



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **RIIERR306A Conduct underground search**

**Release: 1**

## **RIIERR306A Conduct underground search**

### **Modification History**

Not applicable.

### **Unit Descriptor**

This unit covers conducting searches in underground metalliferous mines. It includes: planning for the search; conducting the search; managing unplanned events or changed in circumstances; and finalise search.

### **Application of the Unit**

This unit is appropriate for those working in operational roles, in underground mines, within:

- Metalliferous 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**

Elements describe the essential outcomes of a unit of competency.	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.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan underground search	<ul style="list-style-type: none"> <li>1.1. Access, interpret and apply <b><i>compliance documentation</i></b> relevant to conducting searches in underground metalliferous mines</li> <li>1.2. Receive and analyse information and clarify <b><i>factors to be considered</i></b> in the search plan</li> <li>1.3. Identify, liaise and clarify roles with relevant <b><i>external agencies</i></b> which may be called upon to assist with the search</li> <li>1.4. Develop a workable search plan and contingency plans in consultation with external agencies and mine operational personnel</li> <li>1.5. Identify and access <b><i>equipment</i></b> required for the search operation</li> <li>1.6. Select personal protective equipment appropriate for search activities</li> <li>1.7. Document search strategy and plot search patterns and routes on mine plan</li> </ul>
2. Conduct search	<ul style="list-style-type: none"> <li>2.1. Define possible and probable search areas based on mine configuration and personal/work factors</li> <li>2.2. Conduct risk assessment to identify the risks to the search party, and identify the necessary controls according to site procedures and legislative requirements</li> <li>2.3. Make sure search period/area does not exceed air/oxygen working duration and search personnel fitness</li> <li>2.4. Establish and maintain <b><i>communications</i></b> procedures and protocols</li> <li>2.5. Conduct search methodically using appropriate, recommended pattern and <b><i>techniques</i></b></li> <li>2.6. Manoeuvre hostile ground using standard equipment, techniques and procedures</li> <li>2.7. Maintain <b><i>physical contact</i></b> with other search team members at all times during the search</li> <li>2.8. <b><i>Mark route</i></b> to allow safe egress from mine</li> </ul>

	or allow location of search team by back-up team if necessary
3. Manage unplanned event or change in circumstances	<ul style="list-style-type: none"><li>3.1. Evaluate the <i>unplanned event and changes in circumstances</i></li><li>3.2. Identify, implement and monitor procedures to deal with the event</li><li>3.3. Communicate details of the event or changes in circumstances to <b>Incident Control</b> for advice on actions to be taken</li><li>3.4. Communicate requests for further assistance or advice of withdrawal</li></ul>
4. Finalise search	<ul style="list-style-type: none"><li>4.1. Negotiate the <i>conclusion of the search</i> in consultation with external agencies and mine operational personnel</li><li>4.2. Collect and preserve all relevant information</li><li>4.3. Debrief with relevant personnel</li><li>4.4. Complete all required reports</li><li>4.5. Review search operation and recommend improvements</li></ul>

## 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 conduct searches in underground metalliferous mines:

- apply legislative, organisation and site requirements and procedures
- apply flexibility to change plans
- apply adaptability and resourcefulness
- apply problem solving and planning to organise an immediate response
- apply questioning to determine accurate details concerning the situation
- apply decision making to determine the best course of action
- apply observations skills
- navigate in underground mines
- read maps and interpret symbols
- apply call-outs response procedures
- work as a member of a team

### 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 conduct searches in underground metalliferous mines:

- search procedures and techniques
- local communication systems
- roles of external agencies
- local hazards and environmental threats
- operation of communication systems
- legal requirements in the event of a death or accident
- search equipment
- navigating in underground mines
- breathing apparatus

## 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.

<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<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"> <li>• knowledge of the requirements, procedures and instructions for conducting searches in underground metalliferous mines</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient conducting of searches in underground metalliferous mines</li> <li>• working with others to conduct searches in underground metalliferous mines that meets all of the required outcomes</li> <li>• consistent timely conducting of searches in underground metalliferous mines that safely, effectively and efficiently meets the required outcomes</li> </ul>
<b>Context of and specific resources for assessment</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job.</li> <li>• Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.</li> <li>• Aboriginal people and other people from a non</li> </ul>

	<p>English speaking background may have second language issues.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Where applicable, physical resources should include equipment modified for people with disabilities.</li> <li>• Access must be provided to appropriate learning and/or assessment support when required.</li> </ul>
<b>Method of assessment</b>	<p>This unit may be assessed in a holistic way with other units of competency.</p> <p>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"> <li>• written and/or oral assessment of the candidate's required knowledge</li> <li>• observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes</li> <li>• consistently achieving the required outcomes</li> </ul> </li> <li>• first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• working with others to conduct searches in underground metalliferous mines</li> </ul> </li> </ul>
<b>Guidance information for assessment</b>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

## Range Statement

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.

