



Australian Government

RIIUND303E Operate winder for shaft sinking

Release: 1

RIIUND303E Operate winder for shaft sinking

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to operate a manual winder for shaft sinking in coal and metalliferous mining, including energising the system, adjusting speed and movement and monitoring and managing the winder performance.

It applies to those working in operational roles. They generally work under minimal supervision to undertake a broad range of tasks in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Coal mining

Metalliferous mining

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for operating a winder for shaft sinking	1.1 Obtain, interpret, confirm and clarify shift changeover details 1.2 Access, interpret and apply documentation required for operating a winder for shaft sinking 1.3 Select and wear personal protective equipment according to site requirements 1.4 Perform equipment and work area prestart checks according to site requirements 1.5 Check records for outstanding maintenance and inspections and recorded defects and respond according to site requirements

ELEMENT	PERFORMANCE CRITERIA
	1.6 Identify and address potential risks, hazards and environmental issues and implement control measures according to site requirements 1.7 Carry out start-up procedures and confirm area is clear for operations according to site requirements 1.8 Apply dust suppression and extraction methods according to site requirements 1.9 Confirm control cabin meets site requirements
2. Conduct shaft sinking using manual winder	2.1 Communicate with relevant personnel within scope of own role 2.2 Confirm kibble is ready for operation 2.3 Initiate the system, follow start-up procedures and operate winder according manufacturer specifications, site requirements, and directions from person in charge of cage 2.4 Monitor and manage winder performance using appropriate indicators 2.5 Adjust speed and movement as required 2.6 Operate winder/s required for shaft sinking operations according manufacturer specifications and site requirements 2.7 Carry out shutdown procedures according manufacturer specifications and site requirements
3. Carry out winder inspections	3.1 Isolate and prove isolation of equipment according manufacturer specifications and site requirements 3.2 Inspect winder and auxiliary equipment and report faults/defects according to site requirements 3.3 Prepare winder for routine servicing according to manufacturer specifications and site requirements
4. Conduct end-of-shift	4.1 Complete documentation according to site requirements 4.2 Pass on end of shift information and hand over control to oncoming shift according to site requirements 4.3 Confirm control room meets site requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	Calculates basic measurements including mass and dimensions

SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace documentation and legislation
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities
Writing	Completes workplace reports using sector-specific vocabulary, grammatical structures and conventions

Unit Mapping Information

Supersedes and is equivalent to RIIUND303D Operate winder for shaft sinking.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIUND303E Operate winder for shaft sinking

Modification History

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- operate a manual winder for shaft sinking on at least two occasions, including:
 - completing start-up and shutdown procedures
 - applying dust suppression and extraction methods
 - energising the system
 - adjusting speed and movement
 - monitoring and managing the winder performance using indicators
 - isolating and inspecting winder
 - confirming, checking and responding to confirm control cabin meets environmental and ergonomic requirements.

During the above, the candidate must:

- locates and applies relevant legislation, documentation, policies and procedures
- implement the requirements, procedures and techniques for operating winders for shaft sinking, including:
 - selecting and using the required tools and equipment
 - conducting equipment and work area prestart checks
 - identifying, addressing, recording and reporting defects, hazards and risks and environmental issues
 - confirming kibble is ready for operation
- work effectively with others to operate manual winders in a way that meets required outcomes, including:
 - organising work activities to meet task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
 - complying with reporting requirements and procedures

- determining coordination requirements throughout work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key legislation required to operate winders for shaft sinking, including those relating to:
 - mining safety and health
 - mine inspection
 - work health and safety
 - explosives
- key policies, procedures and documentation required to operate winders for shaft sinking
- techniques for operating manual winders, including those for:
 - start-up, including:
 - conducting pre-start inspections, checks and tests
 - setting winding mode
 - checking advisory signals indicating impending movement of conveyance
 - carrying out test-winding-cycle
 - energising the system, including:
 - activating power supply/start diesel motor-generator
 - running up hydraulic/pneumatic and relevant auxiliary equipment
 - checking fault indicators
 - monitoring and managing cage performance, relating to the following:
 - duration of operation
 - efficient and safe operating speed
 - operating limitations
 - type of activities performed
 - weight and/or load limitations
 - shutdown, including:
 - de-activating power/stopping diesel prime mover
 - shutting down motor-generator set/exciters/exhaust and cooling fans/hydraulic drive
 - shutting down hydraulic/pneumatic and relevant auxiliary equipment
 - cleaning
- characteristics, technical capabilities and limitations of winder types, systems, operations and relevant equipment, including:
 - isolation and permit-to work systems and procedures
 - trip and fault procedures and abnormal conditions
 - shaft configuration and construction
 - shaft services and installations, including:

- pipes
- cables
- ladders
- communication system between sinking operations and winder
- shaft ventilation systems
- indicators, including,
 - computer indicators
 - personnel cage/skip operations
- winding engines and head frames
- stages
- kibble/skip/cage
- power supplies and equipment
- services
- fans/pumps/compressors/super-sucker
- shaft doors
- scrolls/tipple
- conveyance guide systems
- crossheads
- techniques for identifying of defects relevant to sinking operations, including through inspection and observation
- techniques for dust suppression and extraction
- techniques for identifying accessing and using in-shaft communications equipment
- principles and techniques for identifying and responding to relevant hazards and emergencies
- site requirements for processing maintenance records and reporting requirements
- techniques for coordinating and communicating job activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - manual winder
 - personal protective equipment
 - equipment required to operate winder for shaft sinking
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should	

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
		be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

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