



**Australian Government**

# **TLID3047A Shift loads using ship mounted crane**

**Release 1**

# **TLID3047A Shift loads using ship mounted crane**

## **Modification History**

Release 1. This is the first release of this unit.

## **Unit Descriptor**

This unit involves the skills and knowledge required to shift loads using ships cranes in accordance with workplace and regulatory requirements. It includes planning the work for the prevailing working conditions; using the controls and operating systems to manage the operation of the crane; locating the load and identifying load characteristics; safely moving the load; monitoring the controls; and stopping, shutting down and securing the crane after the completion of operations.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

## **Application of the Unit**

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the shifting of loads using ships cranes.

Work is performed under some supervision generally within a team environment. It involves the application of workplace procedures and regulatory requirements when shifting loads using cranes as part of work activities in the stevedoring, transport, distribution and allied industries.

## **Licensing/Regulatory Information**

Refer to Unit Descriptor.

## **Pre-Requisites**

Nil

## **Employability Skills Information**

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 required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

- |   |     |  |
|---|-----|--|
| <b>1 Plan work for current working conditions</b>   | 1.1 | Crane movement areas are assessed to ensure they are clear of personnel and other obstructions and hazards   |
|   | 1.2 | Traffic flow and work area conditions in proximity of load landing area are assessed to ensure safety of personnel and to ensure there is no damage to equipment, loads and facilities |
|   | 1.3 | Characteristics of load are taken into account to ensure that where applicable, appropriate attachments/gear are used to move load   |
|   | 1.4 | Occurrences in work area that may impact on safety and efficiency of operations are reported to appropriate personnel  |
| <b>2 Check controls and crane operating systems</b> | 2.1 | Crane is prepared for operation in accordance with workplace procedures  |
|   | 2.2 | Relevant aspects of Marine Orders are explained and applied  |
|   | 2.3 | Crane is started in accordance with manufacturer guidelines and workplace procedures   |
|   | 2.4 | Radio communication is confirmed with personnel assisting operator in load shifting  |
|   | 2.5 | Instruments and gauges are monitored during start up and operations to ensure operation is within manufacturer specifications and workplace/regulatory safety requirements             |
|   | 2.6 | Movements of crane are tested in a trial run, over water if possible   |
|   | 2.7 | Faults or damage to crane are immediately reported to appropriate personnel  |
| <b>3 Identify load characteristics</b>              | 3.1 | Load weight and dimensions are confirmed to ensure they fall within crane capacity   |
|   | 3.2 | Loading and unloading plans are followed to ensure efficiency and safety of operations   |

- 3.3 Load characteristics are taken into account to ensure appropriate loading and unloading procedures are followed
  - 3.4 Hazardous cargo is identified and relevant procedures are taken into account when planning and conducting work
  - 3.5 Non routine cargo lifts are identified and appropriate lifting methods and equipment are arranged
- 4 Safely move load**
- 4.1 Crane is operated using smooth and controlled movements, and allowances are made for any vessel trim or list movements during load transfer
  - 4.2 Crane movements are efficiently managed to control block or load swing
  - 4.3 In the event of sudden ship's movement or excessive trim or list, warnings are immediately communicated to personnel
  - 4.4 Manoeuvres are made within limits of the crane in accordance with manufacturer specifications
  - 4.5 Load is moved ensuring no injury to personnel or damage to crane or cargo
  - 4.6 Where required, simultaneous crane operations are planned and controlled appropriately in accordance with relevant procedures
  - 4.7 Continuous communication is maintained with personnel assisting operator with load movement operations using appropriate communications technology and procedures
  - 4.8 Wharf and vessel work area conditions are constantly assessed and anticipated to ensure crane movement areas are clear of personnel and other obstructions
  - 4.9 In the event of a safety incident or emergency, crane is immediately stopped and workplace emergency procedures are followed
  - 4.10 Safety incidents and emergencies are reported in accordance with workplace procedures and regulatory requirements
- 5 Monitor controls**
- 5.1 Crane controls are monitored and operated in accordance with operating instructions
  - 5.2 Control systems are explained and acted upon in accordance with regulatory requirements, manufacturer guidelines and workplace procedures

- 5.3 Control faults are identified and reported in accordance with workplace guidelines
- 6 Stop, shut down and secure equipment**
  - 6.1 Crane is brought to a controlled halt within operating guidelines and shut down without injury to personnel or damage to equipment, loads or facilities in accordance with workplace procedures
  - 6.2 Crane is secured after operations in accordance with operating instructions and workplace procedures

## Required Skills and Knowledge

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

### Required knowledge:

- Australian and international codes and regulations relevant to the use of cranes to shift loads, including Australian and International Dangerous Goods Codes and Marine Orders
- Focus of operation of work systems, equipment, management and site operating systems for using boom cranes to shift loads
- Problems that may occur when using cranes to shift loads and appropriate action that can be taken to resolve these problems
- Relevant work health and safety (WHS)/occupational health and safety (OHS) and environmental protection procedures and guidelines
- Relevant safety codes and emergency procedures
- Requirements for safe working load (SWL) and working load limit (WLL) of cranes
- Service and maintenance schedule requirements for lifting equipment
- Types of boom cranes used to shift loads in terminals/wharves, their applications and procedures and precautions for their use
- Workplace procedures and policies for using cranes to shift loads
- Workplace procedures for multiple crane, dual crane and heavy lift operations

