

<b>RIIMPO310A</b>	<b>Conduct grader operations</b>
<b>Unit descriptor</b>	This unit covers conducting grader operations in the mining and extractive industries. It includes planning and preparing for operations, operating graders, carrying out post-operational procedures.
<b>Employability skills</b>	This unit contains employability skills.
<b>Application of the unit</b>	This unit is appropriate for those working in mobile plant operator roles, at worksites within: <ul style="list-style-type: none"> <li>• Coal mining</li> <li>• Extractive industries</li> <li>• Metalliferous mining</li> </ul>
<b>Competency field</b>	Mobile Plant Operations

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
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.
1. Plan and prepare for operations	<ul style="list-style-type: none"> <li>1.1. Access, interpret and apply <b><i>compliance documentation</i></b> relevant to conducting grader operations</li> <li>1.2. Obtain, interpret and clarify <b><i>work requirements and procedures</i></b> for the satisfactory completion of the allocated job</li> <li>1.3. Access, interpret and apply <b><i>geological</i></b> and <b><i>survey data</i></b> required to complete the allocated job</li> <li>1.4. <b><i>Inspect and prepare work area</i></b> in coordination with others</li> <li>1.5. Identify, manage and report <b><i>potential hazards and risks</i></b></li> <li>1.6. Resolve <b><i>coordination requirements</i></b> with others at the site prior to commencing and during work activities</li> <li>1.7. Select personal protective equipment appropriate for work activities</li> </ul>
2. Operate grader	<ul style="list-style-type: none"> <li>2.1. Carry out <b><i>pre-start, start-up, park-up and shutdown procedures</i></b></li> <li>2.2. Select and modify the <b><i>operating technique</i></b> to appropriately meet <b><i>changing work conditions</i></b></li> <li>2.3. Conduct, control and monitor operations within the equipment limitations</li> <li>2.4. Connect and tow equipment and plant safely and in accordance with the authorised equipment and connection capacity</li> <li>2.5. Act on or report <b><i>monitoring systems and alarms</i></b></li> <li>2.6. Recognise and respond to <b><i>hazardous and emergency situations</i></b></li> <li>2.7. Complete work in accordance with the agreed work requirements and within the operating capacity of the allocated equipment</li> </ul>
3. Carry out post-operational procedures	<ul style="list-style-type: none"> <li>3.1. Inspect, fault find and report faults</li> <li>3.2. Carry out routine <b><i>operator servicing, maintenance and housekeeping tasks</i></b></li> <li>3.3. Maintain and process <b><i>records and reports</i></b></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 grader operations:

- apply legislative, organisation and site requirements and procedures
- apply levelling techniques
- apply drain construction techniques
- apply windrow form and carry techniques
- apply equipment and plant towing procedures
- apply diagnostic techniques
- apply driving techniques
- apply hazardous goods handling techniques
- interpret plans, reports, maps, specifications
- apply lifting techniques
- organise work tasks
- apply defect reporting requirements
- apply safe work practices
- apply communications equipment procedures
- apply computer systems procedures
- use hand and power tools

**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 grader operations:

- emergency procedures
- environmental and heritage procedures
- equipment processes, technical capability and limitations
- equipment safety requirements
- towing techniques
- geological and technical data
- grading procedures
- hazardous goods procedures and consequences of spills
- isolation procedures
- mine operational system
- night and day working procedures
- OHS procedures
- open cut procedures
- operational procedures and checks
- road rules
- shutdown procedures
- site procedures
- site safety requirements
- start-up procedures
- surface maintenance techniques

<b>RANGE STATEMENT</b>	
<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>• codes of practice</li> <li>• Employment and workplace relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<p><b>Work requirements and procedures</b> may come from briefings, handovers, and work orders and may be written or verbal, formal or informal, depending on the complexity of the process and may include:</p>	<ul style="list-style-type: none"> <li>• product identification</li> <li>• nature and scope of tasks,</li> <li>• quality of finished works</li> <li>• achievement targets,</li> <li>• operational conditions,</li> <li>• obtaining permits required</li> <li>• site layout,</li> <li>• out of bounds areas,</li> <li>• worksite inspection requirements,</li> <li>• lighting conditions,</li> <li>• plant or equipment defects,</li> <li>• hazards and potential hazards</li> <li>• coordination requirements or issues</li> <li>• contamination control requirements</li> <li>• environmental control requirements</li> <li>• barricade and signage requirements</li> </ul>
<p><b>Geological data</b> may include relevant site-specific information in relation to:</p>	<ul style="list-style-type: none"> <li>• rock type and characteristics</li> <li>• faults and joints</li> <li>• broken ground</li> <li>• water tables or other water sources</li> <li>• wet and dry areas</li> <li>• degree of compaction</li> </ul>
<p><b>Survey data</b> may include relevant site-specific information in relation to:</p>	<ul style="list-style-type: none"> <li>• floor heights</li> <li>• bench heights and widths</li> <li>• ramp and floor grades</li> <li>• underground workings and voids</li> </ul>
<p><b>Inspect and prepare work area</b> may include:</p>	<ul style="list-style-type: none"> <li>• identification of hazards</li> <li>• selection and implementation of control measures for the hazards identified</li> <li>• safeguarding site and non-site personnel by: <ul style="list-style-type: none"> <li>◦ erection of barricades and posting of signs</li> <li>◦ selection of appropriate equipment to ensure personnel safety and protection</li> </ul> </li> <li>• determination of appropriate path of movement for loads and equipment/vehicles</li> <li>• floor clean up to specified levels and grade requirements</li> <li>• selection and implementation of environmental control measures</li> </ul>
<p><b>Potential hazards and risks</b> may</p>	<ul style="list-style-type: none"> <li>• installed services</li> </ul>

