



Australian Government

RIISRM502E Design stockpile formations and reclaiming systems

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 7.0.

Application

This unit describes the skills and knowledge required to design stockpile formations and reclaiming systems in coal mining, metalliferous mining and extractive industries. It involves designing stockpile configurations, drainage and reclaiming systems and establishing and implementing dust control measures.

The unit applies to those working in management or technical specialist roles. They generally monitor 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

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 design stockpile formations and reclaiming systems	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply stockpiling and reclaiming systems documentation and confirm the work activity is compliant 1.3 Analyse and document organisation goals, objectives and strategies for stockpile management 1.4 Select and wear personal protective equipment

ELEMENT	PERFORMANCE CRITERIA
	according to site requirements 1.5 Investigate and analyse worksite environments and develop options, strategies and anticipated outcomes 1.6 Evaluate cost and efficiency of the different stock piling system configurations available 1.7 Identify and implement statutory requirements relating to work activities
2. Develop stockpile formations and reclaiming systems	2.1 Design stockpile formations with appropriate drainage system according to job and site requirements 2.2 Design reclaim systems to match stockpile configuration according to job and site requirements 2.3 Match load mechanisms to stockpile requirements according to job and site requirements 2.4 Design and install dust control measures according to job and site requirements 2.5 Identify potential hazards and environmental issues, implement control measures within scope of own role and escalate where required 2.6 Confirm a program to satisfy identified stockpiling training needs is implemented
3. Monitor stockpile formations and reclaiming systems	3.1 Instruct operators on the expected outcomes and safe work procedures 3.2 Monitor stockpiling operations according to designed systems 3.3 Monitor material removal from stockpiles according to job and site requirements 3.4 Assess and reconcile stock quantities
4. Establish audit and review of systems	4.1 Establish procedures to evaluate and confirm system and equipment compliance with statutory and site requirements 4.2 Identify and assess stockpile system and equipment requirements and incorporate these into planning processes 4.3 Establish procedures to confirm currency and compliance of stockpile formations and reclaiming systems 4.4 Develop and implement a system for recording and reporting stockpile and equipment information 4.5 Audit the stockpile training program for currency and relevance 4.6 Develop and implement procedures for incorporating

ELEMENT	PERFORMANCE CRITERIA
	feedback into the audit and review system 4.7 Audit emergency response and evacuation systems, plans and procedures for compliance with site requirements 4.8 Develop and implement procedures for response to instances of non-compliance and other discrepancies that are revealed by audit

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, performs mathematical calculations and applies mathematical and scientific laws and theorem
Oral communication	Conveys information and requirements clearly and listens actively
Reading	Identifies and interprets relevant information from workplace procedures, documentation and legislation
Writing	Prepares specific information that complies with requirements, using sector-specific vocabulary, grammatical structures and conventions

Unit Mapping Information

Supersedes and is equivalent to RIISRM502D Design stockpile formations and reclaiming systems.

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 RIISRM502E Design stockpile formations and reclaiming systems

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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:

- design stockpile formations and reclaiming systems on at least two occasions, including:
 - identifying hazards and implementing hazard control measures
 - analysing and documenting goals, objectives and strategies
 - developing systems to achieve goals and objectives
 - designing stockpile configuration and drainage systems
 - designing reclaim systems
 - establishing and implementing dust control measures
 - monitoring stockpile operations
 - establishing systems for audit, review and documentation of stockpile systems, emergency procedures, training programs and non-compliance.

During the above, the candidate must:

- locate and apply relevant legislation, documentation, policies and procedures
- implement the requirements, procedures and techniques to design stockpile formations and reclaiming systems, including:
 - interpreting and applying work requirements
 - selecting and using required tools and equipment
 - wearing required personal protective equipment
 - accessing, interpreting and applying technical information
 - identifying and applying diagnostic techniques
- work effectively with others to undertake and complete design of stockpile formations and reclaiming systems to meet required outcomes, including:
 - preparing for and organising work activities to meet task requirements
 - using communication techniques required to convey information to others
 - maintaining written and verbal reporting requirements and procedures

- communicating to others of work activity and exclusion zones.

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:

- legislative requirements for designing stockpile formations and reclaiming systems
- policies, procedures and documentation required to design stockpile formations and reclaiming systems, including those relating to:
 - auditing, monitoring, recording and reporting systems
 - contract negotiation requirements
 - environmental protection
 - fire, accident and emergency
 - organisational change and development
 - managing personnel, processes projects and tasks
 - managing surface operation traffic, equipment and maintenance systems
 - risk management
 - site operational, quality and communication requirements
 - site product characteristics
 - stockpile management
 - stockpile safety, including signage requirements
 - work health and safety
- hazard identification, risk assessment and risk treatment processes
- geotechnical risks associated with working around stockpiles
- principles and techniques for designing stockpile formation and reclaiming systems
- stockpiling operations, including surveying, forming, ordering, dumping and ramping
- techniques for consultation, coaching and leadership
- characteristics, requirements, technical capabilities and limitations of plant and equipment required for stockpile formations and reclaiming systems
- techniques for monitoring stockpiling operations including surveying, forming, ordering, dumping and ramping
- principles, strategies and techniques required to design stockpile formations and reclaiming systems, including those relating to:
 - coordinating resources, including human, financial and physical
 - negotiating and finalising contracts
 - designing action plans
 - evaluating cost and efficiency of the different stock piling system configurations available
 - planning emergency response and evacuation procedures
 - identifying training needs and implementing training plans.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - an environment where the design of stockpile formations and reclaiming systems is required
 - simulated or actual documentation of work requirements and reports
- 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 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 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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