



Australian Government

Department of Education, Employment and Workplace Relations

RIINHB217A Assist horizontal direction drilling

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the assist horizontal directional drilling in resources and infrastructure industries. It includes: planning and preparing for operations; support the horizontal directional drilling process; mixing drilling fluids; and carrying out basic maintenance of tools and equipment.

Application of the Unit

This unit covers horizontal directional drilling such as might be undertaken for long holes or holes under rivers, lagoons etc, or large diameter bores in hard rock or other difficult geology. The directionally drilled hole may subsequently be reamed and have product pipe installed. This unit is appropriate for those working in drillers assistant roles, at worksites within:

- Drilling

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 horizontal directional drilling operations	1.1. Access, interpret and apply compliance documentation relevant to horizontal directional drilling 1.2. Obtain, confirm and apply work instructions for the allocated horizontal directional drilling task 1.3. Identify, manage and report all potential hazards associated with handling, loading, moving, using and storing horizontal directional drilling equipment 1.4. Resolve coordination requirements with others at the site prior to commencing and during horizontal directional drilling work activities 1.5. Apply workplace procedures when loading, unloading, moving and handling equipment and all associated tools and connecting equipment 1.6. Take necessary safety precautions when handling potentially contaminated spoil 1.7. Wear all necessary personal protective equipment and protective clothing 1.8. Assist in the use of locating equipment for locating underground utilities
2. Support the horizontal directional drilling process	2.1. Fit/remove bits/reamers/stabilizers to/from the drill string 2.2. Lay out drill string in readiness for tripping/drilling 2.3. Add/remove drill pipe from the drill string 2.4. Inspect drill pipe, bits, threads and associated equipment for damage 2.5. Observe housekeeping and site safety measures while supporting horizontal directional drilling operations 2.6. Assist in the use of guidance or tracking equipment
3. Mix drilling fluids	3.1. Wear appropriate protective clothing 3.2. Check labels and read and interpret safety information/hazard codes 3.3. Apply correct mixing procedure for the

	<p><i>drilling fluid</i></p> <p>3.4. Carry out storage of drilling mud components and <i>additives</i> safely and according to manufacturer's recommendations</p> <p>3.5. Perform <i>basic tests</i> on the fluid and record/report the results as required</p>
4. Carry out basic maintenance of tools and equipment	<p>4.1. Perform inspections and routine checks on ancillary equipment such as mud pumps, water delivery pumps and mud hoppers</p> <p>4.2. Perform inspections and basic maintenance pipe handling equipment</p> <p>4.3. Observe occupational health and safety procedures in carrying out equipment maintenance</p>

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 assist horizontal directional drilling:

- apply legislative, organisation and site requirements and procedures
- apply techniques for operation of ancillary equipment such as:
 - mud pumps
 - water supply pumps and
 - mud hoppers

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 assist horizontal directional drilling:

- occupational health and safety requirements and procedures
- environmental issues, requirements and procedures
- materials safety data sheets (MSDS)

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 assisting with horizontal directional drilling • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of assisting with horizontal directional drilling • working with others to undertake and complete horizontal directional drilling that meets all of the required outcomes • consistent timely completion of assisting with horizontal directional drilling 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

	<p>English speaking background may have second language issues.</p> <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 horizontal directional drilling
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

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, organisational 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 instructions may come from briefings, handovers, plans and work orders and may be written or verbal, formal or informal and may include:</p>	<ul style="list-style-type: none"> • nature and scope of tasks • specifications • quality of finished works • achievement targets • operational conditions • obtaining of permits required • site layout • out of bounds areas • worksite inspection requirements • lighting conditions • plant or equipment defects • hazards and potential hazards • coordination requirements or issues • contamination control requirements • environmental control requirements • barricade and signage requirements
<p>Hazards may include:</p>	<ul style="list-style-type: none"> • drilling into underground utilities • drilling into asbestos materials either natural or old utilities • release of gases from formation or spoil • spread of contaminants as a result of drilling or cleaning processes • change in the chemistry of contaminants as a result of drilling and recovery of spoil • working in proximity to drilling rig • traffic when working in built up areas

	<ul style="list-style-type: none"> • entanglement in rotating pipes • string makeup and breakout hazards
Coordination requirements may include:	<ul style="list-style-type: none"> • driller operators • maintenance personnel • supervisors • worksite personnel
Pipe/casinghandling equipment may include:	<ul style="list-style-type: none"> • rod clamps (hydraulic) • stilsons • rod carousel • rod box • hydraulic rod handler • rod carousel • break-out wrench • lifting plugs
Personal protective equipment includes:	<ul style="list-style-type: none"> • steel-capped boots and hardhat • gloves • dust mask • eye and hearing protection • general protective and reflective clothing
Underground utilities may include:	<ul style="list-style-type: none"> • electrical power lines (overhead or buried) • gas pipes • water pipes • waste pipes (including stormwater, trade waste and sewerage) • telephone cables
Drilling fluids and additives may include:	<ul style="list-style-type: none"> • Polymers • Bentonite • Water/oil • Soluble oil • Lost circulation material
Basic drilling fluid tests may include:	<ul style="list-style-type: none"> • Viscosity • Mud weight • pH

Unit Sector(s)

Drilling (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.