



Australian Government

Department of Education, Employment and Workplace Relations

RIIMPO209A Conduct underground load, haul, dump operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers conducting of load, haul and dump operations in underground metalliferous mines. It includes: planning and preparing for operations; operating load, haul, dump equipment; loading, hauling and dumping materials; cleaning up the job site; and carrying out operator maintenance and housekeeping.

Application of the Unit

Load, haul, dump equipment may include: bogger, load haul dump equipment (LHD), scoop tram, mucking units. This unit is appropriate for those working in a mobile plant operator roles, at 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 and prepare for operations	<ul style="list-style-type: none"> 1.1. Access, interpret and apply <i>compliance documentation</i> relevant to conducting of load, haul and dump operations in underground metalliferous mines 1.2. Receive, interpret and clarify shift changeover details 1.3. Select personal protective equipment appropriate for work activities 1.4. Select appropriate type of auxiliary equipment for work activities 1.5. Perform equipment <i>pre-start checks</i> to ensure equipment is ready for operation 1.6. Identify, address and report <i>potential hazards and risks</i> 1.7. Carry <i>out start-up procedures</i> 1.8. Identify, address and report <i>environmental issues</i> 1.9. Adhere to <i>emergency procedures</i> to ensure safety of personnel, equipment and site 1.10. Inspect and assess site conditions to determine if scaling is required and take action according to site requirements 1.11. Use approved <i>dust suppression and extraction methods</i> 1.12. Ensure area is well ventilated before entry into work area 1.13. Erect safety provisions where appropriate
2. Operate load, haul, dump	<ul style="list-style-type: none"> 2.1. Communicate with other personnel using <i>equipment</i> approved communication methods 2.2. <i>Operate equipment safely</i> within working environment, limitations and road conditions 2.3. Monitor and manage equipment performance using appropriate <i>indicators</i> 2.4. Pass on end of shift information to oncoming shift
3. Load material	<ul style="list-style-type: none"> 3.1. Wash down surrounding area and wet <i>material</i> to suppress dust

	<p>3.2. Scale down loose material</p> <p>3.3. Check job site and identify and manages possible misfires in accordance with site procedures</p> <p>3.4. Check, identify and remove contaminants</p> <p>3.5. Ensure all hoses and other auxiliary services are neatly stored</p> <p>3.6. Bog to work plan removing required materials</p> <p>3.7. Ensure road is kept clear during bogging</p>
4. Haul material	<p>4.1. Confirm type of material and haul to designated location</p> <p>4.2. Lower bucket in recommended position</p> <p>4.3. Identify and manage spillages on hauling surface</p> <p>4.4. Maintain hauling efficiency by managing working environment conditions</p>
5. Dump materials	<p>5.1. Slow equipment to crawl when approaching dump site lift bucket to appropriate height in readiness for dumping, maintaining stability of loader</p> <p>5.2. Dump material evenly distributing load or as required</p>
6. Clean up job site	<p>6.1. Scale down site ensuring loose materials are dislodged safely</p> <p>6.2. Leave site and surrounding area clear, safe and accessible</p>
7. Carry out operator maintenance	<p>7.1. Carry out shutdown procedures</p> <p>7.2. Service and make minor adjustments to equipment</p>
8. Carry out housekeeping activities	<p>8.1. Clean equipment to maintain condition of equipment and ensure safe and efficient operations</p> <p>8.2. Clean and store auxiliary service equipment</p> <p>8.3. Manage and/or report hazards to maintain a safe working environment</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 load, haul, dump operations in underground metalliferous mines:

- apply legislative, organisation and site requirements and procedures
- apply auxiliary equipment operating, maintenance and cleaning procedures
- apply hazard identification procedures
- apply vehicle directing procedures
- apply driving techniques
- interpret ground conditions
- apply operations monitoring procedures
- apply pushing techniques
- apply vehicle refuelling 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 load, haul, dump operations in underground metalliferous mines:

- dumping procedures
- vertical opening procedures
- backfilling procedures
- emergency procedures
- environmental procedures
- inspection procedures
- explosive/misfire awareness
- site isolation procedures
- equipment parking
- equipment processes, technical capability and limitations
- hauling procedures
- levelling
- manufacturer's specifications
- material placement procedures
- operational procedures and checks
- primary and secondary ventilation
- road rules

- start-up and shut down procedures
- towing procedures
- underground procedure

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.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<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"> • knowledge of the requirements, procedures and instructions for conducting of load, haul, dump operations in underground metalliferous mines • implementation of requirements, procedures and techniques for the safe, effective and efficient conducting of load, haul, dump operations in underground metalliferous mines • working with others to undertake and complete load, haul, dump operations in underground metalliferous mines that meet all of the required outcomes • consistent timely completion of load, haul, dump operations in underground metalliferous mines that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	<ul style="list-style-type: none"> • 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. • 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. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.

