



Australian Government

RIICTT303E Control micro tunnelling and pipe-jacking operations

Release: 1

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Modification History

This unit replaces RIICTT303D Control micro tunnelling and pipe-jacking. Minor endorseable amendments have been made to Elements, Performance Criteria, Foundation Skills, Performance Evidence and Knowledge Evidence to better reflect current industry practices and clarify training outcomes.

Application

This unit develops the skills and knowledge required to control micro tunnelling and pipe-jacking in civil construction.

It applies to those working in operational roles. They generally work in teams, under supervision and hold some responsibility over controlling micro tunnelling and pipe-jacking operations.

No licensing, legislation or certification requirements apply to this unit at the time of publication.

Unit Sector

Civil construction

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. Prepare for micro tunnelling and pipe-jacking	1.1 Obtain, confirm and apply written and verbal work instructions 1.2 Access, interpret and apply documentation and procedures required for controlling micro tunnelling and pipe-jacking and confirm compliance to the work activity 1.3 Obtain, confirm and apply safety requirements from the site safety plan 1.4 Identify, obtain and implement signage requirements from the project traffic management plan 1.5 Identify and select plant, tools and equipment, check for serviceability and rectify and report any faults as required 1.6 Identify, confirm and apply environmental protection requirements from the project environmental management

ELEMENT	PERFORMANCE CRITERIA
	plan
2. Determine boring requirements	2.1 Determine location, alignment direction, level and grade of bore from drawings and specifications 2.2 Determine bore pathway for underground vertical and horizontal alignment using above and below ground survey instruments 2.3 Conduct visual geological investigation of alignment and determine differing soil types and groundwater conditions
3. Check and prepare equipment	3.1 Select bore head and drilling fluid for strata 3.2 Position and anchor down boring equipment 3.3 Carry out start-up, shutdown and communication procedures 3.4 Inspect equipment controls and functions and report faults as required 3.5 Carry out equipment maintenance tasks to schedule
4. Drive bore hole	4.1 Prepare launch and receiving pits to accommodate bore rig and tools 4.2 Identify and implement trench collapse prevention for launch and receiving pits 4.3 Establish thrust wall according to pipe size and soil characteristics 4.4 Determine traverse line of pilot hole to receiving pit 4.5 Confirm traverse line of pilot hole to receiving pit at specified distances 4.6 Collect and dispose of spoil according to environmental requirements 4.7 Select and attach augers to drilling machine 4.8 Jack through casings and pipes to receiving pit as required 4.9 Monitor equipment operations to site and task requirements
5. Clean up	5.1 Clear work area and dispose of, reuse and recycle materials as required 5.2 Clean, check, perform maintenance on and store plant, tools and equipment and report issues as required or address within scope of own role 5.3 Finalise and process written records according to workplace procedures

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
Reading	Identifies and interprets information from at times complex workplace procedures, documentation, legislation and regulations
Writing	Records simple and routine information relating to work activities

Unit Mapping Information

Supersedes and is equivalent to RIICTT303D Control micro tunnelling and pipe-jacking.

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 RIICTT303E Control micro tunnelling and pipe-jacking operations

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:

- control micro tunnelling and pipe-jacking operations on at least two occasions including at least 50 metres of micro tunnelling and pipe jacking.

During the above, the candidate must:

- locate, apply and retain on site access to documentation, policies and procedures required to control micro tunnelling and pipe-jacking
- implement the requirements, procedures and techniques for controlling micro tunnelling and pipe-jacking operations, including:
 - preparing for boring operations
 - carrying out start-up and shutdown activities
 - completing housekeeping activities
- work with others to conduct micro tunnelling and pipe-jacking tasks that meets required outcomes, including:
 - using a range of communication techniques and equipment to convey information to others
 - maintaining written and verbal reporting requirements and procedures
 - organising work activities to meet task requirements
- identify, obtain, confirm and apply work, safety and signage instructions and requirements.

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:

- civil construction terminology relevant to micro tunnelling and pipe-jacking operations
- engineering drawings, plans and specifications required for controlling micro tunnelling and pipe-jacking operations
- safety data sheets and materials handling methods
- key risks relating to controlling micro tunnelling nad pipe-jacking operations, including those associated with:

- traffic
- live electrical services
- confined spaces
- falls
- locating near other works in progress
- manual handling
- gas
- key policies and procedures, legislation and established requirements for controlling micro tunnelling and pipe-jacking, including those for:
 - site isolation and traffic control
 - workplace health and safety
 - equipment safety
 - confined space entry
 - launch and receiving pits
 - operating and maintaining equipment
 - waste disposal and recycling
 - housekeeping
- key factors affecting work activities described in performance evidence above, including:
 - procedures for drilling fluids
 - equipment types, characteristics, technical capabilities and limitations
 - types of implements, other attachments, anchors and other stabilising equipment
 - categories of horizontal directional drilling
 - procedures for laser control equipment
 - applying manual handling techniques
 - procedures for electronic cable locating devices
 - working in a road reserve
 - soil types
 - groundwater conditions.

Assessment Conditions

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

- include access to:
 - equipment required to control micro tunnelling and pipe-jacking operations
 - personal protective equipment
- be conducted in a safe environment; and,
- be assessed in context of this sector's work environment; and,
- 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,

- 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 sectors 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 competency standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/AQTF 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 a high level of RII training product knowledge
- having an understanding and knowledge of legislations and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence as 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 hold the relevant vocational competencies and have current industry skills directly relevant to the training and assessment being provided and must work alongside a trainer and/or assessor to conduct the assessment. This means the industry subject matter expert should hold the unit being assessed (or an equivalent unit), and must also 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** 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 of competency 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.	

*Guidance on simulated environments has been stipulated in the RII 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.

Links

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