



Australian Government

RIICTC303D Excavate tunnel by machine

Release: 2

RIICTC303D Excavate tunnel by machine

Modification History

Release	Comment
1	This unit replaces RIICTC303A Excavate tunnel by machine
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to excavate tunnel by machine in Civil Construction.

This unit is appropriate for those working in operational roles.

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.

Unit Sector

Civil construction

Elements and Performance Criteria

1. Plan and prepare to excavate tunnel by machine	1.1 Access, interpret and apply excavate tunnel by machine documentation and ensure the work activity is compliant 1.2 Obtain, interpret, clarify and confirm work instructions before proceeding 1.3 Identify, obtain and implement the traffic signage requirements 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Identify and assess ground conditions from engineers' survey analysis 1.6 Select and check for faults plant, tools and equipment to carry out tasks
---	--

	1.7 Identify, address and report environmental issues, potential hazards and risks 1.8 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
2. Set up for machine operation	2.1 Devise and follow production schedules consistent with job requirements 2.2 Locate and set up machine and equipment 2.3 Carry out pre-start, start-up, park up, shutdown and secure equipment procedures 2.4 Adjust machine and attachments for terrain, rock and ground conditions 2.5 Drive, operate machine and use controls to produce smooth and efficient operation 2.6 Complete operator maintenance and servicing of machine and equipment to schedule
3. Excavate tunnel and control dust and water	3.1 Excavate tunnel to shape required by specification according to laser/line levels and measurements 3.2 Incorporate dust suppression methods with machine cutting operations to control dust 3.3 Operate and maintain dust extraction systems to maximum efficiency during excavation 3.4 Remove excess water by operating pumping or drainage system to maintain minimal surface water levels
4. Control mucking	4.1 Set up and align conveyor/mucking system to spoil system 4.2 Operate mucking attachments safely 4.3 Maintain dust extraction system in operation along conveyor or mucking system 4.4 Remove spoil in accordance with planned operating procedures 4.5 Direct trucks safely to and from mucking area
5. Clean up	5.1 Clear work area and dispose of or recycle materials 5.2 Clean, check, maintain and store plant, tools and equipment 5.3 Carry out housekeeping activities

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIICTC303A Excavate tunnel by machine

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for RIICTC303D Excavate tunnel by machine

Modification History

Release	Comment
1	This unit replaces RIICTC303A Excavate tunnel by machine
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of excavate tunnel by machine including:
 - applying equipment/manual handling techniques
 - selecting and using relevant tools and equipment
 - interpreting engineering drawings
- works effectively with others to undertake and complete the tunnel excavation by machine that meets all of the required outcomes including:
 - organising work activities to meet all task requirements
 - communicating clearly and concisely with others to receive and clarify work instructions
 - using a range of communication techniques and systems such as signage to advise others of work activity and exclusion zone
- demonstrates completion of excavating tunnels by machines that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - completion of a minimum of a twenty (20) lineal metre section of tunnel

Knowledge Evidence

The candidate must demonstrate knowledge of tunnel excavation by machine through:

- applying construction principles

- identifying equipment types, characteristics, technical capabilities and limitations
- complying with project quality requirements
- identifying and using civil construction terminology
- complying with site isolation and traffic control responsibilities and authorities
- complying with safety data sheets and materials handling methods
- being prepared for fire/accident/emergency

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 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 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.
---------------	--

*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 frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

Links

Companion Volume implementation guides are found in VETNet -

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