



Australian Government

RIIMEX504 Implement the ground control management plan

Release: 1

RIIMEX504 Implement the ground control management plan

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to implement the ground control management plans in surface operations in the resources and infrastructure industries.

It applies to those working in management or technical specialist roles. They generally work in teams and take responsibility for the outcomes of others.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Coal mining

Extractive

Metalliferous mining

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to implement the ground control management plan	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to implement the ground control management plan 1.3 Select and wear personal protective equipment appropriate for work activities 1.4 Obtain and interpret historical and current ground control data to assess ground conditions 1.5 Identify and address potential hazards and environmental factors and prepare to implement control measures 1.6 Identify, obtain and allocate resources required for the

ELEMENT	PERFORMANCE CRITERIA
	implementation of the ground control management plan 1.7 Communicate the ground control management plan to relevant personnel 1.8 Identify training needs and develop training plans 1.9 Obtain and interpret emergency procedures and prepare to respond to emergencies according to workplace procedures
2. Identify and evaluate the geotechnical design and control measures	2.1 Obtain and interpret site geotechnical design to identify appropriate control measures 2.2 Evaluate pit development plan and extraction method for compliance with geotechnical design 2.3 Evaluate pit operations to confirm appropriate measures to maintain ground control and slope stability 2.4 Evaluate stockpile and dump operations to confirm appropriate measures to maintain ground control and slope stability 2.5 Evaluate surface and ground water control systems to confirm appropriate measures to maintain ground control and slope stability 2.6 Develop, in consultation, workplace procedures and practices for the application of the ground control management plan 2.7 Define, allocate and document the responsibilities for implementing the ground control management plan
3. Implement and monitor the ground control management plan	3.1 Implement and monitor approved extraction method according to workplace procedures and approved geotechnical design 3.2 Implement monitoring systems of ground movement and slope stability systems to warn relevant personnel, control operations and record events 3.3 Monitor hazards and risks and the implementation of control measures according to site requirements 3.4 Record and report on activities, issues and corrective actions according to site requirements 3.5 Apply emergency response and evacuation plans and procedures as required
4. Investigate and respond to adverse ground conditions	4.1 Review geotechnical inspection reports to determine trends and identify adverse ground conditions 4.2 Inspect adverse work area to confirm inspection findings and suitability of controls 4.3 Conduct risk assessment with relevant team members to determine safe course of action including appropriate controls 4.4 Engage external consultants as required to assist with the risk assessment and control plan 4.5 Implement and monitor agreed controls 4.6 Update site procedure documents to reflect changed work practices

ELEMENT	PERFORMANCE CRITERIA
	4.7 Communicate geotechnical risks and control measures to relevant personnel
5. Audit and review the ground control management review	5.1 Investigate and review the performance of the ground control management plan 5.2 Contribute to audit and review requirements for the ground control management plan 5.3 Submit recommendations to improve the safety, efficiency and effectiveness of the ground control management plan 5.4 Investigate and audit the emergency response and evacuation plans and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	Collects, organises and analyses data using and draws conclusions from trends
Oral communication	Presents workplace procedures and technical instructions to a group using sector-specific vocabulary
Reading	Identifies and interprets complex information from workplace procedures, documentation, regulations, and team member training needs assessments
Writing	Produces and completes workplace reports, including risk management matrices, using appropriate vocabulary, grammatical structures and conventions

Unit Mapping Information

New unit

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMEX504 Implement the ground control management plan

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- implement the ground control management plan on at least two occasions, including:
 - conducting geotechnical inspection of work areas
 - monitoring and assessing the impact of operations, including blasting, on ground stability and making adjustments as required
 - identifying and evaluating hazards and risks associated with the ground controls and placement of plant and equipment
 - investigating and reviewing the performance of the ground control management plan
 - developing workplace procedures
 - identifying training needs of team members and preparing a training plan
 - assessing outcomes to make recommendations and writing reports.

During the above, the candidate must:

- locates and applies relevant legislation, documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for implementing the ground control management plan, including:
 - identifying hazards and risks, and implementing control measures
 - accessing and analysing archival and historical information related to ground control and batter stability issues
 - interpreting and applying pit and slope design criteria to minimise hazards and risk
 - conducting audits
 - interpreting and applying geological and geotechnical information to the ground control management plan
- work with others to implement the ground management plan.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key legislation, policies, procedures and documentation required implement the ground management plan
- principles of geology, including:
 - rock types
 - geological processes
 - geological structures
 - rock mass properties
 - hydrogeological aspects
- common survey and slope design terminology
- the geotechnical assessment/design process, including:
 - field data collection
 - geotechnical models
 - geotechnical domains
 - types of analysis
 - factor of safety
- operating characteristics, limitations and safe placement of plant equipment, including:
 - exclusion zones
 - catch troughs
 - catch bunds
 - cab placement
 - safe load and dump methods
- types and mechanisms of ground instability, including:
 - blocky conditions
 - wedge/plane/toppling
 - adverse jointing
 - fault and shear orientation
- factors impacting on slope stability, including:
 - material properties
 - fault zones
 - blasting
 - pit wall profile
 - surface and ground water
 - changes in ground temperature
 - presence of underground workings
 - location and loading of infrastructure
- principles and techniques for controlling ground instability, including:

- minimising blast damage
- excavation control and scaling
- waste dump and stockpile formation methodology
- groundwater and surface water control
- remedial and slope stabilisation methods
- principles and techniques for inspection and monitoring, including:
 - role of the geotechnical engineer
 - types of inspection
 - visual warning signs
 - types and purpose of monitoring instrumentation
 - Trigger Action Response Plans
 - understanding the interpretation of monitoring data
 - determining when external geotechnical advice is required
- planning and design criteria and techniques for constructing and maintaining, including:
 - waste dumps
 - stockpiles
 - drainage systems
 - haul roads
 - earth bunds
- principles and techniques for applying risk management processes
- principles and techniques for investigating and reviewing inspection, communication and reporting methodologies
- principles and techniques for providing leadership and direction to teams
- principles and techniques for conducting training needs assessments and preparing training plans.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal and protective equipment
 - equipment required to implement the ground control management plan
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work 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.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

This unit is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 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	

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
		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.

*Guidance on simulated environments has been stipulated in the RII implementation guide located on VETNet.

**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 a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes

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