



Australian Government

Assessment Requirements for TLILIC0014 Licence to operate a slewing mobile crane (up to 100 Tonnes)

Release: 1

Assessment Requirements for TLILIC0014 Licence to operate a slewing mobile crane (up to 100 Tonnes)

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 must include:

- 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
 - counterweight/s
 - fly-jib
 - line pull
 - outrigger positioning
 - type of hook
- applying relevant crane movements including:
 - boom/jib up and down (luffing)
 - catching load swing appropriately
 - positioning and using main and auxiliary hook and lifting gear to connect to load safely
 - raise and lower hoist
 - slew boom/jib
 - telescope in and out
- carrying out operational checks ensuring:
 - all controls are located, identified and tested for functionality
 - all hydraulic functions are operated
 - lifting gear movements and control functions are smooth and comply with lift plan
 - hazard warning systems, safety, audible and visual warning devices are checked for to ensure they are functional including:
 - reversing beepers
 - lights
 - horns
 - crane computer alarm (where fitted)
 - anti-two block alarms (where fitted)

- start-up is in accordance with manufacturer requirements and safe work procedures
- there are no unusual noises
- steering, transmission and brake functions comply with operating requirements
- complying with Commonwealth, state and territory Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) legislation and safe work procedures
- communicating with other associated personnel through using appropriate workplace procedures which including:
 - 2-way radio
 - active listening
 - demonstrating and interpreting hand signals
 - questioning to confirm understanding
 - signage/visual aids
 - verbal language
 - whistles
 - written instructions
- completing the pre-start check including:
 - boom wiring harness connection
 - engine / mechanical fluid level checks as required by manufacturer requirements
 - ensure rungs / steps are free of hazards
 - fire extinguisher
 - fluid leaks
 - lights work effectively
 - locating, identifying and confirming all controls
 - mirrors and seat are adjusted appropriately for the operator
 - presence of correct logbook
 - 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
- conducting and applying hazard and risk assessment strategies including:
 - confirming work area operating surface suitability based on crane and task requirements
 - dynamic loads
 - load swing
 - overloading
 - lifting and placing load
 - tyre pressures or track condition

- asymmetric loads
- overhead hazards
- restricted and poorly ventilated areas
- risk of collision with people, moving plant and fixed structures
- adequate lighting
- weather conditions
- confirming and following traffic management plan procedures relevant to their role in the work area
- determining any defects or faults with operation of crane, recording in relevant documentation and reporting to relevant person/s
- ensuring risk control measures within the work area are effective as per safe work procedures
- following directions of dogger or rigger
- inputting crane configuration into crane computer (where fitted) and checking operation to accurately reflect crane configuration
- interpreting and acting on 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 2-way radio (where manufacturer requirements allow)
- telescope out - hand and whistle and 2-way radio (where manufacturer requirements allow)
- interpreting and confirming relevant documentation for the work task and relevant area
- maintaining three points of contact whilst accessing crane
- monitoring load disconnection from hook is safe and ensuring no movement of crane operational controls
- operating a slewing mobile crane configured with at least four parts of line greater than 60 tonnes and up to 100 tonnes to lift and move four different loads using the main hook through an obstacle course including a 180-degree minimum slew 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 Rated Capacity (RC) of the crane with a boom length of >75%, and
 - stillage containing at least ten scaffolding standards or containing a load of steel pipes of equivalent weight that requires a dogger to sling, and
 - an asymmetrical load that requires a dogger to sling, and
 - a round load with a minimum diameter of 300 mm and minimum length of 3 m that requires a dogger to sling
- positioning the mobile crane for safe operation for:
 - application of the task/s
 - manoeuvring in the workplace
 - the stability of the mobile crane and the load

- recording and maintaining accurate information relating to crane operations
- reporting to relevant person/s on workplace control measures that are not in place or deficient
- setting up and validating an exclusion zone as per the lift plan
- shutting down a slewing mobile crane in accordance with manufacturer requirements and safe work procedures
- stabilising a slewing mobile crane for operation by:
 - correctly positioning plates or packing
 - deploying outriggers
 - establishing correct size plates or packing in accordance with the lift plan
 - levels are checked
- test-lifting load just clear of lifting plane to allow for checks to be safely made in consultation with associated personnel 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
- test-lifting load just clear of lifting plane to allow for checks of crane computer (where fitted) to ensure:
 - load measuring equipment can be used to verify calculated weight of load
 - near capacity loads do not overload crane

