



Australian Government

RIIMEX407 Apply and monitor the ground control management plan

Release: 1

RIIMEX407 Apply and monitor 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 apply and monitor the ground management plan, including implementing routine ground control measures.

It applies to those working in supervisory roles. They generally undertake a prescribed range of functions involving known routines and procedures and take responsibility for the quality of own work outcomes.

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 for the assessment and management of ground conditions	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required for applying and monitoring the ground control management plan 1.3 Identify and interpret ground control management plan requirements relevant to own job role 1.4 Evaluate historical information on ground conditions, and identify hazards according to workplace procedures 1.5 Confirm the work activity is compliant with the pit design and

ELEMENT	PERFORMANCE CRITERIA
	workplace procedures 1.6 Identify and address potential hazards and environmental factors and prepare to implement control measures 1.7 Select and wear personal protective equipment appropriate for work activities 1.8 Identify, obtain and allocate resources required for the application of the ground control management plan 1.9 Identify training needs of team members and prepare training plans 1.10 Obtain and interpret emergency procedures and prepare to respond to emergencies according to site requirements
2. Inspect and assess ground conditions	2.1 Determine and implement appropriate control measures for conducting geotechnical inspections 2.2 Inspect work areas and identify and record geological hazards, geotechnical risk factors and signs of instability in accordance with workplace procedures 2.3 Identify and schedule infrastructure repair and maintenance activities to reduce geotechnical risk 2.4 Report geotechnical hazards and risks outside scope of responsibility to relevant personnel in accordance with workplace procedures 2.5 Complete and submit written report of geotechnical inspection results and corresponding actions to relevant personnel 2.6 Communicate geotechnical risks and control measures to relevant personnel
3. Monitor extraction operations	3.1 Communicate, apply and monitor approved extraction method according to workplace procedures and approved engineering design 3.2 Monitor hazards and risks to confirm the safe operation of personnel, and plant and equipment 3.3 Monitor the implementation of the control measures to address geotechnical risk 3.4 Identify, assess and adjust operational activities impacting on ground stability 3.5 Identify and report indications/events of ground failure 3.6 Install barricades and warning signs where area cannot be made safe according to job and site requirements and report to relevant personnel 3.7 Apply emergency response and evacuation plans and procedures as required 3.8 Record and report on activities, issues and corrective actions
4. Monitor stockpile and dump formation	4.1 Identify, interpret and confirm stockpile and dump requirements 4.2 Monitor and report stockpile and dump configurations to conform

ELEMENT	PERFORMANCE CRITERIA
and reclaiming systems	compliance with geotechnical design 4.3 Monitor stockpile and dump operations to confirm safe work practices are implemented to control geotechnical risk in accordance with workplace procedures
5. Monitor water management procedures	5.1 Identify, interpret and assess surface and groundwater information 5.2 Monitor the implementation and performance of the drainage system
6. Contribute to ground control management plan review	6.1 Monitor and report on effectiveness of operating procedures 6.2 Submit recommendations to improve the safety, efficiency and effectiveness of ground control systems 6.3 Contribute to audit and review requirements for the ground control management plan

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
Reading	Identifies and interprets information from workplace procedures, policies and documentation
Self-management	Presents workplace procedures and technical instructions to a group using sector-specific vocabulary

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 RIIMEX407 Apply and monitor 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:

- apply and monitor the ground management plan on at least two occasions, including:
 - conducting geotechnical inspection of work areas
 - monitoring and assessing the impact of operations, including any blasting, on ground stability and making adjustments as required
 - identifying and evaluating the hazards and risks associated with the ground controls and placement of plant and equipment
 - assessing and assigning appropriate plant and applying appropriate remediation techniques
 - implementing stockpile and dump control measures
 - identifying surface and groundwater issues
 - 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:

- locate and apply relevant documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for applying and monitoring the ground 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
 - participating in audits
 - identifying and applying geological and geotechnical information
- work with others to apply and monitor the ground management plan

- communicate clearly and concisely with others to resolve coordination requirements prior to commencing and during work activities.

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 policies, procedures and documentation required to apply and monitor the ground management plan
- purpose of the ground control management plan
- principles of basic geology including:
 - rock types
 - geological processes
 - geological structures
- common survey and slope design terminology and surface operation design parameters
- 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 structures
 - slumping/heave
 - adverse jointing
 - fault and shear orientation
 - subsidence
- 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
- principles and techniques for controlling ground instability, including:
 - minimizing blast damage
 - excavation control and scaling
 - waste dump and stockpile formation methodology
 - groundwater and surface water control

- remedial and slope stabilisation methods
- exclusion zones
- 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
- design standards and techniques for constructing and maintaining infrastructure, including:
 - waste dumps
 - stockpiles
 - drainage systems
 - haul roads
 - earth bunds
 - catch berm
- principles and techniques for applying risk management processes
- principles and techniques for 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 apply and monitor 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 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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