



Australian Government

RIIOGD403E Conduct drilling operations

Release: 1

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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 commence and maintain drilling operations, drill intermediate and/or main holes, prepare for hole abandonment and conduct housekeeping activities.

This unit applies to those working in supervisory roles. They generally perform tasks involving a broad range of varied activities most of which are complex and non-routine and are responsible for the quantity and quality of the output of others.

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 drilling operations	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply drilling operations 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 to the work activities 1.5 Communicate emergency response and work health and safety requirements, including the possibility of wellbore influx and well

ELEMENT	PERFORMANCE CRITERIA
	control, to crew members 1.6 Communicate with other personnel at site according to work requirements and confirm briefings and handover details are communicated and received 1.7 Check, clean and lubricate equipment, including mud riser/conductor/connections and rectify and report any faults 1.8 Check tool requirements and assembled in wellhead area
2. Commence drilling operations	2.1 Obtain, interpret and clarify drilling program requirements 2.2 Undertake surface hole drilling according to work requirements and manufacturer specifications 2.3 Commence intermediate and main hole drilling operations 2.4 Monitor, maintain and record drilling parameters in line with drilling program 2.5 Calculate and maintain kill sheet requirements and carry out and record integrity tests 2.6 Maintain tubular tallies according to workplace procedures 2.7 Inspect and prepare casing running tools and casing for operation according to manufacturer specifications and workplace procedures
3. Maintain drilling operations	3.1 Undertake cementing preparations according to job requirements 3.2 Run casing and prepare for cementing according to job requirements 3.3 Undertake preparations, and give assistance in drilling stem tests and logging and coring operations 3.4 Instruct crew on safe core recovery procedures 3.5 Put arrangements in place for nipping-up and drilling out
4. Drill intermediate and/or main holes	4.1 Obtain, read and confirm drilling program and timing schedule 4.2 Check equipment and tools for sizing and integrity and rectify or report faults 4.3 Maintain hole within deviation limits 4.4 Adhere to sound drilling and safety practices during nipping-up and pressure testing operations
5. Prepare for hole abandonment	5.1 Confirm program for completion or abandonment 5.2 Check tools and equipment for integrity and rectify or report faults 5.3 Complete written reports according to workplace procedures
6. Conduct housekeeping activities	6.1 Clean, check, perform maintenance on and store plant, tools and equipment 6.2 Report issues identified with plant, tools and equipment

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 complex information from workplace procedures, documentation and regulations

Unit Mapping Information

Supersedes and is equivalent to RIIOGD403D Conduct drilling operations.

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 RIIOGD403E Conduct drilling operations

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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:

- conduct drilling operations on at least two occasions, including:
 - undertaking surface and main hole drilling
 - carrying out cementing procedures
 - maintaining drill hole
 - preparing the hole for abandonment
 - troubleshooting and problem solving, including rise in rotary torque and mud pressure
 - performing calculations, including:
 - quantities up-hole calculations
 - velocity specific calculations
 - gravity volumes calculations
 - capacities pressure calculations.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures
- implement the requirements, procedures and techniques for conducting drilling operations, including:
 - identifying, addressing and reporting potential hazards and risks
 - carrying out emergency response
 - 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 conduct drilling operations to meet required outcomes, including:
 - preparing for and organising work activities to meet task requirements
 - communicating with others to receive and clarify work instructions

- using a range of communication techniques and aids to advise others of work activity and exclusion zones.

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 legislation required for conducting drilling operations
- key policies, procedures and established requirements for conducting drilling operations, including those for:
 - setting up work activity
 - site isolation, signage and erecting barriers
 - work health and safety
 - environmental issues
 - selecting all plant, tools and equipment to carry out tasks and checking for faults
 - carrying out work to specifications
 - communication techniques relevant to work activities
 - maintaining tubular tallies
- calculations, including:
 - quantities up-hole calculations
 - velocity specific calculations
 - gravity volumes calculations
 - capacities pressure calculations.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to conduct drilling operations
- 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 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 Companion Volume 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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