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 workplace communication procedures including:
 - listening
 - hand signals
 - questioning techniques
 - signage
 - two-way radios
 - written instructions
 - whistles
- characteristics and impact of factors affecting non-slewing articulated mobile crane stability whilst mobiling loads compared to slewing crane including:
 - articulation of crane
 - correct tyre pressure (inflation/condition)
 - driving safely on public and private roadways
 - unique handling characteristics of a mobile articulated crane and the emergency procedures in the event of loss of control as per manufacturer recommendations
 - pick and carry the load

- side slope derations
- characteristics and impact of factors affecting vehicle loading crane stability whilst mobiling loads compared to slewing crane including:
 - correct tyre pressure (inflation/condition)
 - emergency procedures in the event of incident
 - position of operator
 - use of stabilizers
- characteristics and impact of factors affecting reach stacker stability whilst mobiling loads compared to slewing crane including:
 - correct tyre pressure (inflation/condition)
 - driving safely on road ways
 - emergency procedures in the event of incident
 - impact of boom height and steering on stability
 - use of stabilizers
- crane configuration mathematical calculations to:
 - estimate loads
 - establish counterweight/s requirements
 - radius requirements
 - relevant lifting gear to perform work/task
- crane, lifting gear load chart/s and manufacturer requirements
- hazards including:
 - erection and pack up
 - crane stability
 - ground stability and condition including recently filled trenches and slopes
 - insufficient lighting
 - obstacles or obstruction
 - other specific hazards and dangerous materials
 - overhead hazards including:
 - electric lines
 - service pipes
 - 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 boom
 - length of load
 - radius of boom during lift

- weight
- manufacturer requirements on outrigger procedures
- manufacturer requirements and instructions on shutting down and packing up crane
- mobile slewing crane characteristics and capabilities to allow crane configuration to suit a range of loads
- relevant workplace instructions, safety information, emergency procedures
- relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information
- 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 as per legislative obligations of Work Health and Safety (WHS)/Occupational Health and Safety (OHS)/Occupational Safety and Health (OSH) requirements, safe work and workplace procedures
- prestart and operational checks required for a slewing mobile crane
- set up of:
 - jib
 - fly jib/luffing fly
 - counterweight/s
- starting procedure of crane as per manufacturer requirements
- weather bureau forecasts and associated information and environmental conditions that could impact operation including:
 - lightning
 - rain
 - wind
 - water impacted ground
 - Ultra Violet (UV) exposure
- problems and appropriate response procedures to unplanned and/or unsafe situations and environmental conditions including:
 - wind, lightning and storms
 - failure of equipment including hydraulic system
 - failure/loss of control including brakes and steering
 - obstacles and obstructions
 - unusual or difficult terrains
- stability of load and avoidance of hazards using best crane practice including:
 - allowing for boom deflection
 - boom/jib as low as possible

- carrying load near to ground surface
- 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 taglines as required
- identification of incorrect sling of load
- workplace standards, requirements, policies and procedures for conducting safe work operations for the mobile slewing crane
- 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

Assessment Conditions

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

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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 this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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

Resources for assessment that must include access to:

- slewing mobile crane with an MRC greater than 60 tonnes and up to 100 tonnes in safe/serviceable working order in accordance with manufacturers specifications
- appropriate loads as outlined in the performance evidence requirements
- appropriate personnel to sling and direct loads including:
 - dogger or rigger

- communications equipment including:
 - two-way radios
 - whistles
- relevant personal protective equipment (PPE)
- relevant documentation for operating a slewing mobile crane with a MRC up to 100 tonnes including:
 - approved codes of practice and guidance
 - Australian Standards
 - checklists
 - safe work operating procedures
 - relevant industry standards (where applicable)
 - logbook
 - manufacturer guidelines (instructions, specifications or checklists)
 - relevant workplace documentation

Links

Companion Volume Implementation Guide -

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