



Australian Government

RIIMEX602D Establish and maintain surface mining ground control and slope stability systems

Release: 2

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Modification History

Release	Comment
1	This unit replaces RIIMEX602A Establish and maintain surface mining ground control and slope stability systems
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to establish and maintain surface mining ground control and slope stability systems in Coal and Metalliferous mining.

This unit is appropriate for those working in management or technical specialist roles.

No licensing, legislation or certification requirements apply to this unit at the time of publication.

Unit Sector

Coal mining

Metalliferous mining

Elements and Performance Criteria

1. Plan and prepare to establish and maintain surface mining ground control and slope stability systems	1.1 Access, interpret and apply surface mining ground control and slope stability systems documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Identify, access and interpret mine survey data and historical information
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	1.6 Identify the necessary resources to assess ground control and slope stability issues 1.7 Review actual and predicted ground control and slope stability performance in the mine 1.8 Identify the criteria for establishing ground control and slope stability to acceptable performance levels
2. Identify and evaluate geological and geotechnical information	2.1 Identify, interpret and confirm all relevant geological, geotechnical, hydrogeological data 2.2 Coordinate further exploration, monitoring, sampling or testing to assist assessment of ground control and slope stability issues 2.3 Identify and assess potential ground movement and slope instability situations 2.4 Identify and evaluate overburden and inter-seam characteristics and physical properties 2.5 Identify, confirm and evaluate stress regimes, blast vibration and seismic activity
3. Identify and evaluate mining engineering methods	3.1 Evaluate the impact of mining system types and methods on ground control and slope stability 3.2 Identify and assess layouts to improve ground control and slope stability from engineering analysis 3.3 Identify and evaluate mining constraints impacting on the development of ground control and slope stability options 3.4 Identify and evaluate equipment requirements
4. Identify and evaluate control options	4.1 Identify water control methods to improve ground control or slope stability 4.2 Identify, evaluate and clarify ground support systems or methods of mining to provide appropriate ground control and slope stability 4.3 Identify and evaluate ground support installation, monitoring and assessment systems 4.4 Identify and evaluate management controls for unacceptable ground movement or slope instability
5. Establish the ground control and slope stability system	5.1 Establish exploration programs identifying geological features and characteristics impacting on ground control and slope stability 5.2 Investigate, confirm and establish safe access and egress methods 5.3 Establish systems and sequences of safe mining

	5.4 Establish monitoring systems of ground movement and slope instability to warn, control operations and record events 5.5 Prepare and implement training plans and programs 5.6 Investigate, confirm and establish emergency response and evacuation plans and procedures 5.7 Identify, confirm, establish and implement safe operating procedures
6. Audit and review the effectiveness of the system	6.1 Monitor ground movement and slope stability measurements against defined acceptable standards 6.2 Audit emergency response and evacuation plans and procedures 6.3 Identify, assess and incorporate future site mining requirements into the planning procedures to maintain appropriate standard of the ground control and slope stability systems 6.4 Establish procedures for response to instances of non-compliance or other discrepancies/deficiencies revealed by audit 6.5 Regularly review performance of the ground control and slope stability system

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIIMEX602A Establish and maintain surface mining ground control and slope stability systems

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMEX602D Establish and maintain surface mining ground control and slope stability systems

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient establishment and maintenance of surface mining ground control and slope stability systems including:
 - accessing, interpreting and applying technical and mine survey information
 - accessing and analysing archival and historical failure information
 - interpreting and applying mathematical and scientific theorems/laws related to ground control and slope stability
 - interpreting and applying design criteria for ground control and slope stability systems
 - interpreting computer spreadsheets and mining systems modelling/simulations
 - accessing and interpreting data from monitoring systems and equipment
 - applying risk management processes and techniques
- works effectively with others to establish and maintain surface mining ground control and slope stability systems that meets all the required outcomes including:
 - consulting with surface mining team and provides team leadership
 - sharing information and communicating effectively in the workplace
 - establishing training, coaching and mentoring support for supervisors and managers
 - preparing written reports communicating the pit development status and outcomes

- demonstrates completion of establishing and maintaining surface mining ground control and slope stability systems that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - performing mathematical calculations
 - collecting, collating and interpreting mining data
 - preparing technical procedures
 - conducting enquiries/investigations and preparing reports
 - analysing and reporting on ground control and slope stability system training needs
 - preparing and establishing systems and procedures

Knowledge Evidence

The candidate must demonstrate knowledge in establishing and maintaining surface mining ground control and slope stability systems through:

- the legislative, organisation and site requirements and procedures for:
 - work health and safety
 - mine planning and design
 - training systems
 - emergency response and evacuation planning
- critical data including:
 - geological, geotechnical, hydrogeological data
 - hydrological data
 - survey data
- audit methodologies
- exploration techniques
- ground support methods and systems
- mining and general engineering principles
- mining structure failure modes
- slope stability criteria
- stress analysis techniques including mining induced stress, vertical and horizontal stress tectonics

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit is best assessed in the context of this sector's 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 this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills; and,

- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

****Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level**

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