



Australian Government

RIIMCU217 Apply spontaneous combustion management measures

Release: 1

RIIMCU217 Apply spontaneous combustion management measures

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 spontaneous combustion management measures in coal mining. It includes applying mine atmosphere monitoring systems and control measures to eliminate or minimise spontaneous combustion risks.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of 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

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 spontaneous combustion management measures	1.1 Obtain, interpret, clarify and confirm work requirements 1.2 Access, interpret and apply documentation required to apply spontaneous combustion management measures 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures according to site requirements 1.4 Select and wear personal protective equipment according to site requirements 1.5 Access, interpret and apply mine environmental, geological and

ELEMENT	PERFORMANCE CRITERIA
	survey data required to complete allocated work 1.6 Obtain and interpret emergency procedures and identify steps required to respond to emergencies
2. Identify and recognise hazards	2.1 Identify the fundamentals of spontaneous combustion 2.2 Identify hazards related to mine gases and variations in barometric pressure 2.3 Identify the effects of mine ventilation structures and the potential to bring about spontaneous combustion 2.4 Identify and clarify physical spontaneous combustion indicators relevant to the work area 2.5 Identify and clarify gaseous spontaneous combustion indicators relevant to the work area. 2.6 Identify the range of causes of spontaneous combustion hazards related to underground coal stowage and conveyor systems
3. Identify and clarify operational requirements and control measures	3.1 Identify methods and purposes of the mine atmosphere monitoring systems 3.2 Identify the methods and purposes of control measures for the elimination or minimisation of spontaneous combustion risks
4. Implement and contribute to spontaneous combustion management measures	4.1 Monitor and report on the spontaneous combustion status of the local work area within scope of own role 4.2 Carry out inspections and monitoring and minimise associated coal stowage hazards according to site requirements and within scope of own role 4.3 Maintain housekeeping requirements and minimise associated coal stowage hazards according to site requirements 4.4 Report spontaneous combustion management situations requiring further action according to site requirements 4.5 Identify and report errors or omissions in spontaneous combustion procedures within scope of own role

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

Unit Mapping Information

Supersedes and is equivalent to RIIMCU402D Apply spontaneous combustion management measures.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMCU217 Apply spontaneous combustion management measures

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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 spontaneous combustion management measures on at least two occasions, including:
 - applying mine atmosphere monitoring systems, including:
 - portable (hand held) monitoring
 - status monitoring, including:
 - physical indications of spontaneous combustion
 - gaseous indications of spontaneous combustion
 - changes in ventilation conditions
 - defective seals
 - applying control measures to eliminate or minimise spontaneous combustion risks, including:
 - grouting
 - digging-out
 - water infusion.

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 spontaneous combustion management measures, including:
 - accessing, interpreting and applying general information on spontaneous combustion
 - recognising and reporting incidents and potential hazards associated with spontaneous combustion
 - identifying mine ventilation structures

- work effectively with others to plan, prepare and conduct the application of spontaneous combustion management measures including:
 - organising work activities to meet task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
 - complying with reporting requirements and procedures.

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 spontaneous combustion management measures
- key policies, procedures and documentation required to apply spontaneous combustion management measures, those relating to:
 - work health and safety
 - environmental issues
 - hazard and risk management
 - mine operational activities
 - housekeeping
- principles and techniques for identifying and managing mine gases, including:
 - methane
 - carbon dioxide
 - hydrogen sulphide
 - normal atmospheric gases
 - carbon monoxide
- spontaneous combustion causes and hazards, including:
 - coal stowage hazards, including:
 - spillage coal
 - waste products
 - physical spontaneous combustion indicators, including:
 - smoke
 - haze
 - sweating
 - smell
 - heat
- principles and techniques for applying spontaneous combustion management plan requirements, including procedures for:
 - mine atmosphere monitoring
 - reporting requirements
 - ventilation systems and usage
 - mine plan

- action plan
- response plans
- emergency procedures
- individual group responsibilities
- mine ventilation structures, including:
 - stoppings
 - overcasts
 - regulators
 - preparation seals
 - fire doors
 - bulk heads
 - goaf seals
 - final seals
 - pressure chambers
- techniques for interpreting and applying geological data
- principles and techniques for applying gas monitoring systems
- principles and techniques for applying spontaneous combustion reporting measures
- principles and techniques for applying mine atmosphere monitoring systems, including:
 - portable (hand held) monitoring
 - collection of bag samples
 - status monitoring, including:
 - physical indications of spontaneous combustion
 - gaseous indications of spontaneous combustion
 - changes in ventilation conditions
 - defective seals
 - damage to monitoring systems/equipment
- principles and techniques for applying control measures for eliminating or minimising spontaneous combustion risks, including:
 - grouting
 - digging-out
 - sealing
 - water infusion
 - inertisation
- key characteristics, capabilities and limitations of equipment required for spontaneous combustion management
- principles and techniques for addressing, reporting and responding to relevant hazards and emergencies
- site requirements for completing maintenance records and reports, including reporting ventilation status
- basic techniques for communicating job activities with others.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to apply spontaneous combustion management measures
- 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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