<b>Relevant compliance documentation</b> may include:	<ul style="list-style-type: none"> <li>• legislative, organisation and site requirements and procedures</li> <li>• manufacturer's guidelines and specifications</li> <li>• Australian standards</li> <li>• code of practice</li> <li>• Employment and workplace relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<b>Factors to be considered</b> may include:	<ul style="list-style-type: none"> <li>• timeframe for survival of search object</li> <li>• other time factors</li> <li>• ground/structural conditions</li> <li>• human resources</li> <li>• communications</li> <li>• capacity of the missing person/party</li> <li>• place and time last seen</li> <li>• size of search area</li> <li>• availability of food and water</li> <li>• availability of shelter</li> <li>• availability of respirable air</li> </ul>
<b>External agencies</b> may include:	<ul style="list-style-type: none"> <li>• police search and rescue service</li> <li>• State Emergency Service</li> <li>• Ambulance service</li> <li>• mine rescue services (mutual aid agreements/arrangements)</li> <li>• Critical Incident Stress Debriefing (CISD) agencies</li> <li>• fire and rescue services</li> <li>• counselling agencies</li> </ul>
<b>Equipment</b> may include:	<ul style="list-style-type: none"> <li>• communication systems and equipment</li> <li>• respiratory protection for team and casualty</li> <li>• First Aid equipment</li> <li>• casualty/equipment transport (stokes litter)</li> <li>• site/area map</li> </ul>



	<ul style="list-style-type: none"> <li>• telephone contact details</li> <li>• gas detection equipment</li> <li>• self rescuer</li> <li>• rope bag and contents</li> <li>• scaling bars</li> <li>• portable lights</li> <li>• PPE</li> <li>• guide lines</li> <li>• tag lines</li> <li>• vehicles</li> <li>• ropes</li> <li>• lights</li> <li>• breathing apparatus</li> <li>• search kits</li> </ul>
<b>Communications</b> may include:	<ul style="list-style-type: none"> <li>• 2-way radio</li> <li>• telephone</li> <li>• mobile phone</li> <li>• hand signals</li> <li>• runners</li> <li>• light signals</li> </ul>
Search <b>techniques</b> may include:	<ul style="list-style-type: none"> <li>• line of sight</li> <li>• systematic coverage of area radiating from last point of contact of search object</li> <li>• link lines/guide lines</li> <li>• walking/crawling</li> <li>• sweep</li> <li>• grid patterns</li> <li>• feelings</li> </ul>
<b>Physical contact</b> may include:	<ul style="list-style-type: none"> <li>• personal contact</li> <li>• link line/guide line</li> <li>• visual</li> <li>• radio communication</li> </ul>
<b>Route marking</b> may include:	<ul style="list-style-type: none"> <li>• chemical light sticks</li> <li>• wall markings</li> <li>• barricades</li> <li>• luminous tape/guide lines or hoses</li> </ul>
<b>Unplanned event or change in circumstances</b> may include:	<ul style="list-style-type: none"> <li>• route impassable</li> <li>• collapsed team member</li> <li>• unacceptable environment changes</li> <li>• communications failure</li> <li>• search team member equipment failure</li> </ul>

	<ul style="list-style-type: none"><li>• directed withdrawal</li><li>• team time expiry</li><li>• team lost, withdrawal</li><li>• notification to team from incident control</li></ul>
<b>Incident Control:</b>	<ul style="list-style-type: none"><li>• has control and makes decisions on the operations associated with dealing with the incident</li><li>• could be located at a <i><b>fresh air base</b></i> which can be defined as a continuously monitored station for dispatch or return of teams in close proximity to active zones in known fresh air</li></ul>
<b>Conclusion of search</b> may include:	<ul style="list-style-type: none"><li>• object of search found</li><li>• recommendation that search be called off</li><li>• further search</li></ul>

## Unit Sector(s)

Emergency Response and Rescue

## Competency field

Refer to Unit Sector(s).

## Co-requisite units

Not applicable.