



Australian Government

Department of Education, Employment and Workplace Relations

RIIRAI505A Implement the surface mine mechanical plant management plan

Release: 1

RIIRAI505A Implement the surface mine mechanical plant management plan

Modification History

Not applicable.

Unit Descriptor

This unit covers the implementation of the surface mine mechanical plant management plan in the coal mining industry. It includes: planning and preparing for the implementation; implementing the hazards and risk control options and measures; and auditing the management plan.

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 mechanical plant 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 the implementation of the management plan	1.1. Access, interpret and apply compliance documentation relevant to the implementation of the surface mine mechanical plant management plan 1.2. Access, interpret and clarify the legislative and site requirements related to surface mine mechanical plant management plan 1.3. Access, interpret and clarify the surface mine mechanical plant management plan 1.4. Identify and communicate roles and responsibilities, as specified in the surface mine mechanical plant management system to all involved persons 1.5. Identify, forecast, obtain and allocate/schedule resources required for the implementation of the surface mine mechanical plant management plan 1.6. Identify training needs 1.7. Encourage, receive, review and where appropriate, implement suggestions and recommendations for changes to surface mine mechanical plant management procedures
2. Implement the hazards and risk control options and measures	2.1. Implement the hazardous environment control procedures 2.2. Implement fire protection and prevention procedures on mechanical equipment 2.3. Implement procedures to control noise, dust, and other emissions initiated from or created by mechanical equipment 2.4. Implement procedures for working at heights 2.5. Implement procedures to maintain the integrity of safety critical functions of mechanical equipment 2.6. Implement procedures to control hazards in lifting and towing systems for mechanical equipment 2.7. Implement procedures to control hazards associated with transport equipment and other plant

	2.8. Implement procedures to protect people in their <i>interrelationship with mechanical equipment</i> in the surface environment 2.9. Implement procedures to control hazards for energy dissipation and isolation systems on mechanical equipment 2.10. Implement procedures to control hazardous substances initiated from or used by mechanical equipment 2.11. Implement procedures for the interaction and/or failure of transport and production equipment 2.12. Record and report monitoring and information system data in accordance with the surface mine mechanical plant management plan
3. Audit surface the management plan	3.1. Review the effectiveness of the surface mine mechanical plant management plan in accordance with the requirement of the mine mechanical plant management plan 3.2. Audit the <i>maintenance</i> program and procedures in accordance with the surface mine mechanical plant management plan and statutory requirements 3.3. Audit recording and reporting systems in accordance with the surface mine mechanical plant management plan 3.4. Audit the mechanical plant management training program for currency, relevance and compliance with the surface mine mechanical plant management plan 3.5. Report on non compliance as revealed by audit

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 the surface mine mechanical plant management plan:

- 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 requirements and procedures
- apply work planning and coordinating requirements and procedures
- apply training needs analysis processes
- interpret and apply manufacturer instructions
- apply effective communication techniques
- apply and monitor data from monitoring systems and equipment

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 the surface mine mechanical plant management plan:

- legislative and statutory requirements for mechanical plant and equipment
- the emergency response and disaster processes and techniques
- audit review processes and techniques
- mechanical engineering standards
- safety critical function of mechanical equipment
- mine operating procedures for mechanical plant and equipment
- options to control hazards and risks relating to mine mechanical plant and equipment, including fire protection and prevention, lifting and towing systems, storage of hazardous substances and the interrelationship between people and mechanical equipment
- energy sources, including protection and reticulation systems for electrical, hydraulic, compressed air, diesel
- mine fires; the types, sources of ignition and possible impacts on plant and equipment
- a basic knowledge of computer based systems relating to the monitoring, and

operation of mine mechanical plant and equipment

- fire fighting systems
- specification for mine plant and equipment

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 implementation of surface mine mechanical plant management plans • implementation of procedures and techniques for the safe, effective and efficient implementation of surface mine mechanical plant management plans • 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 surface mine mechanical plant management plans • consistent successful implementation of surface mine mechanical plant management plans
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 undertake and complete the implementation of surface mine mechanical plant management plans

	• provision of clear and timely required support and advice on the implementation of surface mine mechanical plant management plans
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

Mine mechanical plant management plan establishes the procedures for maintaining a safe environment and may include:

- hazard identification and quantification
- risk assessment
- authority and responsibility
- controls established to manage identified risks
- reporting and communication
- document control
- audit and review

and may include procedures for:

- control of hazardous environments
- fire protection and prevention
- control of noise, dust and other emissions initiated from or created by mechanical equipment
- mine plan
- working at heights
- lifting and towing systems
- hazards associated with transport equipment and other plant
- inter relationship between people and mechanical equipment
- control of hazards for energy dissipation and isolation
- control of hazardous substances
- interaction and/or failure of transport and production equipment
- training and education

Training applies to:	• mine workers • tradespeople • permanent employees • contractors • mine officials • other special requirements
Mechanical plant management system establishes procedures for maintaining safe equipment, including:	• hazard identification and quantification • risk management • consultation • authority and responsibility • controls established to manage identified risks • reporting and communication • document control • audit and review
Hazard is defined as:	• a source of potential harm or a situation with a potential to cause loss
Hazardous environment may include:	• coal storage bins • reclaim tunnels • confined spaces • gases • restricted work area • flammable environments are those related to heat sources, fuel sources and ignition sources, e.g. engine wiring, hydraulics in engine bays
Hazards and risk control procedures identified in the mine mechanical plant management plan may include:	• explosion initiate from mechanical equipment • fire initiate and/or supported by mechanical equipment • hazardous substances used for mechanical equipment • toxic substances generated by mechanical equipment • the release of uncontrolled kinetic energy (unplanned movements) on mechanical equipment • the interaction and/or failure of transport and production equipment • the use and storage of high pressure fluids • moving and rotating parts on mechanical equipment • fluid injection incidents • dangerous goods, e.g. LPG, flammable liquids

Hazards associated with transport equipment and other plant may include:	• tyre and rim failure • interaction between light and heavy vehicles • overhead power lines • restricted vision • equipment working around draglines
Interrelationship with mechanical equipment in the surface environment may include:	• access systems • guarding • remote and/or automatic control • restricted working areas • safe standings/operating zones • ergonomics and vibrations • vision • manual handling • working at heights • emergency egress systems
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
Maintenance is to restore or keep at the level at which it was originally designed, by:	• inspecting and testing plant and equipment • monitoring plant and equipment • servicing equipment • repairing equipment • overhauling equipment

Unit Sector(s)

Resources and Infrastructure

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.