



Australian Government

Department of Education, Employment and Workplace Relations

RIINHB410A Supervise surface directional drilling operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the supervision of surface directional drilling operations in the coal and metalliferous mining industries. It includes the requirements for planning, preparing for, initiate, monitor, adjust, communicate and report on the execution of surface directional drilling operations.

Application of the Unit

This unit is applicable for those who perform the duties of:

- acting as a technical specialist in surface directional drilling
- acting as a principal's supervisor of surface directional drilling operations
- acting as a contractor's supervisor of sub-contractors carrying out of surface directional drilling operations
- directly supervising a team or teams carrying out surface directional drilling operations.

Directionally drilled holes may subsequently be reamed and have product pipe installed, or it may be for coal seam methane drainage or similar. This could be at worksites within:

- Coal mining
- Drilling
- 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

Elements describe the essential outcomes of a unit of competency.	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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Access, clarify and ensure the application of the specific task information and required outcomes 1.3. Prepare an operational plan which makes best use of the available resources and for the safe effective and efficient conduct of the operations
2. Initiate operations	2.1. Acquire and make available the necessary resources for the safe, effective and efficient conduct of the operations 2.2. Issue clear and timely instructions to team members and others involved, for the safe, effective and efficient conduct of the operations
3. Monitor, adjust, communicate and report on the operations	3.1. Monitor the execution of surface directional drilling 3.2. Initiate adjustments to surface directional drilling practice or operational plan to ensure safe, effective and efficient execution of the operations 3.3. Provide advice to team members to overcome operational problems encountered during the execution of surface directional drilling operations 3.4. Ensure plant equipment and tools maintenance requirements are carried out and recorded 3.5. Ensure reports are completed and submitted 3.6. Recommend changes to improve the safety, efficiency and effectiveness of the execution of surface directional drilling operations.

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 supervise surface directional drilling operations:

- apply legislative, organisation, site and manufacturer's requirements and procedures surface directional drilling
- apply project site geological data, geotechnical data, hydrological data, engineering survey information
- apply project plans, drawings and specifications
- conduct briefings, toolbox and site meeting
- prepare short messages
- prepare and present job reports
- prepare and maintain log books and diaries
- provide leadership
- apply performance monitoring skills, troubleshooting skills and problem solving skills
- calculate the following:
 - volumes
 - grades
 - percentages
 - areas
 - resource consumption figures
- interpret materials properties and test results

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 supervise surface directional drilling operations:

- risk assessment and management requirement and procedures
- statutory compliance requirements and procedures
- OHS requirements and procedures
- environmental management requirements and procedures
- quality management requirements and procedures
- work zone traffic management requirements and procedures
- contract management requirements and procedures
- communication requirements and procedures

- administrative requirements and procedures
- drilling plant and equipment capabilities and application
- plant, equipment and tools maintenance requirements and procedures
- operational techniques
- potential operational problems
- task resource requirements and procedures
- activities scheduling requirements and procedures
- materials delivery requirements and procedures
- job plan drafting and administration requirements and procedures
- workplace relationship requirements and procedures
- organisational, client and site operational requirements
- relationship between various areas of surface mining and directional drilling
- team leadership techniques
- works planning techniques

Evidence Guide

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.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	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: • knowledge of the requirements, procedures and instructions for the supervision of surface directional drilling operations • implementation of appropriate procedures and techniques for the safe, effective and efficient supervision of surface directional drilling operations • working with others to plan, prepare and conduct surface directional drilling operations • provision of clear and timely instruction and supervision by the individual of those involved in surface directional drilling operations • evidence of the consistent successful supervision of surface directional drilling operations
Context of and specific resources for assessment	• 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 English speaking background may have second language issues. • 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. • 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	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: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to plan, prepare and conduct surface directional drilling operations • provision of clear and timely instruction and supervision by the individual of those involved in the conduct of the surface directional drilling operations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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.

Relevant compliance documentation may include:	• 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
Specific task information and required outcomes may include:	• site geological data • site geotechnical data • site hydrological data • site engineering survey data • known and potential site hazards, constraints and conditions • site cultural and heritage information • task specifications • task drawings • coordination requirements • activity scheduling requirements • unit cost requirements • overall task cost requirements • waste management requirements • sources of materials • other organisations and contractors involved in the task or related tasks • coordination, timing and budgeting requirements
Operational plan may include:	• human resource requirements • plant and machinery requirements • materials requirements • sub-contractor support requirements • waste disposal requirements • coordination requirements • activity scheduling

	• materials delivery scheduling • risk assessment and management requirements • OHS requirements • quality management requirements, including testing scheduling requirements • traffic management requirements • environmental requirements • task monitoring requirements • task performance monitoring requirements • communication requirements • reporting requirements
Resources may include:	• labour • plant, equipment and tools • highway haulage vehicles • construction materials • sub-contractor services
Instructions may include:	• briefings • handovers • work orders • toolbox meetings • site meetings
Team members may include:	• other members of the organisations management team • members of the team directly involved in the task • suppliers representatives • sub-contractors representatives • supervisors or managers of other organisations who are involved in related tasks
Monitor may include:	• ongoing risk assessment • engineering survey • sampling and testing • observation and recording • general supervision
Initiate may include:	• written communication • oral communication
Surface directional drilling practice may include:	• installation of standpipes • calibration of survey tools • holes drilling techniques • identification of and responding to operational problems • installation of gas drainage equipment and

	- monitoring of gas drainage - installation and operation of stuffing boxes - equipment maintenance
Operational problems may include:	- changing geological formations, particularly clay, rock or unstable or porous formations - loss of air or water volume or pressure - equipment failure - bogging or parting of rod string - loss of signal from down-hole survey tool - reliability of communications

Unit Sector(s)

Drilling (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.