



Australian Government

Department of Education, Employment and Workplace Relations

RIIMPO301B Conduct hydraulic excavator operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers conducting hydraulic excavator operations in mining and extractive industries. It includes: planning and preparing for operations, operating the excavator, and carrying out post-operational procedures.

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 compliance documentation relevant to conducting hydraulic excavator operations 1.2. Obtain, interpret and clarify work requirements for the satisfactory completion of operations 1.3. Access, interpret and clarify geological and survey data required to complete the allocated work 1.4. Inspect and prepare work area in coordination with others 1.5. Identify, address and report potential hazards and risks 1.6. Resolve coordination requirements with others at the site prior to commencing and during work activities 1.7. Select personal protective equipment appropriate for work activities 1.8. Evaluate equipment and/or attachments supplied for suitability for the work to be undertaken to maximise efficiency and effectiveness of work activities
2. Operate hydraulic excavator	2.1. Carry out pre-start, start-up, park-up and shutdown procedures 2.2. Walk excavator and position for operation 2.3. Select and modify the operating technique to appropriately meet changing work conditions 2.4. Conduct, control and monitor operations within the equipment limitations 2.5. Act on or report monitoring systems and alarms 2.6. Distribute bulk materials into haul units to ensure maintenance of the stability and maximum load requirements of the haul unit 2.7. Load bulk materials into materials handling equipment 2.8. Side cast bulk materials 2.9. Recognise and respond to hazardous and

	<i>emergency situations</i> 2.10. Complete work in accordance with the agreed plan and outcomes and within the operating capacity of the allocated equipment
3. Carry out post-operational procedures	3.1. Inspect, fault find and report faults 3.2. Carry out <i>operational maintenance and housekeeping tasks</i> 3.3. Process <i>records and reports</i>

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 excavator operations:

- apply legislative, organisation and site requirements and procedures
- apply operational safety requirements
- access, interpret and apply technical information
- apply equipment records maintenance requirements
- apply diagnostic techniques
- use relevant hand tools
- apply procedures for disposal of environmentally sensitive fluids and materials
- apply chemical and fuel safety measures
- work wearing personal protective equipment

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 excavator operations:

- site hazard identification and response procedures
- site risk control procedures
- site and equipment health and safety procedures
- site environmental requirements and constraints
- site quality requirements
- site communication procedures
- site product characteristics
- site geological and survey data
- site operational procedures
- excavator pre-start, start-up, operating and shutdown procedures and techniques
- excavator characteristics, technical capability and limitations
- site record keeping requirements
- site personal protective equipment requirements

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	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: • knowledge of the requirements, procedures and instructions for conducting hydraulic excavator operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of hydraulic excavator operations • working with others to undertake and complete hydraulic excavator operations that meets all of the required outcomes • consistent timely completion of hydraulic excavator operations that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• 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. • 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	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: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • 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: • working with others to undertake and complete hydraulic excavator operations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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.

Relevant compliance documentation may include:	• 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
Work requirements may come from briefings, handovers, and work orders and may include:	• nature and scope of tasks • achievement targets • operational conditions • obtaining permits required • site layout and out of bounds areas • worksite inspection requirements • lighting conditions • plant or equipment defects • hazards and potential hazards • coordination requirements or issues • signage and barricade requirements • keeping floor clean and level
Geological data may include relevant site-specific information in relation to:	• rock type and characteristics • faults and joints • water tables or other water sources
Survey data may include relevant site-specific information in relation to:	• floor heights • bench widths • grades
Inspect and prepare work area may include:	• identification of hazards • selection and implementation of control measures for the hazards identified • safeguarding site and non-site personnel by: • erection of barricades and posting of signs • selection of appropriate equipment to ensure personnel safety and protection

	• determination of appropriate path of movement for loads and equipment/vehicles • floor, pad, roads, ramps and bench clean up to specified levels and grade requirements
Coordination with others may include with:	• yard persons • laboratory personnel • mobile plant operators • processing plant operators • haulage unit operators • maintenance personnel
Potential risks and hazards may include:	• abandoned equipment • adjoining pit walls • adverse weather conditions (electrical storms, floods, fires) • chemicals • contaminants • equipment • fences • holes • materials • over-hanging rocks • personnel • pot holes • unsafe ground • unstable faces • vehicles • overhead and underground services • trees • fires • vehicles • stored energy which may include: • engine components • radiators and cooling systems • hydraulic tanks and reservoirs • air tanks and reservoirs • hydraulic hoses • air hoses • tyres • air conditioning components • electrical components • braking systems

	centrifugal forces
Equipment and/or attachments may include:	- rock breaker - grapples - compactors - magnets - post-hole drills or augers - ripper tynes - buckets
Pre-start and start-up procedures include:	- external check of the machine - checking and topping up fluid levels (including fuel) - lubrication - inspection of attachments to ensure security and defects - instrument and control lever checks - machine function checks, including: - implements - attachments - other attachments - brakes - manoeuvrability - reporting defects and damage
Park-up and shutdown procedures include ensuring that:	- vehicle/equipment is secured as required by site procedures - attachments are rendered safe - access ways are clear
Operating techniques may include:	- bucket loading - equipment positioning - load discharge - observing site speed limits - working safely around: - overhead power lines - other machines and personnel - live stockpiles
Changing work conditions may include variations in:	- grades - height of faces - materials - haulage units - materials handling facilities - weather conditions - day and night

Equipment limitations may include:	• duration of operation • efficient and safe operating speed • operating limitations • type of activities performed • weight and/or load limitations
Monitoring systems and alarms may include:	• brake air pressure • brake oil temperature • computer indicators • engine oil pressure • fuel filter • parking brake • retarder • service meter • speedometer/odometer • steering filters • tachometer • torque converter • oil temperature • transmission filter • voltmeter • water temperature
Materials may include:	• gravel • ore • overburden • oxidised waste • rejects • road base • rubbish • sand • sulphide rock fill • tailings • topsoil • water
Haul units may include:	• off-highway and on-highway vehicles • barges
Materials handling equipment may include:	• feed hoppers • feeders and crushers
Hazardous and emergency situations may include:	• power lines • dust • noise • conveyors

	• overhead services
Emergency responses may include:	• clean up • equipment shutdown procedures • evacuation procedures • First Aid • isolation procedures • notification of authorities • use of personal protective equipment
Operator service, maintenance and housekeeping tasks are those established and authorised for the site and may include:	• lubrication • refuelling • cleaning • authorised servicing • monitoring, recording and reporting of faults • it may also include: • the conduct of authorised minor replacements and • the provision of assistance to maintenance personnel during maintenance and repair activities
Records and reports may include:	• fuel usage • computer readings • end of shift documentation • supplies logs • work logs stockpile information • quality information • despatch details

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.