



Australian Government

RIIERR305E Control underground fires

Release: 2

RIIERR305E Control underground fires

Modification History

Release	Comments
1	This unit replaces RIIERR305D Control underground fires. Minor endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.
2	Editorial corrections.

Application

This unit describes the skills and knowledge required to plan and prepare for underground fire-fighting activities and monitor, control and extinguish underground fires in the resources and infrastructure industries.

It applies to those who work in operational roles. They generally work in teams and have some responsibility for the outcomes of others.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

RIIERR303E Operate in a self-contained regenerative oxygen breathing apparatus

PUAFIR207 Operate breathing apparatus open circuit

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 control underground fires	1.1 Access, interpret and apply control of underground fires documentation and ensure the work activity is compliant 1.2 Identify and assess potential risks, hazards and environmental issues and implement control measures 1.3 Select and wear personal protective equipment

ELEMENT	PERFORMANCE CRITERIA
	appropriate for work activity 1.4 Interpret data and reports to determine cause and location of fire and record on the mine plan 1.5 Assess type, size and spread of fire and determine risk level 1.6 Identify and assess potential ignition sources for further fires, determine control measures, and record on the site plan 1.7 Assess secondary risks and recommend actions for control
2. Determine fire-fighting resources and procedures	2.1 Assess fire-fighting personnel's exposure to fire and identify methods and equipment to control risks 2.2 Determine personnel numbers, equipment and personal protective equipment requirements 2.3 Determine fire-fighting strategy and procedures 2.4 Assess fire control equipment and fire-fighting media capability and quantity, and decide on the appropriate course of action 2.5 Communicate and assign activities to personnel 2.6 Identify and apply ventilation monitoring and control measures 2.7 Assess need for evacuation of personnel and take appropriate action 2.8 Prepare action plan according to workplace procedures
3. Control the fire	3.1 Isolate and barricade fire area/zone to prevent entry of non-involved personnel 3.2 Access, assemble and test equipment determined in the action plan 3.3 Apply fire-fighting techniques and methods determined in the action plan 3.4 Maintain communication with other fire-fighters and emergency control personnel on condition of fire and status of fire control operations 3.5 Monitor fire continually and put controls in place to ensure the safety of personnel in the vicinity of the fire 3.6 Reassess and apply ventilation control measures continually 3.7 Monitor fire-fighting activities continually to determine ability to continue to handle situation and

ELEMENT	PERFORMANCE CRITERIA
	take action 3.8 Minimise damage and disruption to site working during the fire control operation 3.9 Assess fire intensity and magnitude, withdraw from fire zone and relocate fire control equipment to a safe place if fire is uncontrollable 3.10 Bring fire safely under control and extinguish according to situational requirements 3.11 Monitor fire site and take actions to prevent possible re-ignition 3.12 Report to emergency control personnel 3.13 Monitor for structural and ground support integrity
4. Restore and refurbish fire equipment to operational condition	3.1 Inspect equipment for any damage 3.2 Repair, replenish or replace defective/depleted equipment 3.3 Tag, record and quarantine unusable equipment 3.4 Return fire control system and equipment to operational readiness 3.5 Process required written records and reports according to workplace policies and procedures

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
Problem solving	Applies problem solving processes to identify risks, evaluate options and determine solutions
Writing	Prepares specific information that complies with a range of regulatory requirements, using sector-specific terminology
Oral communication	Conveys information and requirements clearly, and listens carefully
Reading	Identifies and interprets relevant information from workplace procedures, documentation, legislation and regulations

Unit Mapping Information

Supersedes and is equivalent to RIIERR305D Control underground fires.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for RIIERR305E Control underground fires

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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:

- control underground fires in a manner that safely, effectively and efficiently meets all of the required outcomes on at least two occasions, including:
 - locating firefighting equipment at the site
 - navigating in an underground site
 - reading maps and interpreting symbols
 - locating plant and fire suppression systems on a site layout plan
 - locating and operating fixed and portable fire suppression equipment
 - selecting and using appropriate extinguishing media
 - using and troubleshooting water supply systems and identifying alternative systems
 - determining personnel requirements
 - determining fire-fighting strategies and procedures, including evacuation and post-fire activities.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures
- work effectively with others to undertake and complete the control of underground fires that meets all the required outcomes, including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to coordinate work activities
 - operating emergency communications systems.

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:

- types and causes of hazards and incidents in underground sites
- effects of hot and humid atmospheres in underground sites
- location and distribution of caches
- trigger points to initiate emergency response to alarms
- locations and purposes of places of safety
- guidance system and marker uses
- key components and requirements of site emergency plans
- locations of escape routes and alternative escape routes
- functions of underground ventilation systems
- types and effects of harmful gases in underground sites
- rescue team structure, roles and responsibilities
- operation and limitations of breathing apparatus
- standby/emergency procedures for incident control
- types of fire and associated risks and control measures
- ventilation management techniques
- properties of extinguishing media and the selection of those appropriate to the situation
- fire-ground management procedures
- sector-specific signals required for work activity
- techniques for refurbishing fire-fighting equipment and systems.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below.

The assessment must:

- include access to:
 - site plans
 - breathing apparatus
 - personal protective equipment required for the activities described in the performance evidence
- be conducted in a safe environment
- be assessed in context of this sector's work environment
- be assessed in compliance with relevant legislation and regulations and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed
- 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 a high 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 hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also 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.
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*Guidance on simulated environments has been stipulated in the RII 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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