



**Australian Government**

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

# **RIIENV301A Conduct atmospheric monitoring**

**Release: 1**

## RIIENV301A Conduct atmospheric monitoring

### Modification History

Not applicable.

### Unit Descriptor

This unit covers the conduct of environmental monitoring in underground coal mines. It includes: preparing and planning for monitoring; carrying out surveys and sampling; conducting primary analysis and responding to results; and maintaining equipment.

### Application of the Unit

This unit covers ventilation surveys, dust, water and noise sampling and atmospheric analysis and is appropriate for those working in a operational roles, in underground operations, 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
1. Prepare and plan for monitoring	1.1. Access, interpret and apply <i>compliance documentation</i> relevant to conduct environmental monitoring in underground coal mines 1.2. Obtain, interpret and clarify/confirm <i>work requirements</i> before proceeding 1.3. Access, interpret and apply <i>mine environmental data</i> required to complete the allocated work. 1.4. Identify and obtain equipment and resources required for the work requirements. 1.5. Access and apply safety information and procedures throughout the work
2. Carry out surveys and sampling	2.1. Establish a safe work environment and monitor throughout the job 2.2. Coordinate activities with others at the site prior to commencement of, and during, the work activity 2.3. Inspect and test <i>sampling</i> equipment to ensure functionality, safety and compliance with manufacturer instructions and/or site requirements 2.4. Conduct <i>surveys</i> and sampling in accordance with site, and legislative requirements 2.5. Recognise and respond to hazardous and emergency situations in accordance with manufacturer instructions and/or site procedures
3. Conduct primary analysis and respond to results	3.1. Record and compare the results of sampling and surveys in accordance with site requirements 3.2. Initiate or refer /report action to rectify anomalies to the appropriate authority for further action
4. Maintain equipment	4.1. Carry out monitoring equipment inspections and fault finding in accordance with manufacturer instructions and/or site requirements 4.2. Process records in accordance with site

	requirements
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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 conduct environmental monitoring:

- apply legislative, organisation and site requirements and procedures
- apply operational safety requirements
- read mine plan
- apply sampling tools and equipment operating procedures
- read, interpret and report / record results
- apply instrument calibration and testing
- apply environmental requirements

### 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 environmental monitoring:

- site operational safety procedures
- site and legislative requirements
- survey and sampling methods
- characteristics of samples taken
- tools and sampling equipment and use
- mine plan
- geological and survey data
- monitoring equipment maintenance systems and procedures
- site environmental requirements and constraints related to monitoring

## Evidence Guide

<p>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.</p>	
<p><b>Overview of assessment</b></p>	
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<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 of environmental monitoring</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of environmental monitoring</li> <li>• working with others to undertake and complete environmental monitoring that meets all of the required outcomes</li> <li>• consistent timely completion of environmental monitoring that safely, effectively and efficiently meets the required outcomes</li> </ul>
<p><b>Context of and specific resources for assessment</b></p>	<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 English speaking background may have second</li> </ul>

	<p>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. 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 undertake and complete environmental monitoring</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

<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><b>Relevant compliance documentation</b> may include:</p>	<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>
<p><b>Work requirements</b> may be in the form of:</p>	<ul style="list-style-type: none"> <li>• shift briefings</li> <li>• handover details, and/or</li> <li>• work orders</li> </ul>
<p><b>Mine environmental data</b> may be in the form of:</p>	<ul style="list-style-type: none"> <li>• ventilation/gas data</li> <li>• deputy reports</li> <li>• survey data</li> </ul>
<p><b>Sampling</b> may be conducted by:</p>	<ul style="list-style-type: none"> <li>• fixed monitoring</li> <li>• volumetric monitoring</li> <li>• personnel monitoring</li> <li>• hand held instruments</li> </ul>
<p><b>Surveys</b> may be conducted:</p>	<ul style="list-style-type: none"> <li>• daily</li> <li>• weekly</li> <li>• monthly</li> <li>• as required</li> </ul>
<p><b>Surveys</b> may include:</p>	<ul style="list-style-type: none"> <li>• ventilation surveys</li> <li>• stone dust samples</li> <li>• goaf samples</li> <li>• noise readings</li> <li>• atmospheric analysis</li> <li>• respirable dust samples</li> <li>• water samples</li> <li>• diesel particulates</li> </ul>

## **Unit Sector(s)**

Environment

## **Competency field**

Refer to Unit Sector(s).

## **Co-requisite units**

Not applicable.