



Australian Government

Department of Education, Employment and Workplace Relations

RIIERR602A Establish and maintain underground coal mine emergency preparedness and response systems

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers establish and maintain emergency preparedness and response systems in underground coal mines. It includes: establishing mine emergency preparedness and response systems and mine emergency systems; planning and preparing for the implementation of the plans; establishing post-incident management procedures; and auditing and reviewing the plan and equipment.

Application of the Unit

This unit is appropriate for those working in a management or technical specialist roles, within:

- Coal mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Establish mine emergency preparedness and response systems</p>	<p>1.1. Access, interpret and apply compliance documentation relevant to emergency preparedness and response systems in underground coal mines</p> <p>1.2. Identify the requirements of mine emergency preparedness and response</p> <p>1.3. Design and develop the emergency preparedness plan from an analysis of all relevant technical and operational information</p> <p>1.4. Design and develop an organisational structure for the management of emergency preparedness and response from an analysis of all relevant technical and operational information</p> <p>1.5. Develop emergency response procedures for management of identified potential incident scenarios from an analysis of all relevant technical and operational information</p> <p>1.6. Establish decision-making processes, operating protocols and information / communication control systems within the mine emergency preparedness and response procedures, including decision monitoring systems</p> <p>1.7. Establish emergency preparedness and response maintenance program and procedures</p> <p>1.8. Review the plan with relevant stakeholders and specialists</p> <p>1.9. Establish a program, including systems and procedures, to satisfy identified mine emergency preparedness and response training requirements</p> <p>1.10. Establish procedures that may include simulation events, to audit and review mine emergency preparedness and response compliance with legislative and site requirements</p> <p>1.11. Establish procedures for incorporating feedback from site and</p>

	industry based learning's into the audit/review system
2. Establish mine emergency systems	<p>2.1. Establish incident information, recording and reporting systems</p> <p>2.2. Establish emergency response and evacuation plans and procedures</p> <p>2.3. Establish operations facilities, including communications to support them, in accordance with the emergency plan</p> <p>2.4. Establish action planning processes to manage the situation / incident in accordance with the emergency plan</p> <p>2.5. Identify required services, personnel, equipment and resources for types of incidents in accordance with the emergency plan</p>
3. Plan and prepare for the implementation of the plans	<p>3.1. Identify and interpret the legislative and site requirements related to emergency preparedness and response management</p> <p>3.2. Access, interpret and clarify the emergency preparedness and response plans</p> <p>3.3. Identify, clarify and communicate to all personnel roles and responsibilities, as specified in the emergency preparedness and response plans</p> <p>3.4. Identify, forecast, obtain and allocate / schedule resources required for the implementation of the emergency preparedness and response plans</p> <p>3.5. Implement the emergency preparedness and response training program</p> <p>3.6. Develop review mechanisms to include suggestions and recommendations from both internal and external sources to facilitate ongoing improvement of emergency preparedness and response plans</p>
4. Establish post-incident management procedures	<p>4.1. Establish plans to manage post-incident</p> <p>4.2. Establish processes to investigate nature and cause of situation / incident</p> <p>4.3. Establish processes to evaluate the effectiveness of emergency response and action plans to achieve objectives</p>
5. Audit and review the plan and equipment	<p>5.1. Audit emergency preparedness and response monitoring systems for</p>

	<p>compliance with legislative and management plan standards</p> <p>5.2. Audit emergency preparedness and response processes / resources for compliance with legislative and mine site requirements</p> <p>5.3. Audit recording systems for compliance with the emergency preparedness and response plan</p> <p>5.4. Audit emergency preparedness and response training program for currency, relevance and compliance with the requirements of the emergency preparedness and response plan</p> <p>5.5. Identify and correct non-compliance or other discrepancies/ deficiencies revealed by audit</p>
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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to establish and maintain emergency preparedness and response systems in underground coal mines:

- apply legislative, organisation and site requirements and procedures
- apply emergency response and disaster planning processes and techniques
- apply emergency procedures guidelines
- read and interpret mine plans
- apply procedures to assess hazards and associated risks
- evaluate systems and equipment
- write reports
- identify or establish mine-site facilities for incident management
- access and use mine-site information and recording systems
- apply effective communication techniques with people personally or through technical devices during incidents
- organise personnel and resources
- handle members of the media
- develop action plans
- analyse information
- apply effective decision making techniques
- participate as team member
- facilitate groups to work together
- brainstorm to collect maximum information
- apply effective questioning techniques
- apply effective interview techniques
- delegate responsibility and tasks
- apply effective negotiation techniques
- investigate incidents

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to establish and maintain emergency preparedness and response systems in underground coal mines:

- mines rescue guidelines
- emergency response and disaster planning processes and techniques
- audit review process and techniques

