



Australian Government

Department of Education, Employment and Workplace Relations

RIIMSM305A Conduct materials extraction operations underground

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of underground materials extraction operations in the metalliferous mining industry. It includes planning and preparing for operations, operating machinery and equipments to extract materials, and carrying out machinery and equipment maintenance. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Metalliferous 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 operations	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Confirm work requirements before proceeding 1.3. Select relevant equipment and survey mine workings to follow/verify planned operation 1.4. Access and apply safety information and procedures throughout the work 1.5. Inspect shaft and roof stability 1.6. Establish communication system, methods and protocols with other personnel
2. Operate machinery and equipment to extract materials	2.1. Coordinate mining activities with others at the site prior to commencement of, and during, the work activity 2.2. Carry out machinery and equipment pre-start, start-up, shutdown and isolation procedures in accordance with manufacturer's instructions and recommended mining practices 2.3. Operate machinery and equipment in accordance with manufacturer's instructions and recommended mining practices to extract and load materials 2.4. Operate/manoeuvre machinery to extraction location according to manufacturer's instructions and recommended machinery operation practices 2.5. Cut drives and faces to planned sequence and site conditions, maintaining operational parameters in accordance with the mine work plan 2.6. Identify and rectify factors adversely affecting production and monitoring systems alarms in accordance with site procedures 2.7. Identify/monitor and respond to changing geological conditions to maintain safety and production levels 2.8. Recognise and respond to hazardous and

	<i>emergency situations</i>
3. Carry out machinery and equipment maintenance	3.1. Carry out <i>machinery and equipment</i> inspections and fault finding in accordance with manufacturer's instructions and site requirements 3.2. Carry out routine operational servicing, lubrication and housekeeping tasks in accordance with manufacturer's instructions and recommended procedures and practices 3.3. Carry out minor maintenance to manufacturer's instructions and recommended procedures and practices 3.4. Process records in accordance with site and legislative 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 of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to conduct materials extraction operations underground:

- apply legislative, organisation and site requirements and procedures for the conduct of underground materials extraction operations
- apply operational safety requirements
- communicate with other personnel
- interpret manufacturer's /supplier's manuals
- access, interpret, apply and communicate technical information
- interpret survey and geological data
- apply diagnostic and fault finding techniques
- use hand and power tools
- maintain equipment records
- comply with environmental requirements

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to conduct materials extraction operations underground:

- operational safety requirements and procedures
- machinery and equipment characteristics, technical capabilities and limitations
- machinery and equipment operational procedures
- mine geology and survey data associated with ore-bearing ground
- ventilation systems
- machinery and equipment maintenance requirements and procedures
- site environmental requirements and constraints relevant to machinery and equipment operations
- pillar configuration, design and layout
- assessment of mine ground conditions
- characteristics and properties of roofs and walls
- emergency procedures
- pillar extraction methods and safety requirements
- maintenance procedures
- hazardous materials handling
- environmental requirements

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| <ul style="list-style-type: none">• hoisting systems, equipment and legislative requirements |
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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 conduct of underground materials extraction operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of underground materials extraction operations • working with others to undertake and complete the conduct of underground materials extraction operations that meets all of the required outcomes • consistent timely completion of underground materials extraction operations that safely, effectively and efficiently meets the required outcomes
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. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • 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. • 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 requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the conduct of underground materials extraction operations
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, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Machinery and equipment may include:	• hydraulic/pneumatic digger • electric digger • electric/hydraulic bogger • hoists • bobcat • loader • tracked vehicle • tyred vehicle • electric/pneumatic jack hammer
Work requirements may include:	• equipment and plant (including any defects) • mining sequence • achievement targets • essential survey data • geological conditions • essential environmental information • hazards • potential hazards • coordination requirements/issues • room and pillar layout
Safety information and procedures may be contained in:	• legislation and regulations • relevant Australian standards • Safety Management Plan • OHS policy • code of practice • manufacturer's instructions • safe working procedures (or equivalents)

	• recognised standards
Communications may include:	• radio • telephone • audible signals (bells, whistles, sirens) • physical signals • written and verbal means
Hazards/potential hazards may include:	• gas accumulation • ignition • loss of ventilation • breaking into neighbouring workings • roof and wall collapse • water ingress • floor condition • creep

Unit Sector(s)

Metalliferous Mining (Small Mines)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.