



Australian Government

TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

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.

Application

This unit specifies the skills and knowledge required to safely operate a vehicle loading crane with a Maximum Rated Capacity (MRC) of 10 metre tonnes or more. Competence in this unit, does not in itself result in a High-Risk Work Licence (HRWL) to operate this plant.

Vehicle loading crane means a crane mounted on a vehicle for loading and unloading the vehicle.

A person performing this work is required to hold a vehicle loading crane HRWL.

This unit requires a person operating a slewing vehicle loading crane with a MRC of 10 metre tonnes or more to:

- plan for the work/task
- prepare for the work/task
- perform work/task
- pack up.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit of competency.

This unit is based on the licensing requirements of Part 4.5 of the Model Work Health and Safety (WHS) regulations and meets Commonwealth, state and territory HRWL requirements.

The National Assessment Instrument (NAI) is the mandated assessment for the HRWL to operate the relevant licencing class as detailed in this unit.

Pre-requisite Unit

Not applicable.

Competency Field

LIC - Licencing Units.

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Plan work/task

- 1.1** Task requirements are identified from work orders or equivalent, a lift plan is confirmed with associated personnel and a site inspection is conducted in accordance with workplace procedures
- 1.2** Work area operating surface is confirmed to determine the quality of ground suitability for operational use of vehicle loading crane in accordance with workplace procedures
- 1.3** Vehicle loading crane Rated Capacity (RC) and the lifting gear Working Load Limit (WLL) are established for the load/s and work/task requirements in accordance with manufacturer requirements and workplace procedures
- 1.4** Appropriate paths for operating the vehicle loading crane and moving and placing load/s in work area are assessed and determined in accordance with workplace procedures
- 1.5** Relevant hazard identification and risk elimination/control measures are applied and advised to relevant personnel in accordance with workplace procedures
- 1.6** Traffic management plan implementation is confirmed and followed in accordance with workplace procedures
- 1.7** Appropriate communication procedures are identified and tested with associated personnel in accordance with workplace procedures
- 1.8** All tasks are confirmed to ensure requirements for the relevant work area in accordance with workplace procedures

	1.9 Information required to ensure that lifting equipment and gear inspection, use, maintenance and storage complies with manufacturer requirements is obtained and interpreted
2 Prepare for work/task	2.1 Consultation with workplace personnel is established and maintained to ensure all crane and lifting operations are clear and consistent with site requirements in accordance with a lift plan and workplace procedures 2.2 Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures 2.3 Vehicle loading crane controls are accessed safely in accordance with manufacturer requirements and safe work procedures 2.4 Pre-start vehicle loading crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with safe work procedures and manufacturer requirements 2.5 Vehicle loading crane is set up correctly with any lifting gear as per the lift plan and in accordance with relevant manufacturer requirements, including load chart/s and safe work procedures 2.6 Boom/jib and lifting gear are set up, as required, in accordance with specific manufacturer requirements and safe work procedures 2.7 Vehicle loading crane is stabilised appropriately in accordance with the lift plan, relevant manufacturer requirements and safe work procedures 2.8 Operational checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures 2.9 Vehicle loading crane logbook is inspected and is correct for the crane type, is completed and signed, and required rectifications have been signed off in accordance with manufacturer requirements and safe work procedures 2.10 Weather and work environment conditions are assessed to determine any impact on vehicle loading crane operations in accordance with manufacturer requirements and safe work procedures

	2.11 Weight of load is identified, calculated or estimated 2.12 Derated WLL of lifting equipment resulting from selected slinging techniques is calculated 2.13 Suitable lifting points and slinging techniques are identified 2.14 Lifting equipment and gear is prepared for safe use 2.15 Load destination is confirmed for stability ensuring it is able to bear the load and is prepared for safe access and landing
3 Perform work/task	3.1 Lifts are determined within the RC of the vehicle loading crane in accordance with the load chart/s and lift plan 3.2 Boom/jib and hook block are safely positioned over the load following directions from associated personnel where applicable and in accordance with the lift plan and safe work procedures 3.3 Lifting equipment and gear are connected to the load and used safely in accordance with the lift plan, safe work procedures and manufacturer requirements 3.4 Test lift is carried out in accordance with safe work procedures 3.5 Loads are transferred using relevant crane movements and tag lines, as required, in accordance with lift plan and safe work procedures 3.6 Load and crane movement is monitored constantly and crane is operated safely in accordance with lift plan and safe work procedures 3.7 All required communication signals are correctly interpreted and followed whilst crane is operated in accordance with the lift plan and safe work procedures

3.8 Load is lowered and landed safely in accordance with lift plan and safe work procedures

3.9 Lifting gear is disconnected from load and crane is positioned safely and efficiently for next task in accordance with lift plan and safe work procedures

3.10 Lifting equipment and gear are inspected for defects, and defective items are isolated, tagged and reported

4 Pack up

4.1 Crane boom/jib, lifting gear and associated equipment are stowed and secured as required in accordance with manufacturer requirements and safe work procedures

4.2 Relevant motion locks and brakes are applied as required in accordance with manufacturer requirements and safe work procedures

4.3 Stabilisers are stowed and secured in accordance with manufacturer requirements and safe work procedures

4.4 Crane is shut down and secured to prevent unauthorised access/use in accordance with safe work procedures

4.5 Plates or packing are stowed and secured in accordance with safe work procedures

4.6 Shutdown crane checks are carried out in accordance with safe work procedures and manufacturer requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the TLI Transport and Logistics Training Package

Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLILIC0002 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above).