	<ul style="list-style-type: none"> • Aboriginal people and other people from a non English speaking background may have second language issues. • 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. • 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.
Method of assessment	<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"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and complete load, haul, dump operations in underground metalliferous mines
Guidance information for assessment	<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.

<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Pre-start checks may include:</p>	<ul style="list-style-type: none"> • air filter restriction indicator • cab condition (e.g. no rags in air conditioner vent, dirt around brake and accelerator pedals, seat and seat belt condition, all gear secured) • cab mounts • capacity of equipment may include: load, fuel, ventilation requirements • combustible material around exhaust • computer systems • correct location of equipment • damage to equipment, portable fire extinguisher (e.g. bracket, gauge, hose, ease of access) • danger tags • display instrumentation and gauges (e.g. indicators, gauges, laser levels) • duration of operation • efficient and safe operating speed • engine and stop engine lights (orange and red) • fire suppression unit (e.g. pins in position in triggers) • fluid leaks (e.g. oil/fuel/water - engine, hydraulic hoses, on ground, transmission) • fluid levels (windscreen washer tank, hydraulic oil, coolant, grease, water, engine oil, fuel, transmission) • grease lines

	<ul style="list-style-type: none"> • light positioning and cleanliness • operating limitations • personal proximity • radio communications • safety mechanisms operational (e.g. horn, operating lights)
Potential hazards and risks may include:	<ul style="list-style-type: none"> • adjoining pit walls • brake failure • break and steering failure • bund and/or wall collapse • communication failure • decline traffic • fatigue • fire • fire on equipment • hydraulic line failure • mount dismount injuries • overhead and adjacent services (power, water, compressed air) • pot holes • road conditions • rocks • spillage • unauthorised personnel • unsafe ground • visibility • tipping hazards • poor ventilation • fumes and gases • unauthorised personnel • unprotected and/or loose edges • chute operations hazards • working near vertical openings
Start-up and shutdown procedures may include:	<ul style="list-style-type: none"> • type of activities performed • tyres and rim condition • vehicle is left secured • vehicle number • visual and audio warning devices and lights • weight and/or load limitations • wheel nuts and studs • windows (e.g. clean, emergency exit tag in place)

Environmental issues may include:	<ul style="list-style-type: none"> • diesel emissions • dust • noise • spills • water
Emergency procedures may include:	<ul style="list-style-type: none"> • clean up • equipment shutdown procedures • evacuation procedures • First Aid • notification of authorities • safety equipment • use of personal protective equipment
Dust suppression and extraction methods may include:	<ul style="list-style-type: none"> • mobile/fixed sprays • screens (e.g. vent doors, vent blinds) • use of water trucks • ventilation bags operational • watering down site
Safe equipment operation may include:	<ul style="list-style-type: none"> • speed limits • mine lighting • site vehicle identification lights • right of way • parking in stockpiles • parking on incline/decline • refuelling procedures • rules at intersections • driving regulations, rules and conventions • towing methods • chute operations • filling
Indicators may include:	<ul style="list-style-type: none"> • air filter restriction indicator • brake air pressure • brake oil temperature • brake oil pressure • computer indicators • engine oil pressure • fire suppression system • fuel filter • loading brake • parking brake • retarder • service meter

	<ul style="list-style-type: none"> • speedometer/odometer • steering filters • tachometer • torque converter oil temperature • transmission filter • voltmeter/ ammeter • water temperature
Materials may include:	<ul style="list-style-type: none"> • gravel • overburden • oxidised waste • rejects • road base • rubbish • sand • sulphide rock fill • tailings
Contaminants may include:	<ul style="list-style-type: none"> • cigarette butts • consumables • ear plugs • explosives • metal bucket teeth • metal or steel rods • old piping • old workings • plastic • timber • wet fill
Bogging may:	<ul style="list-style-type: none"> • be referred to as mucking (loading the bucket of the machine)
Servicing may include:	<ul style="list-style-type: none"> • checking/topping up fluid levels • clean glass (lights, windows etc) • filter changing • head/dash light changing • degreasing/greasing • keeping cab clean • replacing ground engaging tools (bucket teeth) • tightening loose fittings
Equipment cleaning methods may include:	<ul style="list-style-type: none"> • degreasing • rags and cloths • forced air • steam cleaning

	<ul style="list-style-type: none">• water
Site conditions may include:	<ul style="list-style-type: none">• amount of scale• backs• broken ground• dry• face• location of water table• noise• slope of working surface• stability of ground• stable ground (compaction)• ventilation characteristics (fumes, dust)• visibility• walls• wet

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.