



Australian Government

RIIMCU605E Establish and maintain inrush management 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 5.0.

Application

This unit describes the skills and knowledge required to establish and maintain inrush management systems in coal mining, including design, development, audit and review processes and procedures.

It applies to those working in management roles. They generally perform complex, non-routine tasks involving strategic and planning activities and are responsible for establishing and maintaining operational systems and plans.

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 establish and maintain inrush management system	1.1 Access, interpret and apply inrush management documentation 1.2 Identify the potential sources and effects of inrush 1.3 Analyse and evaluate mine site historical information for indications of inrush potential 1.4 Identify, analyse and evaluate geological and physical conditions that contribute to inrush potential 1.5 Identify, analyse and evaluate inrush hazards and risks 1.6 Identify, analyse and evaluate the effects of inrush on mine operations and personnel

ELEMENT	PERFORMANCE CRITERIA
2. Identify, analyse and evaluate potential inrush controls	2.1 Identify, analyse and evaluate potential inrush controls 2.2 Identify, analyse and evaluate inrush controls to address matters identified from the review of historical information 2.3 Identify, analyse and evaluate inrush controls to address geological and physical conditions 2.4 Identify, analyse, evaluate and confirm the validity of mine plans and associated records 2.5 Identify, analyse and evaluate the methods, purposes and capabilities of mine monitoring systems
3. Design and develop inrush management system	3.1 Design and develop inrush controls for addressing inrush hazards according to site requirements 3.2 Determine personnel safety measures and techniques and incorporate into inrush management system according to site requirements 3.3 Design and/or incorporate services and infrastructure protection measures into inrush management system according to site requirements 3.4 Design and develop mine monitoring requirements relating to inrush according to site requirements 3.5 Integrate system elements and complete the inrush management system design
4. Establish inrush management system	4.1 Develop and establish inrush hazard identification, analysis and reporting procedures according to site requirements 4.2 Establish actions and procedures required in response to inrush indicators according to site requirements 4.3 Develop permit-to-mine procedures according to site requirements 4.4 Establish personnel safety measures and techniques according to site requirements 4.5 Establish services and infrastructure protection measures for minimising inrush damage according to site requirements 4.6 Establish the monitoring, recording and reporting procedures according to site requirements 4.7 Establish emergency response and evacuation plans according to site requirements 4.8 Establish training requirements for inrush management plan
5. Plan and prepare to implement inrush management system	5.1 Access, interpret and clarify inrush management plan 5.2 Identify, clarify and communicate to all personnel roles and responsibilities according to inrush management plan 5.3 Identify, forecast, obtain and allocate/schedule resources required for implementation of inrush management plan 5.4 Review inrush management plan implementation procedures, and

ELEMENT	PERFORMANCE CRITERIA
	implement changes as required
6. Audit and review inrush management system	6.1 Audit the inrush management system according to site requirements 6.2 Audit mine monitoring systems according to site requirements 6.3 Audit inrush hazard identification, monitoring and response procedures according to site requirements 6.4 Audit recording plans and procedures according to site requirements 6.5 Audit inrush training plan according to inrush management system requirements 6.6 Identify and respond to instances of non-compliance or other discrepancies/deficiencies revealed by audit 6.7 Maintain records, reports and policy documentation 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
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 a range of requirements, using sector-specific vocabulary, grammatical structures and conventions

Unit Mapping Information

Supersedes and is equivalent to RIIMCU605D Establish and maintain the inrush 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 RIIMCU605E Establish and maintain inrush management 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:

- establish and maintain the inrush management system on at least two occasions, including:
 - identifying viable options and the selection of inrush management techniques that best meet required outcomes
 - developing and establishing inrush hazard identification, analysis and reporting procedures
 - establishing inrush training requirements
 - conducting enquiries and investigations and preparing reports.

During the above, the candidate must:

- locate and apply relevant legislation, documentation, policies and procedures and confirm work activity is compliant
- implement procedures and techniques for establishing and maintaining inrush management systems, including:
 - assessing risks and consequences of inrush
 - operating hand held monitoring equipment
 - accessing and evaluating data from monitoring equipment
 - performing inrush planning mathematical calculations
 - interpreting and applying mathematical and scientific theorems/laws related to inrush
 - accessing and applying design criteria for inrush management systems
 - interpreting computer spreadsheets and inrush modelling/simulations
 - accessing and analysing archival and historical water storage and inrush information related to the mine
- work effectively with others to establish and maintain inrush management systems, including:
 - communicating clearly and concisely with others to receive and clarify work instructions, and convey work progress

- identifying the relevant information and scope of the work necessary to meet required outcomes
- developing procedures appropriate to mine operations for prevention of inrush.

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 establish and maintain inrush management systems
- key procedures and documentation required to establish and maintain inrush management systems
- inrush management systems principles and components, including techniques for:
 - identifying and evaluating systems of work
 - identifying and assessing factors affecting stability of mining structures
 - analysing and evaluating mine site historical information
 - mine mapping of inrush zones, related geology and features
 - identifying and evaluating the impact of differing geological features and conditions on inrush zones
 - interpreting and applying mathematical and scientific theorems, laws and calculations relating to inrush
 - establishing personnel safety measures
 - identifying and evaluating use of monitoring systems and techniques
 - audit and review
- principles, processes and techniques for emergency response, evacuation and disaster planning
- techniques for leading and coordinating work activities with others.

Assessment Conditions

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

- include access to:
 - inrush 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	

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