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include:	<ul style="list-style-type: none"> <li>• damaged or defective pressurise hoses and fastenings</li> <li>• abandoned equipment</li> <li>• adjoining pit walls or structures</li> <li>• adverse weather conditions (electrical storms, floods, fires)</li> <li>• chemicals</li> <li>• contaminants</li> <li>• ancillary equipment</li> <li>• fences</li> <li>• holes and pot holes</li> <li>• over-hanging rocks</li> <li>• personnel</li> <li>• unsafe ground</li> <li>• unstable faces</li> <li>• vehicles</li> <li>• powerlines</li> <li>• dust and noise</li> <li>• conveyors and other fixed plant</li> <li>• overhead structures and services</li> <li>• stored energy which may include: <ul style="list-style-type: none"> <li>◦ engine components</li> <li>◦ radiators and cooling systems</li> <li>◦ hydraulic tanks and reservoirs</li> <li>◦ air tanks and reservoirs</li> <li>◦ hydraulic hoses</li> <li>◦ air hoses</li> <li>◦ tires</li> <li>◦ air conditioning components</li> <li>◦ electrical components</li> <li>◦ braking systems</li> <li>◦ centrifugal forces</li> </ul> </li> </ul>
<b>Coordination requirements</b> may include with:	<ul style="list-style-type: none"> <li>• other mobile plant operators</li> <li>• processing plant operators</li> <li>• maintenance personnel</li> <li>• water truck operators</li> <li>• service vehicle operators</li> <li>• crane and float operators</li> <li>• contractors</li> <li>• inspectors</li> <li>• supervisors</li> <li>• visitors</li> </ul>
<b>Pre-start and start-up procedure</b> may include:	<ul style="list-style-type: none"> <li>• external check of the machine</li> <li>• inspection of attachments to ensure security and identify defects</li> <li>• selection, removing and fitting of attachments</li> <li>• checking of fluid levels (windscreen washer tank, hydraulic oil, coolant, grease, water, engine oil, fuel)</li> <li>• carry out lubrication</li> <li>• checking of display instrumentation and gauges (indicators, gauges, laser levels), computer systems</li> </ul>

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	<ul style="list-style-type: none"> <li>• inspection of air filter restriction indicator</li> <li>• inspection and checking of cab (horn, lights, air conditioner)</li> <li>• testing of engine and stop engine lights</li> <li>• testing visual and audio warning devices and lights</li> <li>• checking instruments and control lever</li> <li>• reporting of defects and damage</li> </ul>
<b>Park-up and shutdown procedure</b> may include:	<ul style="list-style-type: none"> <li>• secure equipment as required by site procedures</li> <li>• render attachments safe</li> <li>• clear access ways</li> </ul>
<b>Operating techniques</b> may include:	<ul style="list-style-type: none"> <li>• manoeuvring</li> <li>• braking</li> <li>• blade control and application</li> <li>• ripper control and application</li> <li>• attaching, securing, lifting, carrying and placing materials</li> <li>• driving machines on to floats</li> <li>• towing</li> <li>• observing site speed limits</li> <li>• working safely around: <ul style="list-style-type: none"> <li>◦ overhead powerlines</li> <li>◦ other machines and personnel</li> <li>◦ live stockpiles</li> </ul> </li> </ul>
<b>Changing work conditions</b> may include variations in:	<ul style="list-style-type: none"> <li>• materials,</li> <li>• contamination</li> <li>• traffic conditions</li> <li>• weather conditions</li> <li>• light conditions (including day and night)</li> </ul>
<b>Monitoring systems and alarms</b> may include:	<ul style="list-style-type: none"> <li>• brake air pressure</li> <li>• brake oil temperature</li> <li>• computer indicators</li> <li>• engine oil pressure</li> <li>• fuel filter</li> <li>• parking brake</li> <li>• retarder</li> <li>• service meter</li> <li>• speedometer/odometer</li> <li>• steering filters</li> <li>• tachometer</li> <li>• torque converter</li> <li>• oil temperature</li> <li>• transmission filter</li> <li>• voltmeter</li> <li>• water temperature</li> </ul>
<b>Hazardous and emergency situations</b> may include:	<ul style="list-style-type: none"> <li>• motor vehicle accidents</li> <li>• powerlines and other overhead services</li> <li>• dust and noise</li> <li>• face overhangs</li> <li>• lighting strikes (potential tyre explosion)</li> <li>• tyre fires (isolation procedures)</li> </ul>
<b>Operator service, maintenance and</b>	<ul style="list-style-type: none"> <li>• cleaning,</li> </ul>

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<b>housekeeping</b> tasks are those established and authorised for the site and may include:	<ul style="list-style-type: none"> <li>• authorised servicing and the monitoring,</li> <li>• recording and reporting of faults</li> <li>• conduct of authorised minor replacements</li> <li>• provision of assistance to maintenance personnel during maintenance and repair activities</li> </ul>
<b>Records and reports</b> may include:	<ul style="list-style-type: none"> <li>• fuel usage</li> <li>• computer readings</li> <li>• end of shift documentation</li> <li>• supplies logs</li> <li>• work logs stockpile information</li> <li>• quality information</li> </ul>

<b>EVIDENCE GUIDE</b>	
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 grader operations</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient completion of grader operations</li> <li>• working with others to undertake and complete grader operations that meet all of the required outcomes</li> <li>• consistent timely completion of grader operations 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 English speaking background may have second language issues.</li> <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>	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

<b>EVIDENCE GUIDE</b>	
	<p>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 grader operations</li> </ul> </li> </ul>
<b>Guidance information for assessment</b>	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.