



Australian Government

Department of Education, Employment and Workplace Relations

RIIHAN307A Operate a vehicle loading crane

Release: 2

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Modification History

Not applicable.

Unit Descriptor

This unit covers the operation of a vehicle loading crane in the resources and infrastructure industries. It includes planning and preparing for crane operations, operating and maintaining the crane, carrying out operator maintenance and cleaning up. The work required in this unit relates to the National Standard for High Risk Work. 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:

- Civil construction
- Coal mining
- Drilling
- 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 crane operations	<p>1.1. Access, interpret and apply <i>compliance documentation</i> relevant to the work activity</p> <p>1.2. Access and interpret <i>work requirements</i> and <i>safety information and procedures</i> prior to the commencement of work activity</p> <p>1.3. Apply safety information and procedures throughout the work</p> <p>1.4. Identify and implement signage and barricade requirements</p> <p>1.5. Identify and select <i>equipment</i> to carry out tasks consistent with work requirements</p> <p>1.6. Inspect selected equipment prior to the commencement of work and rectify or report defects that may affect its safe use</p> <p>1.7. Perform pre-start, start-up, park-up and shutdown procedures and <i>position vehicle</i> in accordance with Australian standards, manufacturer's instructions and site procedures</p> <p>1.8. Calculate quantity of load in accordance with plans, specifications, vehicle limitations and/or rigging requirements</p> <p>1.9. Assemble and dismantle <i>attachments</i> in accordance with Australian standards, manufacturer's instructions and work requirements</p> <p>1.10. Determine and implement <i>no-go zones</i>, confirm work area is clear and identify and control crane operating hazards prior to the commencement of the lift</p> <p>1.11. Identify <i>environmental protection requirements</i> and comply with the relevant statutory/regulatory authorities</p>
2. Operate and maintain a loading crane	<p>2.1. Lift and position loads or personnel using relevant <i>crane controls</i> within manufacturer's specifications</p> <p>2.2. Direct crane operations using recommended <i>load moving signals</i></p> <p>2.3. Monitor load and crane hook movements and locations throughout the transfer</p> <p>2.4. Identify and respond to emergencies in</p>

	<p>accordance with manufacturer's instructions and site procedures</p> <p>2.5. Identify and control <i>crane operating hazards</i> and respond to monitoring systems and alarms in accordance with site instructions</p> <p>2.6. Complete work, shut down crane and return to its lock down position</p>
3. Carry out operator maintenance	<p>3.1. Perform daily/shift vehicle inspections and fault-finding in accordance with manufacturer's instructions, safety information and procedures and work requirements</p> <p>3.2. Perform and record routine <i>operational servicing</i> and report any faults</p> <p>3.3. Process records in accordance with site requirements</p> <p>3.4. Record the results of daily/shift inspections, and report any defects</p>
4. Clean up	<p>4.1. Clear work area and dispose of reused or recycled materials in accordance with legislation/regulations/code of practice and job specification</p> <p>4.2. Clean, check and store plant, tools and equipment in accordance with manufacturer's recommendations and standard work practices</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 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 operate a vehicle loading crane:

- apply legislative, organisation and site requirements and procedures for operating a vehicle loading crane
- apply vehicle loading crane operational safety requirements
- access and interpret technical information relevant to the operation and maintenance of a vehicle loading crane
- calculate volume weights
- maintain equipment records
- manage hand tools
- diagnose problems associated with a vehicle loading crane
- apply environmental constraints and procedures
- dispose of environmentally sensitive fluids and materials

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 operate a vehicle loading crane:

- no-go areas in the vicinity of vehicle loading cranes
- never work under crane booms
- crane hook location and movement
- Australian standards related to loading cranes and lifting
- site and equipment safety requirements
- vehicle equipment characteristics, technical capabilities and limitations associated with loading cranes
- vehicle loading crane and other relevant operational procedures
- vehicle loading crane and other relevant maintenance systems and procedures
- basic geological and survey data knowledge relating to loading cranes
- basic rigging and slinging requirements
- hand and whistle signals related to loading crane operations
- site environmental requirements and constraints
- Hazchem relevant to loading cranes
- quality requirements relating to loading crane operations
- loading crane related plant, tools and equipment types, characteristics, uses and

limitations

- crane preparation and operational techniques
- processes for the calculation of load mass requirements
- materials safety data sheet
- plans, drawings and specifications
- safe handling and storage procedures
- relevant acts, regulations and code of practice
- JSAs/safe work method statements

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 the operation of a vehicle loading crane • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of vehicle loading crane operation • working with others to undertake and complete the operation of a vehicle loading crane that meets all of the required outcomes • consistent timely completion of vehicle crane operations 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. • 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. • 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.

	<ul style="list-style-type: none"> • Customisation of assessment and delivery environment should sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • 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 requirements, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and complete the operation of a vehicle loading crane
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.

Compliance documentation may include:	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Work requirements may include:	<ul style="list-style-type: none"> • plans • specifications • quality requirements • operational details confirmed • coordination of activities with others • shift briefings • handover details • work orders • stable base • hazard control • identification of load • identification and selection of lifting equipment • inspection and certification of lifting equipment • fitting of optional accessories • management of permits and tags
Safety information and procedures may include:	<ul style="list-style-type: none"> • relevant legislation and regulations • relevant Australian standards including Australian standard AS2550 • safety plan • safety and health management system • relevant OHS legislation, code of practice and organisation policy • manufacturer's instructions • safe working procedures

	<ul style="list-style-type: none"> • use of safety equipment • safe handling of hazardous materials and substances • use of fire fighting equipment • organisational First Aid • hazard identification and control measures • operational risk assessment associated with power cables • lighting • earth leakage boxes • trip hazards • dangerous materials • confined spaces • surrounding structures • restricted access barriers • traffic control • working at heights • working in proximity to others • worksite visitors • public • emergency procedures related to equipment such as: <ul style="list-style-type: none"> • emergency shutdown • emergency stopping • extinguishing equipment fires • evacuation from equipment • evacuation from worksite • truck mounted crane movements checked for safe operation • no work takes place under crane boom during crane operation
Equipment may include:	<ul style="list-style-type: none"> • plant suitable for the job • tools suitable for the job • materials suitable for the job • slinging equipment • truck mounted cranes
Position vehicle may include:	<ul style="list-style-type: none"> • stabilise • level • truck for mounted crane is positioned at drop off point • truck for mounted crane is level • truck mounted crane is activated and

	manoeuvred to its operating position from its lock down position
Attachments may include:	<ul style="list-style-type: none"> • tyre manipulation • forks • any other commercially or site produced attachment
No-go zones may include:	<ul style="list-style-type: none"> • around operators control panel • any area where the crane should not be operated or slewed into
Environmental protection requirements may include:	<ul style="list-style-type: none"> • waste management • noise • dust • vibration • clean-up management
Crane controls may include:	<ul style="list-style-type: none"> • boom up • boom down • boom extensions • hoist up • hoist down • manual jib and fly-jib extensions • slew
Load moving signals may include:	<ul style="list-style-type: none"> • verbal • hand signals to Australian standards • whistles/hooters to Australian standards • two-way radio/telephone • light signals to Australian standards
Crane operating hazards may include:	<ul style="list-style-type: none"> • power lines • trees • overhead service lines • bridges • surrounding buildings • obstructions • structures • facilities • other equipment • dangerous material • earthworks • underground services • time of day
Operational servicing may include:	<ul style="list-style-type: none"> • lubrication • housekeeping tasks

	<ul style="list-style-type: none">• site authorised practices• minor maintenance in accordance with manufacturer's instructions and site requirements• inspections
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Unit Sector(s)

Load Handling

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.