



Australian Government

RIIOGN303E Operate, monitor and maintain mud systems

Release: 1

RIIOGN303E Operate, monitor and maintain mud systems

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to recognise warning signs of kick detections and operate and maintain mud systems, mud conditioning equipment and transfer (butterfly) valves in mud pits.

This unit applies to those working in operational roles. They generally perform tasks involving a broad range of skilled applications in a wide variety of contexts, which may involve some discretion and judgement in selecting equipment, services and contingency measures.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Drilling

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for operations	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to operate, monitor and maintain mud systems documentation and confirm work activity is compliant 1.3 Identify and minimise environmental issues and potential hazards, and assess and address risks within scope of own role and according to workplace procedures 1.4 Select and wear personal protective equipment required for work activities

ELEMENT	PERFORMANCE CRITERIA
	1.5 Communicate with other personnel at site according to work requirements and confirm briefings and handover details are communicated and received 1.6 Confirm availability and status of necessary permits to work according to operational and legislative requirements 1.7 Confirm availability of necessary third party utilities
2. Operate mud system	2.1 Confirm good oilfield practice when operating equipment 2.2 Align valves in pits and confirm correct pit usage
3. Operate, maintain and repair mud conditioning equipment	3.1 Identify, confirm and adjust equipment according to instructions from supervisors or mud engineers 3.2 Clean all equipment and visually inspect for leaks and proper operation according to specifications 3.3 Identify faults or potential faults, record and report to relevant personnel 3.4 Replace screens and cones on shakers, desilters and desanders according to manufacturer specifications 3.5 Perform periodic or scheduled preventative maintenance on all mud treatment units according to manufacturer specifications
4. Operate and service transfer (butterfly) valves in mud pits	4.1 Align valves according to manufacturer specifications 4.2 Lubricate valve stems of butterfly valves according to manufacturer specifications 4.3 Clean and inspect transfer valves according to manufacturer specifications 4.4 Replace and repair defective parts as required according to manufacturer specifications
5. Monitor mud systems and recognise warning signs of kicks	5.1 Monitor, adjust and report pit level 5.2 Monitor and report mud properties 5.3 Monitor and report size of cuttings 5.4 Monitor and report volume of mud returns

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace procedures, documentation and regulations

SKILL	DESCRIPTION
Self-management	Monitors and minimises own exposure to worksite hazards during activities
Oral communication	Uses verbal communication techniques to communicate with others

Unit Mapping Information

Supersedes and is equivalent to RIIOGN303D Operate mud.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIOGN303E Operate, monitor and maintain mud systems

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- operate, monitor and maintain mud systems on at least two occasions, including:
 - recognising and reporting equipment malfunction or failure
 - working as directed by supervisor or mud engineer
 - aligning, lubricating, inspecting, replacing and repairing valves in pits
 - operating mud condition equipment, including:
 - shakers
 - degasser
 - desilter
 - desander
 - mud cleaner
 - agitators
 - maintain and repair mud conditioning equipment
 - replace screens and cones on shakers, desilters and desanders.

During the above, the candidate must:

- locate and apply documentation, policies and procedures required for operating mud systems
- implement the requirements, procedures and techniques for operating mud systems, including:
 - identifying, addressing and reporting potential hazards and risks
 - identifying, addressing and reporting environmental issues
 - preparing written records and reports
 - rectifying any identified faults and malfunctions within scope of own role and escalating where required

- work with others to undertake the operating of mud systems that meet required outcomes, including:
 - complying with written and verbal reporting requirements and procedures
 - communicating with others to receive and clarify work instructions
 - communicating with others to resolve coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key policies, procedures and established requirements for operating, monitoring and maintaining mud systems, including those for:
 - setting up work activity
 - work health and safety
 - identifying and managing environmental issues
 - selecting all plant, tools and equipment to carry out tasks and checking for faults
 - carrying out work to specifications
 - identifying and confirming availability of permits.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to operate, monitor and maintain mud systems
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 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.	

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**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 a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

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