



Australian Government

Department of Education, Employment and Workplace Relations

RIIWMG202A Conduct dewatering operations in underground mining operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of dewatering operations in underground coal and metalliferous mining operations. It includes: the planning and preparing for dewatering activities; installing, operating and recovering dewatering equipment; and carrying out operator maintenance.

Application of the Unit

This unit is appropriate for those working in a operational roles, at worksites within:

- Coal mining
- 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 dewatering activities	1.1. Access, interpret and apply compliance documentation relevant to the conduct of dewatering operations in underground mining operations 1.2. Obtain, interpret and clarify work instructions for the allocated task 1.3. Select appropriate type of resources and equipment according to job type and specifications to maximise efficiency and effectiveness of work activities 1.4. Develop dewatering plan 1.5. Identify and obtain any signage requirements are identified and obtained 1.6. Prepare sumps and pads to work requirements 1.7. Coordinate and transport pump, lines, fittings , associated equipment and required tools to and from the site 1.8. Identify, address and report any environmental issues
2. Install, operate and recover dewatering equipment	2.1. Resolve coordination requirements with others at the site prior to commencing and during work activities 2.2. Access and apply safety requirements and procedures throughout the work 2.3. Install and dismantle dewatering system in accordance with the plan and other appropriated regulations and specifications 2.4. Carry out pre-start, start-up and shutdown procedures 2.5. Monitor and adjust dewatering system performance to satisfy pumping requirements and to appropriately meet changing work conditions 2.6. Recognise and respond to hazardous and emergency situations 2.7. Ensure discharged water is dispersed as required 2.8. Complete work in accordance with the agreed plan and outcomes and within the operating capacity of the allocated equipment 2.9. Recover dewatering system 2.10. Work area is cleared and materials

	disposed of or recycled
3. Carry out operator maintenance	3.1. Carry out dewatering equipment and systems inspections and fault finding 3.2. Carry out operational maintenance, servicing, lubricating and housekeeping tasks 3.3. Process records and reports

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 conduct dewatering operations in underground mining operations:

- apply legislative, organisation and site requirements and procedures
- apply operational safety requirements
- access, interpret and apply technical information
- apply techniques to communicate with and coordinate activities with others
- apply procedures to select dewatering methods suitable to the situation
- interpret ground conditions
- apply pumping equipment operating requirements and procedures
- apply procedures for identifying potential hazards
- apply procedures for responding to changing circumstances
- use small hand tools
- apply procedures for complying with environmental requirement
- work wearing personal protective equipment
- apply procedures for working in confined spaces
- apply equipment records maintenance requirements

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 conduct dewatering operations in underground mining operations:

- site hazard identification and response procedures
- site risk control procedures
- site and equipment health and safety procedures
- site environmental requirements and constraints
- site quality requirements
- site communication procedures
- site geological and survey data
- site operational procedures
- dewatering equipment pre-start, start-up, operating and shutdown procedures and techniques
- dewatering equipment characteristics, technical capability and limitations
- drainage principles and processes
- site record keeping requirements

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| <ul style="list-style-type: none">• site personal protective equipment 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 conducting dewatering operations in underground mining operations
- implementation of requirements, procedures and techniques for the safe, effective and efficient conducting of dewatering operations in underground mining operations
- working with others to undertake and complete dewatering operations in underground mining operations that meets all of the required outcomes
- consistent timely completion of dewatering operations in underground mining 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.
- 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 the work 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 requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete dewatering operations in underground mining 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, 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, and work orders and may include:	• nature and scope of tasks • achievement targets • operational conditions • obtaining permits required • site layout • out of bounds areas • worksite inspection requirements • lighting conditions • plant or equipment defects • hazards and potential hazards • coordination requirements or issues • site speed limits • working safely around overhead powerlines • working safely near bench face or similar risk area
Resources may include:	• personnel • pumps • vehicles • equipment • materials
Equipment may include:	• sumps • valves • pipes • hoses • hand tools

	• clamps • suction and delivery lines • holding tanks • machinery including: • load haul dump • multipurpose vehicles • pipe installers • power sources including: • electric • air • hydraulic • gravity feed • syphons
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Dewatering plan may include:	• identification of required pump type and capacity • identification of pump locations • discharge points and routes configuration • layout and resources required for lines and fittings • obtaining and transportation of equipment/plant and materials to the appropriate sites • identification and satisfaction of environmental requirements • site lighting • other human and materials resources issues
Sump and pad preparation may include:	• site lighting • access roads • security arrangements • service lines
Pump types may include:	• centrifugal and positive displacement, including submersible • piston • diaphragm • wheel mounted • pontoon mounted • skid mounted • self contained with hose wheel
Lines may be:	• intake • delivery • metal • PVC and HDPE • Canvas (lay flat) • Other materials
Environmental issues may include:	• waste management • water quality protection • flooding • fumes • noise • vibration • dust • clean up management
Coordination with others may include:	• mobile plant operators • processing plant operators • maintenance personnel

Safety requirements and procedures may include:	• legislation and regulations • relevant Australian standards • management plans • OHS policy • code of practice • manufacturer instructions • safe working procedures
Changing work conditions may include:	• weather conditions • day and night

Unit Sector(s)

Water Management

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.