



Australian Government

Department of Education, Employment and Workplace Relations

RIIOGD504A Manage drilling operations

Release: 1

RIIOGD504A Manage drilling operations

Modification History

Not applicable.

Unit Descriptor

This unit covers managing drilling operations in the drilling industry. It includes planning and preparing for managing drilling operations, implementing drill management strategies, managing occupational health and safety obligations, overseeing drilling operations. 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 a management or supervisory 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.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for managing drilling operations	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 1.4. Resolve coordination requirements with others at the site prior to commencing and during work activities
2. Implement drill management strategies	2.1. Obtain and check copies of contract and well program, design implementation strategies and communicate to all parties 2.2. Prepare daily drilling reports and tour sheets and communicate to all parties 2.3. Undertake inspections of operating site and camp and record/ report 2.4. Establish communication strategies and confirm with operator's representative 2.5. Review and confirm legislative/company requirements and communicate to appropriate personnel 2.6. Put appropriate reporting mechanisms in place 2.7. Establish rig maintenance arrangements and communicate to all parties
3. Manage occupational health and safety obligations	3.1. Put in place and carry out crew meeting arrangements, minute outcomes and report to appropriate officers 3.2. Establish, implement, monitor and record/report safety inspection strategies 3.3. Induct new employees into site operations and put appropriate monitoring strategies in place 3.4. Establish, implement, monitor and record/report permit-to-work systems 3.5. Identify and implement emergency response arrangements and communicate to all parties 3.6. Identify, implement and monitor environmental legislative/ company

	requirements and rectify or report 3.7. Identify, rectify and report non-conformances to appropriate authorities/officers
4. Oversee drilling operations	4.1. Obtain and check drill program and communicate to appropriate officers/personnel 4.2. Organise drilling tools and equipment and put appropriate checking processes in place 4.3. Put in and monitor appropriate reporting mechanisms 4.4. Assess safe work practices and adherence to <i>drilling instructions</i> and rectify if required 4.5. Implement, maintain and monitor well control and blowout prevention strategies and report 4.6. Carry out and monitor appropriate tests and report

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 manage drilling operations:

- apply legislative, organisation and site requirements and procedures for managing drilling operations
- manage rig operation and performance
- communicate at all levels of operations
- identify, assess, control and report hazards/situations
- control downhole problems
- carry out numerical calculations including:
 - addition, subtraction, multiplication, division
 - relate normal pressure to temperature
 - using calculator if required
 - using estimated skills (e.g. mental arithmetic, visualisation of size and quantity)
 - basic geometry (e.g. interpreting depth, direction)
 - use of metric and imperials and conversion between the two
 - interpreting of gauges, graphs etc
 - calculations relating to pressure (hydrostatic, surface, downhole, circulating), density, volume (fluid, air, gas), height, velocity, length, weight
 - measurements (penetration rate, rotary torque, rpm, pump pressure)
- coordinate and delegate
- apply occupational health and safety/environmental regulations
- budget and monitor operating costs

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 manage drilling operations:

- document control
- operational procedures
- legislative requirements
- maintenance
- safety
- well control
- downhole problems and solutions

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 managing drilling operations • implementation of requirements, procedures and techniques for the safe, effective and efficient management of drilling operations • working with others to plan, prepare and manage drilling operations • evidence of the consistent successful management of drilling operations
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 management of drilling operations • provision of clear and timely instruction and supervision by the individual of those involved in the management of drilling operations
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 • Petroleum Submerged Lands Act (PSLA) • duty of care • occupational health and safety (OHS) • Environmental Protection Act • Workplace Relations Act • union awards
Work instructions may come from briefings, handovers, plans and work orders and may be written or verbal, formal or informal and may include:	• employee mentoring • driller training • ongoing supervisor for hazard identification • close surveillance of new employees • 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 • rig manager change over notes

	• safety briefing/induction • morning reports • pre-tour safety meeting • pre-spud meetings • weekly safety meetings • Job Safety Analysis (JSA)
Hazards may include:	• working in proximity to drilling rig • working in different conditions including: • night time operations • day time operations • hot climates • cold climates • wet weather conditions • high wind
Coordination requirements may include:	• other equipment operators • maintenance personnel • supervisors • site personnel • continuous communication maintained • team operation
Communicate may be via:	• 2-way radio • hand signals • telephone • public address system • written work instructions • internet and intranet
Communication may be between:	• crew • service companies • operator's representative
Reporting mechanisms may include:	• daily drilling report • equipment damage/failure report • material requisition form • plant movement advice • materials and services received (report) • gas bottle returns • third party hire and monthly stock lists • change over notes • employee time sheets • drilling rate sheet • meal and bed sheet • fire extinguisher checklist

	• monthly tubular summary
Drilling instructions may include:	• issues highlighted in pre-spud safety inspector • aspects of drilling program that detail contractor liability • drilling parameters • maintenance requirements

Unit Sector(s)

Drilling (Oil and Gas)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.