- incident resources and how to access them
- legislation applicable to mines
- training and assessment principles
- industry and legislative stakeholders
- mine-type incidents and risks
- structure of emergency procedures guidelines
- legal requirements of incident management teams
- hazard identification
- self-escape, aided rescue and incident response philosophies, systems and equipment
- the techniques and equipment used for collecting and analysing atmospheric conditions
- risk management principles and techniques
- classification of types of incidents
- decision-making processes
- structure of emergency organisations
- structure, roles, capabilities and operational limitations of external resources and agencies used during mine incidents
- rescue team structure, procedures and equipment and standby team requirements
- effects of heat and humidity
- effects of visibility
- escape strategies and technology
- environmental risks and controls
- media policies and procedures
- equipment required for types of emergency
- ventilation and its influence on incidents, and decisions to be made
- deployment of staff underground
- call-out procedures
- emotional effects of emergencies on rescuers, mine personnel, families and community
- titles and roles of members of incident management team
- services and agencies available to assist in an emergency
- intervention and control techniques for heating, fires, explosions, outburst, extrication or inrushes
- the requirements and structure for fresh air base
- support services role and access
- legislation regarding resumption of normal operations
- the role of stakeholders
- numbers needed to run the mine at planned operational levels
- mobilisation, deployment and utilisation of equipment
- economic considerations and decisions
- insurance policies and considerations
- mine closure procedures and the legislative implications

- sealing procedures and the legislative implications
- requirements for site security and access control

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for establishing and maintaining emergency preparedness and response systems in underground coal mines • implementation of procedures and techniques for the safe, effective and efficient establishing and maintaining of emergency preparedness and response systems in underground coal mines • the identification of the relevant information and scope of the work required to meet the required outcomes • the identification of viable program options and the selection of options that best meet the required outcomes • working with others to establish and maintain emergency preparedness and response systems in underground coal mines • consistent and timely establishment and maintenance of emergency preparedness and response systems in underground coal mines
Context of and specific resources for assessment	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example,

	<p>language, literacy and numeracy demands of assessment should not be greater than those required on the job.</p> <ul style="list-style-type: none"> • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
<p>Method of assessment</p>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • identification of the relevant information and scope of the work required • identification of viable options and the selection of options that best meet the required outcomes • consistently achieving the required outcomes • first hand testimonial and documentary evidence of the candidate's: <ul style="list-style-type: none"> • working with others to establish and maintain emergency preparedness and

	<p>response systems in underground coal mines</p> <ul style="list-style-type: none">• consistent and timely gaining of approval of emergency preparedness and response systems for underground coal mines• provision of clear, timely required support and advice on the implementation of emergency preparedness and response systems in underground coal mines
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Maintenance program is the confirmation of system and equipment operability and may include checks of:</p>	<ul style="list-style-type: none"> • personal protection equipment (PPE) • signage • monitoring and alarms • mines rescue equipment • communication devices • guidance systems • provisions of plans, maps and documentation • escape and rescue equipment • first response equipment • escape routes • information technology (IT) systems
<p>Stakeholders are those parties who may be directly or indirectly affected by incidents and may include, but are not limited to:</p>	<ul style="list-style-type: none"> • shareholders • board of directors • employees • unions • families • contractors • insurance companies • suppliers • local community • manufacturers • Inspectorate • Coal Services • police • Mines Rescue Service

	<ul style="list-style-type: none"> • fire brigades • ambulance • medical staff • hospitals • critical incident stress debriefing organisations • local emergency management organisations • Salvation Army • clergy • state, federal, local government
Audit is defined as:	<ul style="list-style-type: none"> • a systematic examination against defined criteria to determine whether activities and related results conform to planned arrangement, and whether these arrangements are implemented effectively and are suitable to achieve the organisation's policy and objectives
Incident is:	<ul style="list-style-type: none"> • an unplanned and undesirable event resulting in damage to property, environment or people and may be caused by: <ul style="list-style-type: none"> • explosion • fire • strata failure • inrush • outburst • irrespirable atmosphere • environmental incident • Hazchem • explosives • vehicle accidents • wind blasts • failure of ventilation control device/appliances • ignition of gas • situation where a hazard gets out of control
Operations facilities are those which are set up to manage an incident and may include:	<ul style="list-style-type: none"> • operations centre • press room • mortuary • muster areas • meeting rooms • communication centres • networks • control rooms

<p>Communications may include:</p>	<ul style="list-style-type: none"> • radio • telephone • telemetry • oral • written • computers • runners
<p>Services, personnel, equipment and resources may include:</p>	<ul style="list-style-type: none"> • internal mine services and resources • contractors • insurance companies • suppliers • local community • manufacturers • Inspectorate • Coal Services • police • Mines Rescue Service • fire brigades • ambulance • medical staff • hospitals • critical incident stress debriefing organisations • local emergency management organisations • Salvation Army • clergy • federal, state and local government • media • coroner's representative • security services • solicitors • district check inspector • other mines • engineers • scientists • inertisation equipment • down-hole camera • drill rigs • forensic services
<p>Equipment refers to that needed to control the incident and includes:</p>	<ul style="list-style-type: none"> • rescue equipment • mining equipment • transport

	<ul style="list-style-type: none"> • specialised equipment from external sources • monitoring • analysis equipment • communication • computer systems • fire fighting equipment • inertisation equipment • extraction devices and equipment
<p>Types of incident can be identified as:</p>	<ul style="list-style-type: none"> • minor accident • major accident or fatality • underground explosion or fire • ignition • outburst • spontaneous combustion • surface fire which disrupts operations • environment incidents • bomb threat • terrorist attack
<p>Post-incident management is the control of activities arising from an incident and may include:</p>	<ul style="list-style-type: none"> • legal advice • environmental aspects • critical incident stress debriefing • interviewing • investigations • witness interview statements • restoration of normal operations • media releases • public relations • employee welfare and family support • security of evidence • liaison with statutory / legal bodies • statutory investigations • review of emergency procedures • documentation of ongoing operations • restoration of emergency preparedness systems • security systems

Unit Sector(s)

Emergency Response and Rescue

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.