



Australian Government

Department of Education, Employment and Workplace Relations

RIIOGD209A Operate and maintain ancillary equipment

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the operation and maintenance of ancillary equipment in the drilling industry. It includes planning and preparing for operating and maintaining ancillary equipment, maintaining pumps, operating, maintaining and repairing gate valves associated with the mud system, and operating and maintaining chemical mixing pumps and equipment. 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.

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Drilling

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

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 performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operating and maintaining ancillary equipment	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Obtain, confirm and apply work instructions for the allocated task 1.3. Identify, manage and report all potential hazards in compliance with statutory requirements 1.4. Resolve coordination requirements with others at the site prior to commencing and during work activities and ensure briefings/handover details are read/passed on 1.5. Confirm availability and status of necessary permits to work in accordance with operational and legislative requirements 1.6. Confirm availability of necessary third party utilities
2. Maintain pumps	2.1. Inspect lubrication, brake cooling and oil flushing pumps for leaks or abnormal operation 2.2. Lubricate pumps 2.3. Replace packing in centrifugal pumps
3. Operate, maintain and repair gate valves associated with mud system	3.1. Identify, locate and apply personal protective equipment 3.2. Align, open and close valves in accordance with operating procedures 3.3. Lubricate valve stems as required 3.4. Identify defective parts in valves and replace
4. Operate and maintain chemical mixing pumps and equipment	4.1. Identify faults or potential faults and report immediately 4.2. Identify, record and/or report requirement for repair or maintenance 4.3. Perform equipment checks regularly and efficiently as prescribed in the operator's manual 4.4. Line up valves properly 4.5. Engage mixing and transfer pumps 4.6. Lubricate valves, mixing pumps and

	transfer pumps 4.7. Replace defective or malfunctioning parts and valves on pumps 4.8. Clean and inspect mixing hopper and mixing area 4.9. Isolate equipment as required
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Required Skills and Knowledge

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

Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to operate and maintain ancillary equipment:

- apply legislative, organisation and site requirements and procedures for operating and maintaining ancillary equipment
- recognise and report equipment malfunction or failure
- supervise and train subordinates to provided standards
- work as directed by driller timely and efficiently
- maintain pumps in pump room
- align, open and close valves as appropriate
- use safety equipment, including fire protection, First Aid and vessel entry equipment
- lubricate valve stems
- replace defective parts in valves
- operate and maintain chemical mixing pumps and equipment
- clean and inspect mixing hopper and mixing area
- isolate and look out equipment as required

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to operate and maintain ancillary equipment:

- mud system ancillary equipment
- company and statutory safety guidelines, procedures and practices
- safe operating procedures when operating equipment
- rig maintenance
- normal drilling operations
- use of communication methods, including:
 - 2-way radio
 - intercom
 - telephone
 - oral instruction
 - written instruction
 - hand signals
 - telephone

- public address system
- weather conditions, including:
 - day/night
 - storm/lightning
 - hot/cold
 - wet/dry
- non-routine drilling operations
- discharge types and characteristics, including liquids, gases and solids
- material characteristics, including flammable, toxic, corrosive and explosive
- man management/rig management
- company maintenance system
- permit to work system
- equipment isolation procedures
- specialised hand tools

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for operating and maintaining ancillary equipment • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of ancillary equipment operation and maintenance • working with others to undertake and complete the operation and maintenance of ancillary equipment that meets all of the required outcomes • consistent timely completion of ancillary equipment operation and maintenance that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of

	assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the operation and maintenance of ancillary equipment
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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 italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant compliance documentation may include:	• legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation • safe working practices
Work instructions may come from briefings, handovers, plans and work orders and may be written or verbal, formal or informal and may include:	• nature and scope of tasks • specifications • quality of finished works • achieved targets • operational conditions • obtaining of required permits • site layout • out of bounds areas • worksite inspection requirements • lighting conditions • plant of equipment defects • coordination requirements or issues • contamination control requirements • environmental control requirements • barricade and signage requirements
Hazards may include:	• working in proximity to drilling rig
Statutory requirements may include:	• OHS • duty of care • environment • (PSLA) Petroleum Submerged Lands Act (where relevant) • petroleum regulations
Coordination requirements may	• other equipment operators • maintenance personnel

include:	• supervisors • site personnel
Briefing/handover details may include:	• task specific information • pre-tour safety meeting • location of potential hazards • task specific - Job Safety Analysis (JSA) • supervision of floor crew • pump equipment maintenance • safety briefing/induction • weekly safety meetings • agreed procedures may include: • company • facility • client • toolbox • permit to work
Personal protective equipment may include:	• eye protection • hearing protection • gloves • footwear • hard hats • respirators
Record may include recording:	• service and maintenance details • replacement parts
Equipment may include:	• mixing pumps • change pumps • desander • desilter • centrifuges • degaser • piping • valves • agitators • caustic mixing system • mud guns • mixing hoppers • shearing devices • (PVT) system • pit volume totaliser • lubrication pumps • bolt material system

	• chemical handling system • dust/fuel extraction system
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Unit Sector(s)

Drilling (Oil and Gas)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.