Australian Government

# TLILIC3019A Licence to operate a reach stacker - greater than 3 tonnes capacity

**Release 1**

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

# TLILIC3019A Licence to operate a reach stacker - greater than 3 tonnes capacity

## Modification History

Release 1 - New unit of competency

## Unit Descriptor

Not applicable.

## Application of the Unit

This unit requires the operator to identify hazards, implement hazard control measures, plan the work, conduct routine pre and post operational checks, set up, stack and unstack containers and mobile containers, pack up, shut down and secure the reach stacker.
This unit is based on the requirements of occupational health and safety (OH&S) regulations and meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

Not applicable.

## Employability Skills Information

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

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| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide. |

# Elements and Performance Criteria

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| **1 Plan work** | 1.1 | Site inspection is completed and potential workplace hazards are identified prior to commencement of operations |
| | 1.2 | Hazard control measures are identified and implemented consistent with appropriate standards to ensure the safety of personnel and equipment |
| | 1.3 | Job requirements are confirmed with appropriate personnel |
| | 1.4 | Work is planned to comply with instructions, risk assessment, and operating and emergency procedures |
| | 1.5 | Weight of the container is identified or confirmed in consultation with appropriate personnel |
| | 1.6 | Appropriateness of the reach stacker to the container/s and workplace conditions is ensured |
| | 1.7 | Appropriate path for the movement of containers in work area is determined and inspected |
| | 1.8 | Appropriate communication methods are identified and selected according to procedures |
| **2 Conduct routine checks** | 2.1 | Reach stacker is accessed in a safe manner according to procedures |
| | 2.2 | Reach stacker service logbook is checked for compliance |
| | 2.3 | Routine pre-start operational checks are carried out according to procedures and are completed in a safe manner |
| | 2.4 | Reach stacker is visually checked for any damage or defects |
| | 2.5 | Visibility and legibility of all signage and labels is ensured according to the appropriate standard |
| | 2.6 | All reach stacker controls are located and identified |
| | 2.7 | Post-start operational checks are carried out according to procedures including operational functions to limits |
| | 2.8 | Reach stacker is started according to procedures and is checked for any abnormal instrument readings/warnings lights and noises |
| | 2.9 | All reach stacker safety devices and communication equipment are checked for serviceability according to procedures |

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| | 2.10 | All damage and defects are reported and recorded according to procedures, and appropriate action is taken |
| **3 Prepare reach stacker operations** | 3.1 | Ground suitability is checked to ensure stability and safe operation of reach stacker |
| | 3.2 | Reach stacker is driven to work area and prepared for container operations according to procedures and manufacturer specifications |
| | 3.3 | Appropriate reach stacker stability requirements for task are determined according to procedures and range diagram/load chart |
| | 3.4 | Container data is input into reach stacker computer as required according to workplace procedures |
| | 3.5 | Appropriate hazard prevention/control measures are implemented and communicated with personnel in work area according to procedures |
| **4 Operate reach stacker** | 4.1 | Container weights are checked to ensure they are within the capacity of reach stacker according to the range diagram/load chart |
| | 4.2 | Hazard prevention/control measures are complied with during reach stacker operations |
| | 4.3 | Container spreader is positioned over container following directions from associated personnel |
| | 4.4 | Test lift is carried out according to procedures |
| | 4.5 | All required communication signals are correctly interpreted according to procedures and the appropriate standard |
| | 4.6 | Reach stacker is operated according to procedures and the appropriate standard |
| | 4.7 | Containers are stacked/unstacked using all relevant reach stacker and spreader movements according to procedures and the appropriate standard |
| | 4.8 | Container movement is monitored constantly ensuring safety to personnel and container, and reach stacker stability |
| | 4.9 | Container is stacked according to procedures, ensuring ground conditions are suitable for stacking containers and stability of the stack, safety to personnel and container |

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| | 4.10 Unplanned and/or unsafe situations are responded to according to procedures |
| **5 Travel reach stacker and mobile container** | 5.1 Suitability of planned route for reach stacker is checked according to procedures |
| | 5.2 Reach stacker is configured to mobile containers according to procedures and the appropriate standard, OH&S legislation and codes of practice |
| | 5.3 Containers are mobilised ensuring safety to personnel and container, and stability of reach stacker |
| | 5.4 Container is mobilised using best mobile practice according to procedures |
| **6 Shut down and secure reach stacker** | 6.1 Reach stacker boom and container spreader are packed up and secured, where appropriate, according to procedures and the appropriate standard |
| | 6.2 Relevant locking devices and brakes are applied when applicable |
| | 6.3 Stabilisers are stowed and secured according to procedures |
| | 6.4 Reach stacker is parked and shut down according to procedures |
| | 6.5 Routine post-operational checks are carried out according to procedures |
| | 6.6 All damage and defects are recorded and reported according to procedures, and appropriate action is taken |

