



Australian Government

Department of Education, Employment and Workplace Relations

RIIRAI508A Implement mine services systems

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the implementing of mine services systems in the coal mining industry. It includes: planning and preparing for implementation of mine services systems and equipment; implementing installation and commissioning procedures; implementing systems for the operation and maintenance of mine services systems and equipment; and implementing systems for audit, review of mine services systems and equipment.

Application of the Unit

This unit is appropriate for those working in a management role or as a technical specialist, managing or advising on mine services systems within:

- Coal mining

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 implementation of mine services systems and equipment	1.1. Access, interpret and apply compliance documentation relevant to the implementing of mine services systems 1.2. Identify the purpose of mine services systems and equipment in accordance with the system of mining 1.3. Identify and record site requirements for the implementation of mine services systems and equipment 1.4. Identify and implement safety systems 1.5. Access and interpret the specification for the required mine services equipment 1.6. Identify, clarify and communicate roles and responsibilities 1.7. Implement the program to satisfy identified mine services training requirements 1.8. Access and interpret standard operating procedures
2. Implement installation and commissioning procedures	2.1. Identify hazards associated with the installation of mine services equipment and systems, and evaluate and respond to risks , in accordance with established procedures 2.2. Integrate new and existing work systems and processes to achieve optimum performance 2.3. Implement standard operating procedures 2.4. Implement mine services equipment installation and commissioning procedures 2.5. Install equipment at the worksite in accordance with manufacturer instructions and site procedures 2.6. Commission equipment and systems in accordance with the manufacturer specifications and site procedures 2.7. Modify equipment and systems to satisfy required changes arising from the commission process 2.8. Implement emergency response and evacuation plans and procedures in accordance with site requirements 2.9. Implement protection systems in

	accordance with site requirements
3. Implement systems for the operation and maintenance of mine services systems and equipment	3.1. Implement operational procedures for mine services systems and equipment according to site requirements 3.2. Implement maintenance procedures for mine services systems and equipment according to manufacturer and site requirements 3.3. Implement and apply procedures for reviewing and modifying work processes
4. Implement systems for audit, review of mine services systems and equipment	4.1. Audit mine services system standards for compliance with legislative and site requirements 4.2. Audit mine services and equipment maintenance standards for currency and compliance with legislative and site requirements 4.3. Audit mine services and equipment for compliance with legislative and site requirements 4.4. Audit reporting and recording systems for compliance with legislative and site requirements 4.5. Audit emergency response and evacuation plans and procedures for compliance with site requirements 4.6. Audit the training program for currency, relevance and compliance with site requirements

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 implement mine services systems:

- apply legislative, organisation and site requirements and procedures
- access, interpret and apply:
 - technical information
 - site/legislative requirements
 - records and reports
 - briefings and handover details
- apply hazard identification and risk management processes
- apply work planning and coordination requirements and procedures
- apply training needs analysis
- interpret and apply manufacturer instructions
- apply maintenance survey 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 implement mine services systems:

- legislative Australian standards and site-specific requirements
- emergency response and disaster planning processes and techniques
- audit review process and techniques
- open cut mine operating procedures
- mine design relating to mine services systems
- power sources, including electrical, hydraulic, compressed air, diesel
- safety design features of mine services systems
- computer based systems
- training programs
- fire fighting systems and precaution rules
- safety design features for maintenance of mine services systems
- maintenance surveys
- stores systems
- training systems

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 to implement mine services systems • implementation of procedures and techniques for the safe, effective and efficient implementation of mine services systems • 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 the implementation of mine services systems • consistent successful implementation of mine services systems
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 • 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 implement mine services systems • provision of clear and timely required support and advice on the application of mine services systems

Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.
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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
Mine services systems may include:	• design • development • establishment • installation • operations • protection • maintenance • monitoring • recording • reporting process • communication systems, including: • oral • phones • radios • electronic • microwave • telemetry
Site requirements may include:	• mine plan • electrical rules • electrical/mechanical equipment • communications • emergency procedures • risk management • recording and reporting • mines rescue

	• OHS • manufacturer's instructions • standard work procedures • training • fire fighting • handling and storage of dangerous goods • local government • local power authority
Safety systems may include:	• legislation (legal requirements) • location • site layout • purpose • environmental control (spontaneous combustion, gas, noise, water, heat, dust) • protection systems (guarding, fire protection and suppression, electricity, lightning arresters, ventilation in explosives magazines and earthing)
Specifications may include:	• performance requirements • costs • dimensions • capacity • safety and health requirements • training requirements • key selection criteria
Standard operating procedures (SOP) are also known as:	• safe working procedures, safe operating procedures and standard working procedures
Hazard is defined as:	• a source of potential harm or a situation with a potential to cause loss (definition from AS/NZS 4360:1999 Risk Management)
Mine services may include:	• power (air, gas, electricity, water, diesel, low energy source) • water, wastewater • fire fighting • gas drainage • fuel • waste disposal • condition monitoring • dust suppression and refrigeration • safety services, including: • risk assessment process

	• fire fighting • First Aid • mines rescue
Risk is defined as:	• the chance of something happening that will have an impact upon objectives • it is measured in terms of consequences and likelihood
Specifications may include:	• performance requirements • costs • dimensions • capacity • OHS requirements • training requirements • key selection criteria
Emergency response systems may include:	• refuge chamber • designated escape ways • evacuation procedures • alarm systems • guidance systems • emergency communication systems • self-aided escape apparatus • mines rescue capability
Protection systems may include:	• explosion barriers • electrical protection • compressed air protection • hydraulic protection • environment protection • falling and rollover protection • mechanical protection • frictional ignition protection • guarding • personal protection
Audit is defined as:	• "a systematic examination against defined criteria to determine whether activities and related results conform to planned arrangement, and whether these arrangements are implemented effectively and are suitable to achieve the organisation policy and objectives" (AS/NZS 4804: 2001)
Reporting and recording systems include site requirements	• phones • radios • computer systems

and may include:	• verbal and written
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Unit Sector(s)

Resources and Infrastructure

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.