### Required skills:

- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Apply effective eye-hand coordination to operational tasks
- Apply fatigue management knowledge and techniques
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when shifting loads using cranes
- Communicate effectively with others when shifting loads using cranes
- Complete documentation related to shifting loads using cranes
- Estimate size, shape and special requirements of loads
- Identify cargo, container and goods, coding, Australian Dangerous Goods (ADG)/International Maritime Dangerous Goods Code (IMDG) markings and, where applicable, emergency information panels
- Identify, select and use relevant equipment, processes and procedures when using cranes to shift loads
- Implement contingency plans for unanticipated situations that may arise when shifting loads using cranes
- Interpret and follow operational instructions and prioritise work
- Monitor performance of crane and its equipment, and take appropriate action where required

- Monitor work activities in terms of planned schedule
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Promptly report and/or rectify identified problems, faults or malfunctions that may occur when shifting loads using cranes in accordance with regulatory requirements and workplace procedures
- Read and interpret instructions, procedures, information and labels relevant to shifting loads using cranes
- Receive, acknowledge and send messages using appropriate communications equipment
- Select and use required personal protective equipment conforming to industry and WHS/OHS standards
- Work collaboratively with others when shifting loads using cranes
- Modify activities depending on operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others or damage to goods or equipment

## 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 demonstration of applying:

- required knowledge and skills
- relevant legislation and workplace procedures
- other relevant aspects of the range statement.

### **Context of and specific resources for assessment**

Performance is demonstrated consistently over time and in a suitable range of contexts.

Resources for assessment include access to:

- range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment, and
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

### **Method of assessment**

A range of assessment methods should be used to assess practical skills and knowledge.

Practical assessment must occur:

- through activities in an appropriately simulated environment at the registered training organisation, and/or
- in an appropriate range of situations in the workplace.



## 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.

- Work may be conducted:
- by day or night
  - in a range of work environments
- Customers may be:
- external
  - internal
- Workplaces may comprise:
- large
  - medium
  - small worksites
- Work may be conducted in:
- controlled or open environments
  - exposed conditions
  - limited or restricted spaces
- Cargo/freight may include:
- dangerous goods
  - goods/containers with specialist requirements
  - temperature controlled goods
- Hazards in the work area may include exposure to:
- chemicals
  - dangerous or hazardous substances
  - movements of equipment, goods, materials and vehicular traffic
- Personal protective equipment may include:
- gloves
  - high visibility clothing
  - protective clothing
  - safety glasses
  - safety headwear and footwear
  - two-way radios
- Communication in the work area may include:
- electronic data transfer (EDI)
  - email
  - fax
  - oral, aural or signed communications
  - phone
  - radio
  - radio frequency (RF) systems
- Personnel in work area may include:
- contractors
  - official representatives
  - site visitors
  - workplace personnel
- Consultative processes may involve:
- management
  - industrial relations, WHS/OHS specialists
  - staff members

- Workplace procedures may include:
- union representatives
  - other professional or technical staff
  - company procedures
  - enterprise procedures
  - established procedures
  - organisational procedures
- Information/documents may include:
- Australian and international codes of practice and regulations relevant to shifting loads using cranes
  - Australian and international regulations and codes of practice for handling and transporting dangerous goods and hazardous substances
  - award, enterprise bargaining agreement, other industrial arrangements
  - dangerous goods declarations and safety data sheets (SDS)/material safety data sheets (MSDS)
  - emergency procedures
  - goods identification numbers and codes
  - manifests, bar codes, and container identification/serial number
  - manufacturer specifications for equipment
  - operations manuals, job specifications and induction documentation
  - quality assurance procedures
  - relevant Australian Standards and certification requirements
  - supplier and/or client instructions
  - workplace procedures and policies
- Applicable regulations and legislation may include:
- Australian and international regulations and codes of practice for handling and transporting dangerous goods and hazardous substances, including:
    - Australian and International Dangerous Goods Codes
    - Australian Marine Orders and the International Maritime Dangerous Goods Code
    - Australian and International Explosives Codes
  - export/import/quarantine/bond requirements
  - licence, patent or copyright arrangements
  - marine orders
  - relevant Australian Standards, including AS 2550
  - relevant codes and regulations for shifting cargo/containers using cranes
  - relevant state/territory WHS/OHS and environmental protection legislation
  - water and road use and licence arrangements

- Simultaneous crane operations include:
- workers compensation regulations
  - workplace relations regulations
  - operation of multiple cranes in close proximity of each other
- Dual crane operations include:
- operation of two separate cranes undertaking same cargo lift
- Non routine crane lifts may include:
- heavy lifts
  - lifts requiring specialised rigging requirements
  - out of gauge lifts

## **Unit Sector(s)**

Not applicable.

## **Competency Field**

D - Load Handling