



Australian Government

RIISAM215E Carry out drilling industry operational maintenance

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 perform drilling checks and maintenance, including of all downhole tools, other drilling consumables, equipment and machinery.

It 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.

No licensing, legislation or certification requirements apply to this unit at the time of publication.

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 to carry out drilling Industry operational maintenance	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply drilling service and maintenance 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 activity 1.5 Communicate with other personnel at site according to

ELEMENT	PERFORMANCE CRITERIA
	work requirements and confirm briefings and handover details are communicated and received 1.6 Obtain and interpret emergency procedures and identify steps required in case of fires, accidents and other emergencies
2. Carry out pre-drilling checks and maintenance	2.1 Carry out predrilling checks according to manufacturer specifications 2.2 Complete workplace and/or site documentation according to workplace procedures 2.3 Access and apply lubrication schedule according to workplace procedures and manufacturer specifications 2.4 Top up fluid levels and bleed lines according to work requirements and manufacturer specifications 2.5 Check filters and clean/replace as required 2.6 Check security of all circulation systems 2.7 Ensure cabin and windscreen are clean and seat belts and windscreen washer function
3. Perform machine checks	3.1 Carry out equipment inspection, servicing and lubrication according to manufacturer specifications 3.2 Identify faults or potential faults 3.3 Observe isolation/tag out/lock out procedures 3.4 Identify, record and/or report requirement for repair or maintenance and critical timeline for rectification 3.5 Monitor effectiveness of maintenance performed
4. Maintain all down hole tools and other drilling consumables	4.1 Carry out component maintenance according to workplace procedures and manufacturer specifications 4.2 Maintain and store tools and consumables according to workplace procedures
5. Perform machinery maintenance	5.1 Access and apply scheduled machinery servicing, maintenance and overhauls 5.2 Use tag out/lock out when servicing 5.3 Carry out minor servicing of equipment according to manufacturer specification 5.4 Carry out routine inspection, servicing, lubrication and housekeeping tasks according to workplace procedures 5.5 Read and apply instructions on maintenance procedures, lubrication tasks and filter change/service 5.6 Identify, record and replace worn parts according to workplace procedures and manufacturer specifications 5.7 Conduct diagnostic and troubleshooting techniques and

ELEMENT	PERFORMANCE CRITERIA
	take remedial action 5.8 Identify operational faults in and maintain hydraulic systems 5.9 Report service and repair requirements and take remedial action according to workplace procedures
6. Perform equipment and machinery field repairs	6.1 Isolate and rectify equipment faults according to manufacturer specifications 6.2 Identify extent of repair needed and obtain spare parts 6.3 Identify, select and use tools required for maintenance and repairs 6.4 Identify and return re-usable parts/components or accessories 6.5 Review equipment and re-set in response to site conditions 6.6 Identify system faults and formulate appropriate responses within agreed timelines 6.7 Maintain service records according to workplace procedures 6.8 Dismantle, assess, service, repair, reassemble and test drill components according to manufacturer specifications

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

Unit Mapping Information

Supersedes and is equivalent to RIISAM215D Carry out drilling industry operational maintenance.

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 RIISAM215E Carry out drilling industry operational maintenance

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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:

- carry out drilling industry operational maintenance on at least two occasions, including:
 - planning and preparing for operational maintenance tasks, including:
 - carrying out pre-drilling checks and maintenance
 - performing machine checks
 - maintaining and store tools and consumables
 - completing maintenance, including:
 - equipment inspection, servicing and lubrication
 - fault identification
 - isolation/tag out/lock out
 - machinery maintenance
 - field repairs
 - completing workplace and/or site documentation.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures
- work with others to carry out drilling industry operational maintenance that meets required outcomes, including:
 - organising work activities to meet all task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to determine 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 carrying out drilling industry operational maintenance, including those for:
 - environmental protection
 - isolation and tag out
 - documentation and reporting
 - work health and safety
 - hazard identification and risk control
 - Job Safety Analysis (JSA)
 - hazardous goods handling
 - tag out/lock out
 - selection and use of hand and power tools
 - verbal and written communication
- manufacturer maintenance requirements and procedures
- characteristics, technical capabilities and limitations of equipment
- mechanical/electrical/hydraulic systems and power tools characteristics
- lubricants and their uses
- procedures for identifying and interpreting all engine, electric and hydraulic indicators and gauges
- transmission and drive systems.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to carry out drilling industry operational maintenance
- 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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