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)

Modification History

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

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least one occasion and include:

- applying relevant communication signals from associated personnel
- applying relevant crane movements, including:
 - boom/jib up and down (luffing)
 - catching load swing appropriately
 - positioning and using main hook and lifting gear to connect to load safely
 - raise and lower hoist
 - slew boom/jib
 - telescope in and out
- applying relevant mathematical calculations in conjunction with lift plan and load chart to determine radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load, including:
 - boom
 - stabiliser positioning
 - type of hook
- carrying out operational checks ensuring:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions are operational
 - lifting gear movements and control functions are smooth and comply with lift plan
 - hazard warning systems, safety, audible and visual warning devices are checked to ensure they are functional, including:
 - reversing beepers
 - lights
 - horns
 - start-up is in accordance with manufacturer requirements and safe work procedures
 - there are no unusual noises
 - crane control functions comply with operating requirements
- communicating with other associated personnel through using appropriate worksite procedures, including:

- two-way radio
- active listening
- demonstrating and interpreting hand signals
- questioning to confirm understanding
- signage
- whistles
- written instructions
- completing pre-start checks, including:
 - engine/mechanical fluid level checks as required by manufacturer requirements
 - presence of correct logbook
 - evidence of damage
 - fluid leaks
 - lights work effectively
 - locating, identifying and confirming all controls
 - fire extinguisher
 - safety equipment checks
 - signage and labels to ensure they are visible and legible
 - checking for signs of paint separation and stressed welds indicating potential structural weakness
 - tyres and wheels for damage/wear and correct inflation
 - updating records as required
 - visual damage or equipment faults
- complying with Commonwealth, state and territory work health and safety (WHS)/occupational health and safety (OHS) legislation
- conducting and applying risk and hazard assessment strategies, including:
 - confirming work area operating surface suitability based on crane and task requirements
 - dynamic loads
 - ground conditions, including condition of surface and slopes
 - load swing
 - overloading
 - lifting and placing load
 - tyre pressures and tyre condition
 - asymmetric loads
 - overhead hazards, including electric lines and service pipes
 - restricted and poorly ventilated areas
 - risk of collision with people, moving plant and fixed structures
 - adequate lighting
 - traffic, including pedestrians, vehicles and other plant
 - weather conditions
- confirming and following traffic management plan procedure relevant to their role in the

work area

- identifying hazards and using appropriate risk controls and safety measures and equipment relevant to slinging loads
- selecting and inspecting appropriate lifting gear and applying slinging techniques appropriate to the type of load, its mass and centre of gravity
- identifying the Working Load Limit (WLL) tags of the lifting equipment and gear and calculating the deration of the WLL resulting from the slinging techniques applied
- using lifting gear, including flexible steel wire rope (FSWR) sling, synthetic sling, chain sling (including shortener), spreader bar or lifting beam, tag line, shackles and eyebolts, and using bends and hitches when slinging, including:
 - single sheet bend
 - clove hitch
 - bowline
- determining any defects or faults with operation of crane and reporting to relevant person/s
- ensuring risk control measures within the work area are effective in accordance with workplace procedures
- identifying, isolating and tagging out defective lifting equipment, and reporting to authorised person/s
- interpreting and confirming relevant documentation for the work task and relevant area
- maintaining three points of contact whilst accessing load surface area of vehicle loading crane and ensure rungs/steps are free of hazards
- monitoring load disconnection from hook is safe and ensuring no movement of controls or the load
- operating a vehicle loading crane configured to its Rated Capacity (RC) of 10 metre tonnes or more to lift and move four different loads using the main hook through an obstacle course using all crane operational controls while the load is in full view of the crane operator. Loads must consist of:
 - a load of >50% of the RC of the crane with a boom length of >75%, and
 - a round load with a minimum length of 3 metres and minimum weight of at least 200 kg, and
 - an asymmetrical load, and
 - stillage or cage containing loose items with a minimum weight of at least 200 kg
- positioning the vehicle loading crane for safe operation for:
 - application of the task
 - manoeuvring in the workplace
 - stability of the vehicle loading crane and the load
- positioning vehicle loading crane in relevant area for next task
- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on site risk control measures that are not in place or deficient
- setting up and validating an exclusion zone
- shutting down a vehicle loading crane in accordance with manufacturer requirements and safe work procedures
- stabilising a vehicle loading crane for operation by:

- correctly positioning plates or packing
- deploying stabilisers
- establishing correct size plates or packing in accordance with lift plan
- levels are checked
- test-lifting load just clear of lifting plane to allow for checks to be safely made to ensure:
 - slinging is correct
 - all crane equipment is functioning properly
 - load centre of gravity is correct
 - loads of unusual shape or weight distribution are correctly slung
- using communications signals, including:
 - hoist down - hand and whistle and radio
 - hoist up - hand and whistle and radio
 - luff boom down - hand and whistle and radio
 - luff boom up - hand and whistle and radio
 - slew left - hand and whistle and radio
 - slew right - hand and whistle and radio
 - stop - hand and whistle and radio
 - telescope in - hand and whistle and two-way radio (where manufacturer requirements allow)
 - telescope out - hand and whistle and two-way radio (where manufacturer requirements allow).

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 worksite communication procedures, including:
 - listening
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- characteristics and impact of factors affecting vehicle loading crane stability whilst moving loads, including:
 - overloading
 - poor load placement
 - asymmetric loads
 - tyre deflation/condition

- crane, lifting gear load chart/s and manufacturer requirements
- hazards, including:
 - pack up and crane stability, crane tipping and demolition sites
 - ground stability, including ground condition, recently filled trenches and slopes
 - insufficient lighting
 - obstacles or obstruction
 - other specific hazards and dangerous materials
 - overhead hazards, including:
 - electric lines
 - service pipes
 - fixed structures
 - vegetation (trees)
 - traffic, including pedestrians, vehicles and other plant
 - operations on unusual, uneven or difficult terrains
- lift impacting factors, including:
 - centre of gravity
 - dynamic nature of load
 - flex/deflexion of load
 - length
 - radius of lift
 - weight
- manufacturer requirements on stabiliser procedures
- manufacturer requirements and instructions on shutting down and packing up crane
- mathematical calculations to:
 - estimate loads
 - establish radius requirements
 - determine relevant lifting gear to perform work/task
- pre-start and operational checks required for a vehicle loading crane
- problems and appropriate response procedures to unplanned and/or unsafe situations and environmental conditions
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- relevant workplace instructions, safety information and emergency procedures
- risk assessment management and mitigation strategies, including hierarchy of control:
 - elimination
 - substitution
 - isolation
 - engineering controls
 - administrative controls
 - personal protective equipment (PPE)

- roles and responsibilities of duty holders in accordance with legislative obligations of WHS/OHS requirements and safe work/workplace procedures
- hazards commonly encountered while slinging:
 - instability of landing surfaces
 - overhead and underground hazards
 - insufficient lighting
 - traffic
 - weather
 - pedestrian traffic
 - work at heights
- selection, inspection, care, handling, application, limitations and storage of lifting equipment and gear:
 - Flexible Steel Wire Rope (FSWR) sling
 - synthetic sling
 - chain sling (including shortener)
 - spreader bar or lifting beam
 - tag line
 - shackles
 - eyebolts
- methods of making temporary connections to loads using fibre and/or synthetic ropes:
 - single sheet bend
 - clove hitch
 - bowline
- stability of load and avoidance of hazards, including:
 - allowing for boom deflection
 - boom/jib as low as possible
 - crane stability
 - gently accelerating and braking on slew/boom to minimise load swing
 - lowering load safely onto appropriate dunnage taking into consideration swing and restrictions of area
 - minimum boom/jib length
 - minimum speed
 - using handheld tag lines as required
 - identification of incorrect sling of load
- starting procedure of crane in accordance with manufacturer requirements
- set-up of:
 - jib
 - fly jib (where fitted)
- vehicle loading crane characteristics and capabilities to allow crane configuration to suit a range of loads
- weather bureau forecasts and environmental conditions that could impact operation,

including:

- lightning
- wind
- water impacted ground
- ultraviolet (UV) exposure
- work area suitability based on relevant ground reports, including:
 - backfilled ground
 - bitumen
 - concrete
 - hard compacted soil
 - pre-contaminated soils
 - rock
 - rough, uneven ground
 - soft soils
- workplace standards, requirements, policies and procedures for conducting operations for the vehicle loading crane.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within 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 the needs of the candidate.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

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

Resources for assessment must include access to:

- vehicle loading crane with a RC of 10 metre tonnes or more in safe/serviceable working order in accordance with manufacturer specifications
- appropriate loads as outlined in the Performance Evidence requirements
- communication equipment, including:
 - two-way radios
 - whistles
- relevant personal protective equipment (PPE)
- relevant documentation for operating a vehicle loading crane with an RC of 10 metre tonnes or more, including:

- approved codes of practice and relevant guidance material
- relevant Australian technical standards
- manufacturer guidelines (instructions, requirements or checklists), relevant industry standards and operating procedures (where applicable).

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>