



Australian Government

Department of Education, Employment and Workplace Relations

RIIRAI509A Implement mine fixed plant and infrastructure systems

Release: 1

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Modification History

Not applicable.

Unit Descriptor

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

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 fixed plant and infrastructure 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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Plan and prepare for the implementation of mine fixed plant and infrastructure systems</p>	<p>1.1. Access, interpret and apply compliance documentation relevant to implementing mine fixed plant and infrastructure systems</p> <p>1.2. Identify the requirements of fixed plant and infrastructure in accordance with mine design and system of mining</p> <p>1.3. Identify site requirements for the implementation of fixed plant and infrastructure</p> <p>1.4. Identify and implement safety systems</p> <p>1.5. Identify and interpret the specification for the required fixed plant</p> <p>1.6. Identify, clarify and communicate roles and responsibilities</p> <p>1.7. Implement the program to satisfy identified fixed plant and infrastructure training requirements</p> <p>1.8. Assess and interpret safe operating procedures</p>
<p>2. Implement installation and commissioning procedures for fixed plant and infrastructure</p>	<p>2.1. Identify hazards associated with the installation of fixed plant and infrastructure and evaluate and respond to risks in accordance with established procedures</p> <p>2.2. Integrate new and existing fixed plant and infrastructure and processes to achieve optimum performance</p> <p>2.3. Implement safe operating procedures</p> <p>2.4. Implement fixed plant and infrastructure installation and commissioning procedures</p> <p>2.5. Install fixed plant and infrastructure at the worksite in accordance with manufacturer instructions and site procedures</p> <p>2.6. Commission fixed plant and infrastructure systems in accordance with manufacturer's instructions and site procedures</p> <p>2.7. Modify systems to satisfy required changes arising from the commissioning process</p> <p>2.8. Implement emergency response and evacuation plans and procedures in accordance with site requirements</p>

<p>3. Implement systems for the operation and maintenance of fixed plant and infrastructure</p>	<p>3.1. Implement operational procedures for fixed plant and infrastructure according to site requirements</p> <p>3.2. Implement maintenance procedures for fixed plant and infrastructure according to manufacturer and site requirements</p> <p>3.3. Implement and apply procedures for reviewing and modifying work processes</p>
<p>4. Implement systems for audit and review of fixed plant and infrastructure</p>	<p>4.1. <i>Audit</i> fixed plant and infrastructure standards for compliance with statutory and site requirements</p> <p>4.2. Audit fixed plant and infrastructure maintenance standards for currency and compliance with statutory and site requirements</p> <p>4.3. Audit fixed plant and infrastructure for compliance with site standards</p> <p>4.4. Audit reporting and recording systems for fixed plant and equipment and infrastructure for compliance with statutory and site requirements</p> <p>4.5. Audit the fixed plant and infrastructure training program for currency, relevance and compliance with site requirements</p> <p>4.6. Audit emergency response and evacuation plans and procedures for compliance with site requirements</p>

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 fixed plant and infrastructure 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 procedures
- apply training needs analysis
- interpret and apply manufacturers' 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 fixed plant and infrastructure systems:

- legislative, statutory, Australian standards and site-specific requirements for plant and infrastructure, including:
 - 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 requirement
- local power authority
- open cut mine operations systems and procedures
- stores systems
- protection systems
- reticulation systems
- specifications for fixed plant and infrastructure
- audit processes
- mine design principles and procedures relating to fixed plant and infrastructure
- power sources, including electrical, hydraulic, pneumatic and diesel
- computer based systems
- training programs
- fire fighting systems and precaution rules
- safety design features for maintenance of fixed plant and infrastructure
- maintenance surveys
- training systems
- emergency response and evacuation planning processes and techniques

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>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:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions to implement mine fixed plant and infrastructure systems • implementation of procedures and techniques for the safe, effective and efficient implementation of mine fixed plant and infrastructure 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 implement mine fixed plant and infrastructure systems • consistent successful implementing of mine fixed plant and infrastructure systems
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • 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.

	<ul style="list-style-type: none"> • 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.
<p>Method of assessment</p>	<p>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:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • working with others to implement mine fixed plant and infrastructure systems • provision of clear and timely required support and advice on the applying the

	mine fixed plant and infrastructure systems
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

<p>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.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • 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
<p>Fixed plant may include:</p>	<ul style="list-style-type: none"> • crushers • screens • conveyors • feeders • coal or waste handling systems
<p>Infrastructure may include:</p>	<ul style="list-style-type: none"> • roads and railways • dams • fencing • stockpile/product bays • salvage area • reticulation systems • car park • communications • power supply • tailings • buildings, including: <ul style="list-style-type: none"> • ablutions • amenities • change room • chemical stores • control rooms • dangerous goods store • explosives magazines • First Aid • fuel storage

	<ul style="list-style-type: none"> • laboratory • mines rescue station • offices • oil store • power station • supply stores • tyre stores • weighbridge • workshops
Hazard is defined as:	<ul style="list-style-type: none"> • a source of potential harm or a situation with a potential to cause loss
Risk is defined as:	<ul style="list-style-type: none"> • the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood
Emergency response systems may include:	<ul style="list-style-type: none"> • designated escape ways • evacuation procedures • alarm systems • guidance systems • emergency communication systems • self-aided escape apparatus • rescue capability
Audit is defined as:	<ul style="list-style-type: none"> • 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
Reporting and recording systems include site requirements and may include:	<ul style="list-style-type: none"> • phones • radios • computer systems • verbal and written
Standard operating procedures (SOP) are also known as:	<ul style="list-style-type: none"> • safe working procedures, safe operating procedures and standard working procedures
Safety systems may include:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none">• performance requirements• costs• dimensions• capacity• OHS requirements• training requirements• key selection criteria

Unit Sector(s)

Resources and Infrastructure

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.