



Australian Government

RIIOGN302E Operate mud pumps

Release: 1

RIIOGN302E Operate mud pumps

Modification History

Release	Comment
1	This unit replaces RIIOGN302D Operate mud pumps. Amendments made to performance criteria 3.1 and performance evidence, removal of 'pony rod'. Added mapping table.

Application

This unit describes a participant's skills and knowledge required to apply operate mud pumps in drilling.

This unit is appropriate for those working in operational roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Unit Sector

Drilling

Elements and Performance Criteria

1. Plan and prepare	1.1. Access, interpret and apply operational mud pump documentation and ensure the work activity is compliant 1.2. Obtain, read, interpret, clarify and confirm work requirements 1.3. Identify, address and report potential hazards, risks and environmental issues and implement control measures 1.4. Select and wear personal protective equipment appropriate to the work activities 1.5. Conform to safe working practices and current legislative and operational requirements 1.6. Adhere to coordination requirements with others at the site prior to, during and on completion of work activities and ensure briefings/handover details are communicated 1.7. Confirm availability of necessary third party utilities
2. Monitor mud pumps	2.1. Visually inspect and listen to mud pumps for abnormal sounds

	or noise 2.2. Check piston lubricating system 2.3. Check pop-off valve setting 2.4. Check pressure of suction and discharge dampeners 2.5. Charge discharge dampener with nitrogen
3. Maintain and repair mud pumps	3.1. Check clamp when pump is turned off 3.2. Lubricate gear end of pump and check oil levels in gear end of pump 3.3. Identify faults or potential faults, record and report 3.4. Identify, record and report requirement for repair or maintenance of mud pumps 3.5. Replace defective swabs, liner, valves, seats and wear plates of the fluid end of pump 3.6. Ready replacement parts for fluid end of pump 3.7. Select and use correct liners and swabs

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
RIIOGN302E Operate mud pumps	RIIOGN302D Operate mud pumps	Amendments made to performance criteria 3.1 and performance evidence, removal of 'pony rod'. Add mapping table.	Equivalent

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIOGN302E Operate mud pumps

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1	This unit replaces RIIOGN302D Operate mud pumps. Amendments made to performance criteria 3.1 and performance evidence, removal of 'pony rod'. Added mapping table.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include that the candidate:

- locates and applies applicable documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient operation of mud pumps including:
 - identifying, addressing and reporting potential hazards and risks
 - controlling identified hazards
 - identifying, addressing and reporting environmental issues
 - preparing written records and reports
 - rectifying and/or reporting faults and malfunctions
- works effectively with others to undertake and complete the operation of mud pumps that meets all of the required outcomes including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to resolve coordination requirements prior to commencing and during work activities
- demonstrates completion of the operation of mud pumps that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - recognising and reporting equipment malfunction or failure
 - working as directed by driller in timely and efficient manner
 - checking pumps visually and aurally
 - checking piston lubrication system
 - setting pop-off valve
 - checking pressure of suction and discharge dampeners
 - charging discharge damper with nitrogen
 - lubricating and checking oil levels in gear end of pump

- replacing swabs, liners, valves, seats and wear plates of fluid end of pump
- preparing replacement parts for fluid end
- ensuring correct liners and swabs are in use
- correctly aligning mud pump discharge valves

Knowledge Evidence

The candidate must demonstrate knowledge of the following in operating mud pumps:

- compliance with legislative, organisation and site requirements and procedures
- company and statutory safety guidelines, procedures and practices for:
 - emergency signals
 - safe operation of equipment
 - rig maintenance
 - normal drilling operations
 - non-routine drilling operations
 - using mud pumps

Assessment Conditions

- Assessors must satisfy the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory competency requirements for assessors; and industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other units of competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this unit of competency, and through the minimum years of current* work experience specified below in an industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an industry subject matter expert. The industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or industry sector as follows:

Industry sector	AQF** Level	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this unit is being assessed outside of the Resources and Infrastructure Sectors, assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and, where no industry standard is specified, should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered to indicate the AQF level.

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