



**Australian Government**

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

# **RIIMPO302B Conduct hydraulic shovel operations**

**Release: 1**

## RIIMPO302B Conduct hydraulic shovel operations

### Modification History

Not applicable.

### Unit Descriptor

This unit covers conducting hydraulic shovel operations in the mining and extractive industries. It includes planning and preparing for operations, operating the shovel, digging and loading trucks, and cleaning equipment to site requirements.

### Application of the Unit

This unit is appropriate for those working in mobile plant operator roles, at worksites within:

- Coal mining
- Extractive industries
- 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 and prepare for operations	1.1. Access, interpret and apply <b>compliance documentation</b> relevant to conducting hydraulic shovel operations 1.2. Receive, interpret and clarify shift changeover details 1.3. Evaluate equipment and/or attachments supplied for suitability for the work to be undertaken, according to job specifications and to maximise efficiency and effectiveness of work activities 1.4. Identify, address and report <b>potential hazards and risks</b> 1.5. Select personal protective equipment appropriate for work activities 1.6. Carry out equipment <b>pre-start check</b> to ensure equipment is ready for operation 1.7. Comply with <b>environmental requirements</b> 1.8. Establish and maintain communication with other personnel using approved communication methods 1.9. Follow <b>emergency procedures</b> to ensure safety of personnel and plant
2. Operate shovel	2.1. Start shovel to manufacturer's operational requirements 2.2. Warm up and exercise shovel and associated equipment, and check controls and instruments for correct functioning 2.3. Monitor and respond to equipment performance utilising appropriate indicators and alarms to aid efficient and effective operation 2.4. Operate shovel smoothly, with correct reach angle to allow optimum efficiency and bucket load, and minimise overload or strain on shovel 2.5. Position shovel for safe, efficient extraction
3. Dig and load trucks	3.1. Position and set up shovel for safe, efficient digging 3.2. Determine and maintain depth of bench to allow optimum use of bucket <b>capacity</b>

	<p>3.3. Set and monitor bucket penetration for optimum bucket load and to minimise overload or strain on shovel</p> <p>3.4. Walk shovel and re-position for safe and efficient operation</p> <p>3.5. Communicate with and direct truck positioning for safe <b>loading</b> operation</p> <p>3.6. Load material on truck so that bucket clears side of truck and is not swung over truck cabin, <b>material</b> is placed in the centre of tray and does not exceed truck load limit</p> <p>3.7. Check surrounding area and re-position shovel in regard to other operations personnel, to meet digging requirements</p> <p>3.8. Keep floor clear and level and remove spillages</p> <p>3.9. Park shovel in safe area, on flat, level ground at end of shift</p>
<p>4. Clean equipment to site requirements</p>	<p>4.1. <b>Clean</b> and store attachments and other ancillary equipment ready for further use</p> <p>4.2. Complete all required records and documentation accurately and promptly</p>

## 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 hydraulic shovel operations:

- apply legislative, organisation and site requirements and procedures
- apply diagnostic techniques
- apply hazardous goods handling techniques
- apply loading techniques
- interpret plans, reports, maps, specifications
- apply lifting techniques
- organise work tasks
- work in 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 hydraulic shovel operations:

- operating principles and practices
- breakdown procedures
- emergency procedures
- environmental and heritage procedures
- equipment processes, technical capability and limitations
- equipment safety requirements
- geological and technical data
- hauling procedures
- fatigue management
- hazardous goods procedures and consequences of spills
- isolation procedures
- mine operational system
- night and day working procedures
- OHS procedures
- operational procedures and checks
- road rules
- shutdown procedures
- site safety requirements
- start-up procedures



## 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 hydraulic shovel operations</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of hydraulic shovel operations</li> <li>• working with others to undertake and complete hydraulic shovel operations that meet all of the required outcomes</li> <li>• consistent timely completion of hydraulic shovel operations 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 hydraulic shovel operations</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. <b>Bold italicised</b> 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>• codes of practice</li> <li>• Employment and Workplace Relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<p><b>Potential risks and hazards</b> may include:</p>	<ul style="list-style-type: none"> <li>• abandoned equipment</li> <li>• adjoining pit walls</li> <li>• adverse weather conditions (electrical storms, floods, fires)</li> <li>• chemicals</li> <li>• contaminants</li> <li>• equipment</li> <li>• fences</li> <li>• holes</li> <li>• materials</li> <li>• over-hanging rocks</li> <li>• personnel</li> <li>• pot holes</li> <li>• unsafe ground</li> <li>• unstable faces</li> <li>• vehicles</li> </ul>
<p><b>Pre-start checks</b> may include:</p>	<ul style="list-style-type: none"> <li>• cab condition (no rags in air conditioner vent, dirt around brake and accelerator pedals, seat condition, all gear secured)</li> <li>• cab mounts</li> <li>• damage to equipment</li> <li>• danger tags</li> <li>• engine oil to be checked before starting engine</li> <li>• fire suppression unit (pins in position in triggers)</li> <li>• grease lines</li> </ul>

	<ul style="list-style-type: none"> <li>• light positioning and cleanliness</li> <li>• no combustible material around exhaust</li> <li>• oil leaks (engine, hydraulic hoses, ground); fuel leaks (engine, on ground); water leaks (radiator, hoses)</li> <li>• personal proximity</li> <li>• portable fire extinguisher (bracket, gauge, hose, ease of access)</li> <li>• radiator top up tank</li> <li>• vehicle number</li> <li>• windows (clean, emergency exit tag in place)</li> </ul>
<b>Environmental requirements</b> may include:	<ul style="list-style-type: none"> <li>• culturally-sensitive sites and artefacts</li> <li>• drainage</li> <li>• dust</li> <li>• emissions</li> <li>• flora and fauna</li> <li>• hazardous chemicals</li> <li>• heritage legislation</li> <li>• noise</li> <li>• runoff</li> <li>• spills</li> <li>• water quality</li> </ul>
<b>Emergency procedures</b> may include:	<ul style="list-style-type: none"> <li>• clean up</li> <li>• equipment shutdown procedures</li> <li>• evacuation procedures</li> <li>• First Aid</li> <li>• isolation procedures</li> <li>• notification of authorities</li> <li>• use of personal protective equipment</li> </ul>
<b>Capacity</b> of equipment and/or attachments may include:	<ul style="list-style-type: none"> <li>• duration of operation</li> <li>• efficient and safe operating speed</li> <li>• operating limitations</li> <li>• type of activities performed</li> <li>• weight and/or load limitations</li> </ul>
<b>Loading</b> face characteristics may include:	<ul style="list-style-type: none"> <li>• stable</li> <li>• unstable</li> </ul>
<b>Material</b> may include:	<ul style="list-style-type: none"> <li>• gravel</li> <li>• ore</li> <li>• overburden</li> <li>• oxidised waste</li> <li>• rejects</li> </ul>

	<ul style="list-style-type: none"><li>• road base</li><li>• rubbish</li><li>• sand</li><li>• sulphide rock fill</li><li>• tailings</li><li>• topsoil</li><li>• water</li></ul>
<b>Cleaning</b> methods may include:	<ul style="list-style-type: none"><li>• degreasing</li><li>• forced air</li><li>• steam cleaning</li><li>• vacuum</li><li>• water</li></ul>

## Unit Sector(s)

Mobile Plant Operations

## Competency field

Refer to Unit Sector(s).

## Co-requisite units

Not applicable.