

PMASUP305A**Unit Descriptor****Operate offshore cranes**

This unit of competence applies to a person who is required to operate a crane on an offshore facility and captures the competency needed to do that.

Employability Skills

This unit contains employability skills.

Application of the Unit

Generally the crane operator would liaise and cooperate with other members of the facility onboard team and would also respond to information from crew on a support vessel. Actions may include transfer of equipment to and from the support vessel; transfer of personnel between the facility and another vessel using appropriate approved equipment; and safe management of loads during diving operations. The individual would:

- follow occupational health and safety workplace procedures
- ensure that lifts are conducted within operational/environmental limits
- verify the integrity of the crane prior to use
- check communications
- verify that cargo meets company lifting standards
- establish lifting/discharge sequence
- conduct the lift safely.

A license may be required, please check the appropriate regulations.

Unit Sector

Support/generic

ELEMENT**PERFORMANCE CRITERIA**

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| 1. Plan and prepare for lift | 1.1 Determine job requirements including potential hazards
1.2 Identify and apply environmental requirements for the lift in accordance with company procedures and crane limitations
1.3 Check suitability of load to be lifted
1.4 Identify, obtain and inspect materials, equipment and resources to satisfy the job requirements
1.5 Follow safety and environmental requirements in accordance with site specific procedures
1.6 Discuss contingency plans with lifting team members, including supply vessel crew
1.7 Check work location for safe working area requirements |
| 2. Conduct routine checks of the crane | 2.1 Carry out routine pre-operational equipment checks in accordance with company procedures
2.2 Commence start up procedures and check crane controls for correct operation and ease of movement
2.3 Check communication systems are fully operational
2.4 Check emergency safety devices are fully operational |

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| 3. | Communicate with work group | 3.1 | Communicate job sequencing schedule with team and/or crew members to ensure an appropriate level of coordination |
| | | 3.2 | Advise team members of changes to lifting schedule as required |
| | | 3.3 | Identify and use communication methods in accordance with company procedures |
| 4. | Operate crane offshore | 4.1 | Determine the load destination and check integrity of the landing area |
| | | 4.2 | Conduct a trial lift |
| | | 4.3 | Lift, move and place load safely to required destination |
| | | 4.4 | Respond to changes to lifting schedule when warranted |
| | | 4.5 | Use appropriate communication methods to coordinate safe movement of the load |
| 5. | Shutdown crane and review operations | 5.1 | Clear work area and dispose of or deal with materials in accordance with procedures and job specification |
| | | 5.2 | Shutdown crane in accordance with company procedures |
| | | 5.3 | Apply work completion procedures and notify relevant personnel that work is finished |
| | | 5.4 | Review operations, report and record learnings and significant findings |

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills

Competence may include the ability to:

- use radio equipment to send and receive information
- manoeuvre and position load shifting equipment
- conduct operator maintenance according to procedures
- maintain crane logs
- conduct visual checks of crane operating systems and cables
- identify faults, defects or abnormalities and correctly report and record these
- recognise abnormal lifting circumstances and safely abort the lift.

Required knowledge

The knowledge referred to in the evidence guide for this unit includes:

company procedures

- relevant statutory requirements and codes of practice
- equipment operation, limitation and procedures
- crane safety systems
- safe operating principles
- safe working loads
- the impact of weather or climatic conditions on lifting practices
- cargo planning
- operator maintenance.

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. Bold italicized wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs if the candidate, accessibility of the item, and local industry and regional contexts.

Codes of practice/ standards

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Types of legislation include:

- AS 2550.1 Safe use of Cranes
- Norsok Standard R-003 - Safe use of lifting equipment
- Offshore Petroleum Act 2006
- National Offshore Petroleum Safety Authority Safety Case Guidelines September 2004
- Petroleum (Submerged Lands) (Management of Safety on Offshore Facilities) Regulations 1996
- Statutory Rules 1996 No. 298 as amended

Other:

- OMHEC Training Standard (OHMEC TS 11 March 2003)
- http://www.mms.gov/regcompliance/PDFs/GL-I_2005.pdf
- <http://www.ogp.org.uk/pubs/376.pdf>
- EN12079
- IMO Circular 860
- DNV 2.7-1 & 2.7-2

Job requirements

Job requirements include:

- work instructions
- work plans
- equipment specifications
- company specific lifting standards and safe working procedures

Context

The facilities that may be utilised for assessment include but are not limited to FPSOs, MODUs, Fixed Platforms, Dive Support Vessels, and FSUs but does not include Derrick Barges

Types of cranes may include:

- Derrick
- Slewing Pedestal
- Bridge and Gantry
- Knuckleboom
- Mobile Slewing Crane

Types of environments

Types of environments may include:

- day and night operations
- facilities subject to helicopter operations
- tropical and temperate climatic conditions
- emergency lifts
- multi-crane operations including intersecting radii
- restricted radius
- active hydrocarbon production
- active drilling operations
- exploration activities
- diving support
- blind lifts
- personnel transfer
- engineered lifts

Trial lift

Trial lifts may be conducted to ensure:

- stability of load is not compromised
- load is not near capacity of crane
- load is not of unusual proportions

Health, Safety and Environment (HSE)

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal Petroleum legislation and Navigation Act legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Regulatory bodies which may serve to affect this standard include:

- National Offshore Petroleum Safety Authority (NOPSA)
- Australian Maritime Safety Authority (AMSA)
- State/Territory OSH Regulatory bodies,
- Department of Transport and Regional Services (DOTARS)

Relationship to Major Hazard Facility Legislation

Organisations within the offshore petroleum industry may find themselves falling under the provisions of various Major Hazard Facilities legislation. In developing this unit consideration has been given to the requirements of Sections 8 and 9 of the National Standard for the Control of Major Hazard Facilities [NOHSC:1014(2002)] and the National Code of Practice for the Control of Major Hazard Facilities [NOHSC:2016(1996)].

This unit will assist individuals to meet some of their obligations under the relevant State or Territory legislation. Responsibility for appropriate contextualisation and application of the unit to ensure compliance however, remains with the individual organisation.

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment for this unit of competency will be by way of demonstration under workplace conditions. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which can include a variety of operational circumstances.

Initial knowledge and skill may be assessed through appropriate simulations which must, as closely as possible, approximate actual workplace conditions and circumstances, and should be based on the actual facility. Assessments should include explanatory 'walk-throughs' of the relevant competency components.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of 'what-if' scenarios both in the facility (during demonstration of normal operations and "walk-throughs" of abnormal operations) and off the site.

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

Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

Consistent performance should be demonstrated. In particular look to see that:

- early warning signs of equipment/processes needing attention or with potential problems are recognised
- the range of possible causes can be identified and analysed and the most likely cause determined
- appropriate action is taken to ensure a timely return to full performance
- obvious problems in related operating areas are recognised and an appropriate contribution made to their solution.

These aspects may be best assessed using a range of scenarios/case studies/what-ifs as the stimulus with a walk-through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations, which may have been generated from the past incident history of the crane, incidents on similar cranes around the world, hazard analysis activities and similar sources.

Context of and specific resources for assessment

Assessment will require:

- access to a working offshore crane in an on-site environment over a range of situations
- use of an accurately simulated environment where appropriate, to assess underpinning knowledge and skills

A bank of scenarios/case studies/what-ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.

Method of assessment

In all workplace environments it may be appropriate to assess this unit concurrently with other relevant units.

Guidance information for assessment

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.