



Australian Government

RIIMCU407E Apply and monitor the strata management plan

Release: 1

RIIMCU407E Apply and monitor the strata 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 strata management plan in coal mining, including installing, monitoring and assessing strata support systems and monitoring devices.

It applies to those working in supervisory roles. They generally perform a broad range of operational activities in their area of responsibility and are responsible for monitoring a safe work environment.

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 (underground)

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 apply and monitor the strata management plan	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Access, interpret and apply strata management plan documentation and confirm work activity is compliant 1.3 Identify, clarify and communicate roles and responsibilities to personnel involved according strata management plan 1.4 Identify obtain and allocate resources required to apply the strata management plan 1.5 Identify training needs for personnel involved according to strata management plan and within scope of own role 1.6 Identify and interpret the risks associated with unstable mining

ELEMENT	PERFORMANCE CRITERIA
	structures according to strata management plan and site requirements
2. Apply strata management plan	2.1 Communicate, apply and monitor site mining system according to strata management plan 2.2 Communicate and apply primary and secondary support systems according to strata management plan 2.3 Identify and assess impact of mining on stability of strata 2.4 Install, monitor and assess strata support systems and confirm correct installation according to strata management plan 2.5 Install, monitor and assess strata monitoring devices and confirm correct installation according to strata management plan 2.6 Identify and assess strata supports and failure mechanisms and apply controls according to strata management plan 2.7 Apply, monitor and record mining sequences according to site requirements 2.8 Identify, assess and record stress changes in the mining structure according to site requirements 2.9 Identify, assess and record geological structures encountered during the mining process according to site requirements 2.10 Apply action response plans according to strata management plan 2.11 Apply and monitor site procedures relating to strata management according to strata management plan and site requirements 2.12 Participate in audit and review requirements according to strata management plan
3. Apply monitoring and maintenance procedures	3.1 Carry out inspection and confirm that repair and maintenance activities are conducted according to strata management plan 3.2 Record, report and review maintenance and monitoring requirements and activities according to site requirements

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	Calculates resourcing requirements and performs mathematical calculations
Oral communication	Conveys information and requirements clearly and listens actively

SKILL	DESCRIPTION
Reading	Identifies and interprets relevant information from workplace procedures, documentation and legislation

Unit Mapping Information

Supersedes and is equivalent to RIIMCU407D Apply and monitor the strata management plan.

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 RIIMCU407E Apply and monitor the strata 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 strata management plans on at least two occasions, including:
 - identifying factors affecting stability of mining structures, including:
 - roadway size
 - pillar size
 - depth of cover
 - strength of coal and underlying and overlying strata
 - stress regimes
 - strata characteristics
 - longwall roof supports
 - presence of water
 - systems of mining
 - breaker line supports
 - direction of mining
 - sequence of pillar extraction
 - primary and secondary supports
 - geological structures
 - speed and continuity of extraction
 - applying strata monitoring devices, including:
 - convergence indicators
 - telltales.

During the above, the candidate must:

- locate and apply relevant legislation, documentation, policies and procedures and confirm work activity is compliant

- implement the requirements, procedures and techniques for applying and monitoring strata management plans, including:
 - reading, interpreting, communicating and applying technical information
 - accessing and interpreting data from monitoring systems and equipment
 - accessing and analysing historical strata management information related to the mine and failure mode of mine structures
 - interpreting and applying design criteria for strata management
 - conducting enquiries/investigations and preparing audit reports
- work effectively with others to apply and monitor strata management plans that meet the required outcomes, including:
 - organising work activities to meet all task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
 - complying with reporting requirements and procedures
 - determining coordination requirements throughout 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 legislation required to apply and monitor strata management plans
- key procedures and documentation required to apply and monitor strata management plans, including those relating to:
 - mine, ventilation, gas monitoring, strata support and safety management plans
 - identifying and managing environmental issues, hazards and risks
- principles and techniques for identifying factors affecting stability of mining structures
- types, characteristics, technical capabilities and limitations of strata monitoring and testing devices and systems, including:
 - convergence indicators
 - extensometers
 - load cells
 - stress cells
 - telltales
- techniques for inspecting strata monitoring and testing devices and systems and recording, reporting and reviewing maintenance and monitoring requirements
- systems of underground mining and their impact on strata management, including:
 - tunnels
 - drifts
 - stone drivage
 - shaft sinking
 - pillar extraction

- partial extraction
- punch mining
- fault drivage
- identifying exploration techniques
- identifying strata support and monitoring systems
- identifying geology and strata gas characteristics
- principles and techniques for identifying and applying appropriate strata controls
- factors affecting stability of mining structures including:
 - stress, including:
 - mining induced stress
 - vertical and horizontal stress
 - tectonics
 - virgin stress
 - topographical features
 - sedimentology, including:
 - subsidence
 - water bearing strata
 - permeability of seam and strata
 - hydrology
 - rock property testing
 - caving characteristics
 - windblast
 - faults
 - dykes outburst
 - gas content
 - over and underlying strata
 - mining structure failure modes
- systems of work and their impact on strata management, including:
 - bord and pillar
 - place changing
 - longwall
 - highwall
 - auger mining
 - pillar extraction
 - partial extension
 - punch mining
- effects of strata change on ventilation control devices
- techniques for identifying individual training needs
- principles, processes and techniques for emergency responses, evacuations and disaster planning

- 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:
 - strata management plan
- 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.

It 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 Companion Volume 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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