



Australian Government

RIIMEX303 Conduct local geotechnical risk control in surface operations

Release: 1

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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 conduct local geotechnical risk control in surface operations, including identifying ground conditions and implementing geotechnical risk controls.

It applies to those working in operational roles. They generally work under minimal supervision to undertake a broad range of skilled applications in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

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 assessment of ground conditions	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation and procedures required for conducting local geotechnical risk control in surface operations 1.3 Select and wear personal protective equipment according to site requirements 1.4 Confirm the work areas to be inspected and assessed 1.5 Obtain and interpret existing information on ground conditions and

ELEMENT	PERFORMANCE CRITERIA
	hazards according to site requirements 1.6 Identify key pit design features and associated hazards 1.7 Discuss and address potential hazards and environmental factors with relevant personnel and identify potential control measures 1.8 Identify and understand the ground control management plan within scope of own role 1.9 Obtain and interpret emergency procedures and identify steps required to respond to emergencies according to site requirements
2. Inspect, assess and implement ground condition controls	2.1 Inspect and assess ground conditions and implement controls 2.2 Conduct an assessment of the work areas to confirm stability and record findings 2.3 Implement appropriate controls to make safe or to maintain stable ground conditions in accordance with job role and workplace procedures 2.4 Install barricades and warning signs where area cannot be made safe according to job and site requirements and report to relevant personnel 2.5 Monitor and assess ground conditions during work activities according to site requirements
3. Record and report ground conditions, and conduct housekeeping activities	3.1 Record and report ground conditions and corrective actions to relevant personnel according to workplace procedures 3.2 Report potential hazards to relevant personnel according to workplace procedures 3.3 Clean, maintain and inspect equipment according to manufacturer specifications and site requirements, and address and report any issues to relevant personnel

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 and documentation
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities

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 RIIMEX303 Conduct local geotechnical risk control in surface operations

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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:

- conduct local geotechnical risk control in surface operations on at least two occasions, including:
 - identifying ground conditions, including stable and unstable ground
 - identifying key pit design features
 - identifying and understanding the requirements of the ground control management plan relevant to own job role
 - selecting and using tools, equipment and techniques for the inspection of ground conditions
 - identifying and inspecting work areas for geotechnical hazards, including:
 - ground deformation
 - blocky ground
 - structure
 - subsidence
 - open cracks
 - water
 - loss of catch capacity
 - rock fall
 - overhanging walls
 - communicating geotechnical risks to relevant personnel
 - identifying and clarifying the location that requires ground controls and installing barricades.

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 conducting local geotechnical risk control in surface operations
- working with others to conduct local geotechnical risk control in surface operations
- communicate clearly and concisely with others to receive and clarify work instructions and 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 conduct local geotechnical risk control in surface operations, including:
 - the ground control management plan
 - safe operating procedures
- principles of basic geology, including:
 - rock types
 - geological processes
 - geological structures
- common survey and slope design terminology and surface operation design parameters
- characteristics, limitations and placement of plant and equipment to reduce exposure to geotechnical hazards, including:
 - exclusion zones
 - catch troughs
 - catch bunds
 - cab placement
 - safe load and dump methods
- principles and techniques for the use of plant and equipment within manufacturer specifications
- 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
- visual signs of ground instability, including:
 - blocky conditions
 - adverse jointing
 - tension cracks
 - batter movement or deformation

- water seepage and infiltrations
- rock fall
- undercut/overhang
- backbreak or underbreak techniques for controlling instability through:
 - excavation control and scaling
 - waste dump and stockpile formation methodology
 - groundwater and surface water control
- principles and techniques for identifying relevant emergencies
- recording and reporting according to workplace procedures
- techniques for coordinating and communicating job activities with others.

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 conduct local geotechnical risk control in surface operations
 - 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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