



**Australian Government**

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

# **RIIPBE303B Conduct filtering process**

**Release: 1**

## RIIPBE303B Conduct filtering process

### Modification History

Not applicable.

### Unit Descriptor

This unit covers the conduct of filtering processes in the mining industry. It includes planning and preparing for the filtering process, starting up equipment in sequence, operating and monitoring equipment, conducting housekeeping activities, and shutting down in sequence and/or isolating equipment. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

### Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Metalliferous mining
- 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. Plan and prepare for filtering process	1.1. Access, interpret and apply <b>compliance documentation</b> relevant to the work activity 1.2. Receive, interpret and clarify shift changeover details 1.3. Communicate with other personnel 1.4. Select personal protective equipment appropriate for work activities 1.5. Select appropriate type of <b>auxiliary equipment</b> for work activities 1.6. Perform equipment <b>pre-start checks</b> 1.7. Identify, address and report potential risks and hazards 1.8. Identify, address and report <b>environmental issues</b> 1.9. Adhere to emergency procedures 1.10. Use dust suppression and extraction methods 1.11. Ensure area is well ventilated
2. Start-up equipment in sequence	2.1. Carry out <b>start-up procedures</b> and complete start-up checks according to plant configuration and system requirements 2.2. Confirm plant is operational
3. Operate and monitor equipment	3.1. <b>Read</b> and interpret data from equipment <b>indicators</b> 3.2. Continuously inspect plant and identify defects and potential problems 3.3. Adjust equipment to approved operating parameters 3.4. Control feed to equipment 3.5. <b>Monitor</b> moisture in cake and density of filtrate 3.6. Monitor reagent addition for cleaning 3.7. Monitor and maintain air systems 3.8. Maintain cleanliness of filtration systems 3.9. Complete all required documentation 3.10. Pass on end of shift information to oncoming shift
4. Conduct housekeeping	4.1. <b>Clean plant</b>

activities	4.2. Identify, address and reports hazards
5. Shutdown in sequence and/or isolate equipment	5.1. Clear build-up from <i>filtering</i> circuit before commencing shutdown 5.2. Shutdown or isolate equipment based on process and safety requirements 5.3. Perform <i>post-shutdown</i> or isolation checks 5.4. Pass on shift changeover details to oncoming shift

## 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 of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following as required to conduct filtering processes:

- apply legislative, organisation and site requirements and procedures
- apply lifting techniques (manual, cranes and loads)
- monitor operations
- report defects
- use safe work practices
- use hand and power tools

### Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following as required to conduct filtering processes:

- air systems
- contaminant identification
- emergency procedures
- environmental principles
- equipment operating parameters
- equipment safety requirements
- filtering procedures
- hazardous substance procedures and consequences of spills
- identifying repair requirements
- isolation principles
- metallurgical and technical data
- operational procedures and checks
- site procedures
- filtering safety requirements
- types of product (slurry etc)

## 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 filtering processes</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of filtering processes</li> <li>• working with others to undertake and complete the filtering processes in a way that meets all of the required outcomes</li> <li>• consistent timely completion of filtering processes 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>• Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances.</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</li> </ul>

	<p>cultural diversity.</p> <ul style="list-style-type: none"> <li>• Aboriginal people and other people from a non English speaking background may have second language issues.</li> <li>• 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.</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>• consistent achievement of 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 the filtering processes</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, organisational and site requirements and procedures</li> <li>• manufacturer's guidelines and specifications</li> <li>• Australian standards</li> <li>• Employment and Workplace Relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<p><b>Legislation</b> may include acts and regulations dealing with:</p>	<ul style="list-style-type: none"> <li>• mining safety and health</li> <li>• mine inspection</li> <li>• OHS</li> <li>• explosives</li> </ul>
<p><b>Auxiliary equipment</b> may be anything that is portable and mobile that is not part of the fixed infrastructure and may include:</p>	<ul style="list-style-type: none"> <li>• belt weighs</li> <li>• compressors</li> <li>• distribution control systems</li> <li>• feeders</li> <li>• gantry cranes and attachments and other mobile equipment</li> <li>• hand and power tools</li> <li>• hoses (water and air)</li> <li>• pump systems</li> <li>• conveyors</li> </ul>
<p><b>Pre-start checks</b> may include:</p>	<ul style="list-style-type: none"> <li>• availability of equipment</li> <li>• detection of conditions that are unusual</li> <li>• fluid levels</li> <li>• job requirements/personnel availability</li> <li>• walk through plant</li> </ul>
<p><b>Environmental issues</b> may include:</p>	<ul style="list-style-type: none"> <li>• drainage</li> <li>• dust (dump)</li> <li>• emissions</li> <li>• flora and fauna</li> <li>• hazardous chemicals</li> <li>• noise</li> <li>• recycling</li> </ul>



	<ul style="list-style-type: none"> <li>• run-off</li> <li>• spills</li> <li>• waste management and disposal</li> <li>• water quality</li> </ul>
<b>Start-up procedures</b> may include:	<ul style="list-style-type: none"> <li>• air systems</li> <li>• cameras and monitors</li> <li>• checking interlocks</li> <li>• checks distribution control system (DCS)</li> <li>• chutes</li> <li>• display instruments, lights and gauges</li> <li>• equipment stop engine lights</li> <li>• filters/hydraulic system</li> <li>• isolations</li> <li>• lighting</li> <li>• suppression systems</li> <li>• valves</li> <li>• visual and audio warning devices and lights</li> </ul>
<b>Equipment indicator readings</b> may include:	<ul style="list-style-type: none"> <li>• current</li> <li>• flow</li> <li>• levels</li> <li>• pressure/speed</li> <li>• unusual noises/vibrations</li> </ul>
<b>Monitoring</b> may include the checking of:	<ul style="list-style-type: none"> <li>• air systems</li> <li>• blockages and spillages</li> <li>• feed rates</li> <li>• filters</li> <li>• in stream analysis (ISA)</li> <li>• levels of ponds and catchment areas</li> <li>• mineral content</li> <li>• on stream analysis (OSA)</li> <li>• overloads</li> <li>• particle size indicators (PSI)</li> <li>• power draw</li> <li>• pressures/temperatures</li> <li>• wear and tear</li> </ul>
<b>Equipment and plant cleaning methods</b> may include:	<ul style="list-style-type: none"> <li>• degreasing</li> <li>• forced air</li> <li>• hosing with water</li> <li>• suction</li> </ul>
<b>Filtering methods</b> may include:	<ul style="list-style-type: none"> <li>• candle</li> <li>• drum</li> </ul>

	<ul style="list-style-type: none"><li>• pressure</li><li>• compression</li><li>• leaf</li></ul>
<b>Post-shutdown checks</b> are like pre-start checks	
<b>Contaminants</b> are anything other than the ore. Common contaminants may include:	<ul style="list-style-type: none"><li>• oils</li><li>• plastic</li><li>• solvents</li></ul>

## Unit Sector(s)

Beneficiation

## Competency field

Refer to Unit Sector(s).

## Co-requisite units

Not applicable.