining workplace records and information
- rated capacity and working load limits (including use of crane load charts)
- risks associated with overhead electric lines/electrical cables, access to cabin, vehicles and clear access while travelling
- systematic process of eliminating or reducing risk to personnel and property through the application of controls

- typical routine problems encountered operating crane and equipment, and adjustments required for correction.

Assessment Conditions

Assessments must be conducted by an assessor accredited for this high risk work (HRW) licence class in the Commonwealth/state/territory where the licence will be obtained (i.e. an assessor authorised by a Commonwealth/state/territory WHS/OHS regulator).

As a minimum, assessors must satisfy applicable regulatory requirements, which may include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and all assessment must be conducted in the English language.

Assessment of performance must be undertaken in the workplace and/or under realistic workplace conditions which typically reflect:

- performing tasks/activities within timelines that would be expected in a workplace
- standard and authorised work practices, safety requirements and environmental constraints
- using full-scale equipment

Bridge and gantry crane operation assessment must be conducted in a working zone in accordance with state/territory arrangements.

If the working zone is located at a 'live' site, assessment should continue in all weather conditions unless the safety of the candidate or others could be compromised.

Simulators must **not** be used in the assessment of this unit of competency.

Accredited assessors are responsible for ensuring candidates have access to:

- appropriate bridge crane, a bridge beam mounted at each end to an end carriage, capable of travelling along elevated runways and having one or more hoisting mechanisms arranged to traverse across the bridge
- appropriate gantry crane, a bridge beam, supported at each end by legs mounted on end carriages, capable of travelling on supported surfaces or deck levels, whether fixed or not, which has a crab with one or more hoisting units arranged to travel across the bridge
- appropriate personnel to sling and direct loads including:
 - doggers
 - riggers
- communications equipment including:
 - bells
 - buzzers
 - two-way radios
 - whistles

- controls including:
 - cross travel levers
 - hoisting and lowering levers
 - long travel levers
 - rotating hook levers (where applicable)
- required personal protective equipment (PPE) for the purpose of the Performance Assessment
- safety devices including:
 - audible and visual reversing devices
 - horns/sirens
 - lights
- operator restraint devices
- where appropriate, relevant workplace procedures and standards for operating a bridge and gantry crane including:
 - approved codes of practice and guidance
 - Australian standard
 - checklists
 - control labels
 - crane data plates/labels
 - crane decals
 - history record system where service and maintenance history is kept
 - industry operating procedures
 - relevant industry standards (where applicable)
 - load charts
 - logbook
 - manufacturer guidelines (instructions, specifications or checklists) for the purpose of the Performance Assessment
 - safe work method statement (SWMS), as required
 - service logbook
 - signage and labels
 - workplace procedures (work instructions, operating procedures, checklists).

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

