



Australian Government

Department of Education, Employment and Workplace Relations

RIISAM502B Manage general drilling equipment maintenance

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers managing equipment maintenance in the general drilling industry. It includes: planning and preparing for equipment maintenance; managing movement of stock; planning and organising maintenance and overhauls; evaluating new and used equipment; and maintaining inventories of all items needed on site.

Application of the Unit

This unit is appropriate for those working in management roles, 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 equipment maintenance	1.1. Access, interpret and apply compliance documentation relevant to managing equipment maintenance in the general drilling industry 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. Manage movement of stock	2.1. Identify items needed for the worksite 2.2. Cost and plan delivery of stock, parts and consumables from suppliers and an alternative supplier, having regard to delivery timeframes 2.3. Prepare and maintain checklist of all materials and spares to ensure the drilling operation continues effectively 2.4. Make arrangements for the safe and secure storage on site/in store/workshop, of materials and spare parts 2.5. Identify wear parts and relative frequency of replacement and determine replacement costs 2.6. Place orders for stock or equipment maintenance in advance of need, to ensure continuous availability 2.7. Develop and implement procedures for issue, return and recording of stock movement 2.8. Maintain inventory in accordance with company requirements 2.9. Record parts usage accurately and in compliance with requirements
3. Plan and organise maintenance and overhauls	3.1. Determine type and frequency of maintenance tasks 3.2. Organise equipment maintenance and service to ensure availability is maintained and downtime minimised 3.3. Monitor performance of maintenance

	schedules and take corrective action, if necessary 3.4. Arrange sources for obtaining back-up or replacement equipment 3.5. Allocate competent personnel to carry out maintenance tasks 3.6. Ensure records are maintained in compliance with requirements
4. Evaluate new and used equipment	4.1. Test materials and equipment to ensure continuing serviceability in compliance with requirements 4.2. Monitor availability of new and used equipment 4.3. Evaluate costs/benefits of replacing equipment, and recommend/implement the purchase/lease of replacement equipment
5. Maintain inventories of all items needed on site	5.1. Monitor individual machine records in line with replacement policies 5.2. Maintain economic stock levels by implementing a stock control system to record stock levels and stock usages 5.3. Monitor performance of stock control system and take corrective action if required 5.4. Use approved requisition/purchasing procedures to order parts and supplies at the appropriate time and in the appropriate quantity 5.5. Carry out stocktaking and rotate and monitor ongoing stock levels to ensure continuing availability of spares and materials and in compliance with requirements 5.6. Keep a hazardous substances register 5.7. Ensure resources/stock required for servicing is available only on authorised access 5.8. Prevent/minimise waste or damage to spare parts in storage 5.9. Determine approximate timelines for re-ordering 5.10. Calculate/estimate and order replacement of equipment, consumables, components and materials

	5.11. Report any problems with stock control or availability of parts to appropriate personnel
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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 in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to manage general drilling equipment maintenance:

- apply legislative, organisation and site requirements and procedures
- apply stocks checking and maintenance requirements and procedures
- apply cost benefit analysis
- apply equipment/consumables order procedures
- apply reporting procedures

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to manage general drilling equipment maintenance:

- equipment and ancillary attachment characteristics, technical capabilities and limitations
- wear parts and relative frequency of replacement
- purpose of stock control
- financial transactions (e.g. cash flow, cost benefit analysis)

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 the managing of equipment maintenance in the general drilling industry • implementation of procedures and techniques for the safe, effective and efficient managing of equipment maintenance in the general drilling industry • the identification of the relevant information and scope of the work required to meet the required outcomes • the identification of viable options and the selection of options that best meet the required outcomes • working with others to undertake and complete equipment maintenance in the general drilling industry • consistent successful management of equipment maintenance in the general drilling industry
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. • 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. • Assessment of this competency requires typical resources normally used in a civil works environment. Selection and use of resources for particular worksites may differ due to site circumstances. • 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 to apply in undertaking of the managing equipment maintenance in the general drilling industry • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • identification of the relevant information and scope of the work required to meet the required outcomes • identification of viable options and the selection of options that best meet the required outcomes • consistently achieving the required outcomes • first hand testimonial and documentary evidence of the candidate's: • working with others to undertake and complete equipment maintenance in the

	general drilling industry • provision of clear and timely required support and advice on equipment maintenance in the general drilling industry
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, organisation 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
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 • operational conditions • obtaining of permits required • site layout • worksite inspection requirements • plant or equipment defects • hazards and potential hazards • coordination requirements or issues • contamination control requirements • environmental control requirements • barricade and signage requirements
Coordination requirements may include:	• drill rig operators • maintenance personnel • supervisors
Cost items may include:	• plant equipment and hire • fuel, materials, drilling stores and bits • maintenance and drill string replacement
Spares and consumables may be identified by:	• diagrams in maker handbooks and other documents • lists in maker handbooks and other documents • labels, bar codes, and on items
Scheduling may include:	• flow charting • timelines/diagrams • critical path

	• just in time (JIT)
Methods of maintaining stock levels may include:	• two bin system • re-order level system • re-order cycle system • any of the above operating with computer assistance • replenishment system

Unit Sector(s)

Service and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.