# Required Skills and Knowledge

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

**Required knowledge:**

- Hazard identification, risk assessment and the hierarchy of control processes
- Mathematical calculation methods for determining weight of containers
- National/state/territory OH&S legislation, standards and codes of practice relevant to the full range of processes for the reach stackers
- Organisational and workplace standards, requirements, policies and procedures for conducting reach stacker operations
- Procedures for recording, reporting and maintaining workplace records and information
- Read and comprehend manufacturer specifications, instructions, procedures and safety signs
- Reach stacker characteristics and capabilities (including use of range diagrams/load charts) to allow the configuration of the reach stacker to suit the range of containers
- Reach stacker operations and safe operating procedures
- Typical routine problems encountered in the operation of the reach stacker and equipment and adjustments required for correction

**Required skills:**

- Accurately interpret information relating to conducting reach stacker operations (such as procedures)
- Accurately record and maintain information relating to reach stacker operations
- Assess ground conditions to confirm that the site is suitable (firm, level and safe) to operate reach stacker
- Identify hazards, and apply risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the reach stacker (in particular, awareness of the risks associated with overhead electric lines, electrical cables, ground conditions, reach stacker stability)
- Mobilise containers using best mobile practice
- Operate reach stacker including all functions to their maximum extension in lifting and moving containers to the safe working rated capacity in conjunction with other associated personnel
- Safely conduct reach stacker operations including all functions to maximum limits
- Use and interpret manufacturer specifications and data, including range diagram/load charts to enable reach stacker to be configured to mobile, stack and unstack containers
- Use communication skills and techniques in the workplace including hand signals and two-way radios to communicate with other site personnel
- Verify problems and equipment faults, and demonstrate appropriate response procedures

# Evidence Guide

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

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

The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- complying with OH&S licensing legislation
- complying with organisational and site policies and procedures
- communicating and working safely with others in the work area.

**Context of and specific resources for assessment**

- Successful assessment of this unit meets the competency requirement of the OH&S regulations.
- State/territory OH&S regulators have mandated the use of the Assessment Instrument and instructions for assessment for this unit, which have been endorsed by the national body responsible for OH&S matters.
- Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument.
- Assessment of performance must be undertaken either in the workplace or in a realistic workplace simulated setting.
- Assessors must ensure that assessment in the workplace is organised to ensure that all the required equipment, materials and a suitable working area are made available to suit the assessment and the workplace.
- Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints.
- Assessment is to comply with the relevant appropriate standard requirements.
- Applicants must have access to:
  - personal protective equipment (PPE) for the purpose of the performance assessment
  - appropriate reach stacker (greater than 3 tonnes) in safe operating condition
  - suitable 20 ft and/or 40 ft containers and container stack as specified by endorsed national Assessment Instrument
  - communication equipment (e.g. two-way radios,

whistles, etc).

**Method of assessment**

- Assessment must be conducted using the endorsed Assessment Instrument. The Assessment Instrument provides advice on its application.
- The use of 'simulators' in the assessment of this unit of competency is not acceptable.
- Assessment may be in conjunction with the assessment of other units of competency.
- Assessment methods must confirm consistency and accuracy of performance.
- Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstances, but is able to be transferred to other circumstances.

# 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.

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| Appropriate may include: | • reach stacker capabilities<br>• environmental conditions (such as wind, lightning, storms) |
| Appropriate standards may include: | • codes of practice<br>• legislation and regulations (national/state/territory)<br>• Australian Standards<br>• manufacturer specifications<br>• industry standards |
| Appropriate path may include: | • clear of obstacles<br>• clear of personnel<br>• in accordance with traffic management plan<br>• free of ramps or inclines |
| Appropriate personnel may include: | • site OH&S personnel<br>• supervisory personnel<br>• operations supervisor<br>• guide |
| Authorised personnel may include: | • national/state/territory government regulatory bodies<br>• site OH&S personnel |
| Best mobile practice may include: | • minimum speed<br>• gentle acceleration and braking (to minimise container swing)<br>• minimum boom length<br>• carrying the container at manufacturer recommended height<br>• not driving across inclines or slopes |
| Configuration may include: | • boom<br>• spreader<br>• stabilisers |
| Container spreader may include: | • twist locks to engage and disengage the container<br>• extension from 20 ft to 40 ft containers<br>• articulation device to rotate container<br>• side-shift to balance/equalise container |
| Communication equipment may include: | • fixed channel two-way radios<br>• hand held two-way radios<br>• hand signals<br>• whistle |
| Communication method may include: | • verbal<br>• written instructions and procedures<br>• signage |

