Australian Government

PMASUP305 Operate offshore cranes

Release: 1

PMASUP305 Operate offshore cranes

Modification History

Release 1. Supersedes and is equivalent to PMASUP305A Operate offshore cranes

Application

This unit of competency covers the skills and knowledge required to operate a crane on an offshore facility.

This unit of competency applies to the 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.

This unit of competency applies to operators who are required to ensure all equipment and materials for the job are available and meet specifications, establish lifting/discharge sequence, ensure that lifts are conducted within operational, safety and environmental limits, and liaise and cooperate with other members of the facility onboard team.

This unit of competency applies to any type of crane used in offshore facilities. Examples include:

- Derrick
- Slewing pedestal
- Bridge and gantry
- Knuckleboom
- Mobile slewing crane.

Some jurisdictions may require the holder of this unit to be licensed or certified and users should check with the relevant authorities.

Pre-requisite Unit

Nil

Competency Field

Support

Unit Sector

Elements and Performance Criteria

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

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
3	**Communicate with work group**	3.1	Establish and 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	**Shut down 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	Shut down 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

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements
- road traffic authority requirements

Types of legislation include:

- *AS 2550.1-2011* Cranes, hoists and winches - Safe use - General requirements
- *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*
- *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.*

Regulatory bodies include:

- National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)
- Australian Maritime Safety Authority (AMSA)
- State/Territory OSH Regulatory bodies
- Department of Infrastructure and Regional Development.

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory or federal 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.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

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

- emergency procedures
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- plant services (steam, condensate and cooling water)
- limited head spaces or overhangs
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Types of environments

Types of environments include one or more of the following:

- 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
- lifting to/from a surface in continuous, three dimensional motion

Trial lift Trial lifts are conducted to ensure:

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

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875