



Australian Government

Department of Education, Employment and Workplace Relations

RIIUND303A Operate winder for shaft sinking

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the operation of winder for shaft sinking in the resources and infrastructure industries. It includes organising for winder operations, conducting shaft sinking using manual winder, carrying out winder inspections, and conducting end-of-shift activities. 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:

- 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. Organise for winder operations	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Receive, interpret and clarify shift changeover details 1.3. Select personal protective equipment appropriate for work activities 1.4. Perform equipment and work area pre-start checks to ensure equipment is ready for operation 1.5. Check records for outstanding maintenance/inspections and recorded defects to establish the operational status of equipment and if defective take action 1.6. Identify, address and report potential risks and hazards 1.7. Carry out start-up procedures , including checking that area is clear for operations 1.8. Adhere to emergency procedures 1.9. Apply dust suppression and extraction methods 1.10. Ensure control cabin is environmentally and ergonomically sound
2. Conduct shaft sinking using manual winder	2.1. Communicate with relevant personnel 2.2. Confirm kibble is ready for operation 2.3. Energise the system , follow start-up procedures and operate winder to comply with directions from the person in charge 2.4. Monitor and manage winder performance using appropriate indicators 2.5. Adjust speed and movement 2.6. Operate winder (or winders) for shaft sinking operations 2.7. Carry out shutdown procedures
3. Carry out winder inspections	3.1. Isolate and prove isolation of equipment 3.2. Inspect winder and auxiliary equipment and report faults/defects and prepare winder for routine servicing
4. Conduct end-of-shift	4.1. Complete all required documentation 4.2. Pass on end of shift information and hand

	over control to oncoming shift 4.3.Ensure control room is <i>clean</i> and tidy
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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 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 winder for shaft sinking:

- apply legislative, organisation and site requirements and procedures for operation of winder for shaft sinking
- operate sinking winders
- operate and clean equipment
- monitor shaft sinking operations
- communicate and report
- monitor conveyances
- use hand tools

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 winder for shaft sinking:

- the key areas of mining acts and regulations
- the relevant key areas of legislated safety and health requirements pertaining to winding
- winder type and systems and operations
- shaft configuration and construction
- shaft services and installations (pipes, cables, ladders etc)
- possible defects in winder/ equipment/installations
- identification of defects relevant to sinking operations through inspection or observation
- daily/weekly/monthly inspection requirements and maintenance requirements and procedures for winding systems
- trip and fault procedures and abnormal conditions
- site winder access/authorisation procedures
- site winder emergency procedures
- communication system between sinking operations and winder
- recording and logging requirements for winder drivers, and electrical and mechanical maintenance personnel
- equipment processes, technical capability and limitations
- isolation and permit-to work systems and procedures
- primary and secondary ventilation

- shaft ventilation system
- site procedures
- in-shaft communications equipment

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 operation of winder for shaft sinking • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of operation of winder for shaft sinking • working with others to undertake and complete the operation of winder for shaft sinking that meets all of the required outcomes • consistent timely operation of winder for shaft sinking 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. • 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.
<p>Method of assessment</p>	<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 operate winder for shaft sinking
<p>Guidance information for assessment</p>	<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"> • legislation which may include Acts and regulation dealing with: <ul style="list-style-type: none"> • mining safety and health • mine inspection • OHS • explosives • site procedures which may include: <ul style="list-style-type: none"> • clean-up • emergency procedures • equipment shutdown and isolation procedures • evacuation procedures • First Aid • notifying relevant authorities • permit-to-work systems • safety equipment • use of personal protective equipment • communication procedures • portable electric apparatus procedures • fall arrestor and harness procedures • confined spaces • manufacturer's guidelines and specifications • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Equipment may include:</p>	<ul style="list-style-type: none"> • winding engines and head frames • stages • kibble/skip/cage • power supplies and equipment • services • fans/pumps/compressors/super-sucker • shaft doors

	<ul style="list-style-type: none"> • scrolls/tipple • conveyance guide systems • crossheads
Pre-start checks may include:	<ul style="list-style-type: none"> • damage/defects/wear to plant and equipment (includes infrastructure) • computer systems • communications systems • winder controls • protection and emergency devices • fire suppression systems • danger/out of service tags • display instrumentation and gauges (indicators, gauges, laser levels) • lubricant/hydraulic/coolant levels • light positioning and cleanliness • personal proximity to moving plant • ropes • visual and audio warning devices and lights • head frame/sky shaft • shaft brace area
Potential risks and hazards may include:	<ul style="list-style-type: none"> • communication failure • falling objects • explosives • moving equipment • collisions • plant failure • electricity • spillage • hazardous substances • unauthorised personnel • visibility • vibration • noise • explosion • asphyxiation and drowning
Start-up procedures may include:	<ul style="list-style-type: none"> • pre-start inspections, checks and tests • advisory signals indicating impending movement of conveyance • carrying out test winding cycle if required • checking that equipment/system operations are normal
Energise the system may	<ul style="list-style-type: none"> • activate power supply or start diesel

include:	<ul style="list-style-type: none"> motor-generator • running up hydraulic/pneumatic and other auxiliary equipment • check fault indicators
Monitor may include: may include:	<ul style="list-style-type: none"> • duration of operation • efficient and safe operating speed • operating limitations • type of activities performed • weight and/or load limitations
Indicators may include:	<ul style="list-style-type: none"> • computer indicators • personnel cage/skip indicator
Shutdown procedures may include:	<ul style="list-style-type: none"> • de-activating power • shutting down hydraulic/pneumatic and other auxiliary equipment
Auxiliary equipment may include:	<ul style="list-style-type: none"> • emergency power supplies • emergency communications systems • fans and pumps
Clean may include:	<ul style="list-style-type: none"> • degreasing • forced air • steam cleaning • vacuum • water • solvents • rags and cotton waste

Unit Sector(s)

Underground Mining

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.