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| | • two-way radios<br>• hand signals<br>• according to worksite protocol |
| Communication signals may include: | • stop – hand<br>• stop – whistle and/or two-way radio<br>• luff boom down – hand<br>• luff boom down – whistle and/or two-way radio<br>• luff boom up – hand<br>• luff boom up – whistle and/or two-way radio<br>• telescope out – hand<br>• telescope out – whistle and/or two-way radio<br>• telescope in – hand<br>• telescope in – whistle and/or two-way radio |
| Ground suitability may include: | • hard standing<br>• rough uneven ground<br>• backfilled ground<br>• soft soils<br>• hard compacted soil<br>• railway lines<br>• rock<br>• bitumen<br>• concrete |
| Hazards may include: | • condition of plant and equipment<br>• movement of vehicle or rail wagon<br>• ground stability (condition, recently filled trenches, slopes)<br>• dangerous goods/hazardous substances<br>• overhead hazards (electric lines, service pipes)<br>• underground hazards (powerlines, service pipes)<br>• insufficient lighting<br>• weather conditions (high winds, lightning)<br>• traffic (pedestrians, vehicles)<br>• environmental conditions (wind, lightning, storms)<br>• other specific site hazards (work personnel, other equipment) |
| Planned route may include: | • unusual or difficult terrain<br>• obstacles or obstruction<br>• personnel<br>• equipment/traffic |
| Pre-start operational checks must include: | • complying with manufacturer instructions, Australian Standards and industry guidelines |
| Pre-start operational | • safety devices/alarms fitted where appropriate<br>• all operational functions |

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| checks may include: | • load chart/range diagram interpreted<br>• logbook, operators manual available<br>• external visual check including, evidence of damage, leaks, electrical, wheels and tyres, boom and spreader |
| Post-operational checks may include: | • checking equipment after shut down to ensure the reach stacker is safe for the next operator and includes checking:<br>  • equipment is parked to avoid hazards<br>  • all systems are shut down<br>  • structural damage<br>  • hydraulic or brake fluid leaks |
| Procedures may include: | • manufacturer guidelines (instructions, specifications, operator manual or checklists)<br>• industry operating procedures<br>• workplace procedures (work instructions, operating procedures, checklists) |
| Range diagram may include: | • height of container stack<br>• maximum reach<br>• container dimensions<br>• maximum weight |
| Reach stacker may include: | • a type of plant greater than 3 tonnes capacity that incorporates an attachment for lifting, moving and travelling with a shipping container, but does not include a portainer crane |
| Reach stacker controls may include: | • luffing levers<br>• spreader controls (extend/retract/side shift/rotate)<br>• twist lock controls<br>• boom extension levers<br>• cabin positioning controls |
| Relevant reach stacker movements may include: | • telescoping in and out<br>• booming up and down<br>• articulating<br>• rotating spreader<br>• extending/retracting spreader<br>• equalising spreader |
| Risk prevention and control measures | • eliminating or reducing risk to personnel and property through the application of control measures<br>• applying the hierarchy of control:<br>  • elimination<br>  • substitution<br>  • isolation<br>  • engineering control measures<br>  • using safe work practices |

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| | • personal protective equipment<br>• safety tags on electrical switches/isolators<br>• insulated electric lines<br>• safety observer used inside exclusion zone<br>• disconnected power<br>• traffic barricades and traffic controls<br>• pedestrian controls<br>• trench covers<br>• movement of obstructions<br>• personal protective equipment<br>• adequate illumination |
| Signage and labels may include: | • reach stacker data plates/labels<br>• range diagram/load charts<br>• reach stacker safety decals<br>• control labels |
| Service logbook may include: | • equipment logbook<br>• service book<br>• history record system |
| Safety devices may include: | • horns/sirens<br>• audible and visual reversing devices<br>• operator restraint devices<br>• lights<br>• stability and weight limitation/warning devices |
| Shut down may include: | • parking in a safe location<br>• using correct parking procedures<br>• retracting boom<br>• retracting spreader<br>• reposition cabin<br>• idling engine to stabilise temperature<br>• retracting stabilisers<br>• turning off engine<br>• isolating power |
| Stability may include: | • deploying stabilisers<br>• computer providing stability reading as a percentage |
| Test lift may include: | • conducting a controlled lift as a test lift prior to commencing operations, where the container is lifted just clear of the lifting plane to allow for checks to ensure that:<br>  • computer correctly displays stability percentage of reach stacker<br>  • boom length and height are displayed correctly<br>  • computer/weight scale is working correctly |

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| | • all reach stacker hydraulic controls and brake systems are functioning properly (no boom creep etc.) |
| Unplanned and/or unsafe situations may include: | • failure/loss of control (brakes and steering)<br>• failure of equipment (hydraulic system, computer)<br>• rail/road moving unannounced while loading/discharging<br>• environmental conditions (wind, lightning, storms) |
| Work area may include: | • depot<br>• warehouse<br>• wharf<br>• rail siding |

## Unit Sector(s)

Not applicable.

## Competency Field

LIC - Licensing