



Australian Government

Department of Education, Employment and Workplace Relations

RIIPRO201A Conduct crushing operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of crushing operations in the mining and extractive industries. It includes the planning and preparation for operations; operating the plant; and carrying out post operational procedures.

Application of the Unit

Crushing plants can be fixed, skid, wheeled or track mounted, and electrical or diesel powered. This unit is appropriate for those working in processing 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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1. Access, interpret and apply <i>compliance documentation</i> relevant to the conduct of crushing operations 1.2. Obtain, interpret and clarify <i>work requirements</i> for the satisfactory completion of operations 1.3. Select and use <i>personal protective equipment</i> appropriate for work activities 1.4. Ensure area is well ventilated before entry 1.5. <i>Inspect and prepare work area and equipment in coordination with others</i> 1.6. Prepare a work plan 1.7. Select appropriate type of <i>auxiliary equipment</i> for work activities 1.8. Resolve coordination requirements with others at the site prior to commencing and during work activities
2. Operate the crushing plant	2.1. Carry out <i>pre-start, start-up, run and shutdown procedures</i> 2.2. Select and modify the <i>operating technique</i> to appropriately meet <i>changing work conditions</i> 2.3. Use dust suppression and extraction methods 2.4. Conduct, control and <i>monitor</i> operations within the equipment limitations, maintaining crushing efficiency and effectiveness 2.5. Act on or report performance monitoring systems and alarms 2.6. Recognise and respond to <i>hazardous and emergency situations</i> 2.7. 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, servicing, lubricating and housekeeping</i> tasks

	3.3.Maintain process and pass on records and reports
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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 crushing operations:

- apply legislative, organisation and site requirements and procedures
- apply operational safety requirements
- access, interpret and apply technical information
- applying the plant operating procedures
- apply production and equipment records maintenance requirements
- apply diagnostic techniques
- use relevant hand and power tools
- work wearing personal protective equipment
- apply hazard identification and management requirements and procedures
- complete forms
- apply hazardous goods handling techniques and management
- interpret reports
- use lifting techniques (manual, cranes and loads)
- identify and report defects
- apply procedures for working at heights and depths
- apply work orders/purchase requisition preparation requirements

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 crushing operations:

- site hazard identification and response procedures
- site risk control procedures
- site and equipment health and safety procedures
- site environmental requirements and procedures
- site quality requirements
- site communication procedures
- site product characteristics
- site operational procedures
- plant pre-start, start-up, operating and shutdown procedures and techniques
- plant components functions, characteristics, technical capability and limitations
- plant breakdown procedures
- plant isolation procedures

- site record keeping requirements
- site confine space work procedures
- site personal protective equipment requirements
- contaminant identification
- emergency procedures
- crusher components
- crushing principles
- hazardous goods procedures and consequences of spills
- repair requirements
- mobile equipment operation
- computer basic techniques
- monitoring and control systems
- spillage 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>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</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"> • knowledge of the requirements, procedures and instructions for conducting crushing operations • implementation of requirements, procedures and techniques for the safe, effective and efficient conducting of crushing operations • working with others to undertake and complete crushing operations that meet all of the required outcomes • consistent timely completion of crushing operations that safely, effectively and efficiently meets the required outcomes
<p>Context of and specific resources for assessment</p>	<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. • Aboriginal people and other people from a non English speaking background may have second language issues.

	<ul style="list-style-type: none"> • 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 crushing operations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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. 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>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 • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Work requirements may come from briefings, handovers, and work orders and may include:</p>	<ul style="list-style-type: none"> • product details • nature and scope of tasks • achievement targets • operational conditions • geological data • site survey data • site layout and out of bounds areas • worksite inspection requirements • lighting conditions • plant or equipment defects • hazards and potential hazards • coordination requirements or issues
<p>Personal protective equipment may include:</p>	<ul style="list-style-type: none"> • chemical/gas detectors • eye protection (e.g. glasses) • hearing protection (e.g. ear plugs) • protection from the elements (e.g. sun block) • protective clothing (e.g. gloves, safety boots, helmet, shin guards, long sleeved shirt and trousers)) • respiratory devices • safety harness when working at heights
<p>Inspect and prepare work area may include:</p>	<ul style="list-style-type: none"> • identification of hazards • selection and implementation of control measures for the hazards identified • safeguarding site and non-site personnel by: • erection of barricades, posting of signs and

	<p>following of security procedures</p> <ul style="list-style-type: none"> • selection of appropriate equipment to ensure personnel safety and protection • determination of appropriate path of movement for equipment • floor, pad, access roads, ramps and bench requirements
Coordination with others may include with:	<ul style="list-style-type: none"> • yard persons • laboratory personnel • mobile plant operators • maintenance personnel
Auxiliary equipment may be anything that is portable and mobile that is not part of the fixed infrastructure, and may include:	<ul style="list-style-type: none"> • gantry cranes and attachments • hand and power tools • hoses (water and air) • mobile equipment • flexi pumps • air operated tools • boulder buster
Pre-start and start-up procedures may include:	<ul style="list-style-type: none"> • walk around check of the plant • checking and topping up fluid levels (including fuel) • lubrication • inspection of attachments to ensure security and identify defects • instrument and control lever checks • reporting defects and damage • follow prescribed start-up sequence • confirm plant is operational • checking interlocks • check for tags • cameras and monitors • monitoring and control systems • drive belts • isolations • chutes • conveyor components • pipe and flanges • pumping system • water systems • hydraulic system • lighting • suppression system

	<ul style="list-style-type: none"> • visual and audio warning devices and lights • valves
Shutdown procedures may include:	<ul style="list-style-type: none"> • following prescribed shutdown sequence • securing equipment
Operating techniques may include:	<ul style="list-style-type: none"> • feed control • crusher adjustment • working safely around other machines and personnel
Changing work conditions may include variations in:	<ul style="list-style-type: none"> • rock types • feed grading • feed contamination • weather conditions • day and night
Monitoring may include the checking of:	<ul style="list-style-type: none"> • blockages and spillages • current draw • detecting noises and smells • flow rates • missing components • oil leaks • air flows • pressures • feed rates • wear and tear • contaminants, e.g.: oil, plastic, timber, misfire explosives, metal (e.g. bucket teeth etc)
Hazardous and emergency situations may include:	<ul style="list-style-type: none"> • personal safety (e.g. crush injuries, burns, slips, trips, falls, chemical exposure, fatigue) • plant (e.g. structural damage, emergency shutdown) • environment (e.g. seepage, emissions, chemical spills, pollution, anything detrimental to fauna and flora) • confined spaces • working alone • personal injury • unplanned shutdown • fire • electrical • dust • noise • explosive devices • reagents and their mixing procedures

	(metalliferous mining only)
Operator service, maintenance and housekeeping tasks are those established and authorised for the site and may include:	<ul style="list-style-type: none"> • scheduled servicing • changing wear components • greasing • equipment adjustments • cleaning • disposal of environmentally sensitive fluids and materials • application of chemical and fuel safety measures

Unit Sector(s)

Processing (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.