



Australian Government

Department of Education, Employment and Workplace Relations

NWP330B Establish positions of underground utilities using locating devices

Revision Number: 2

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Modification History

NWP330B Release 2: Layout adjusted. No changes to content.

NWP330B Release 1: Primary release.

Unit Descriptor

This unit of competency describes outcomes required to determine and mark the location and identity of gas, water, electrical, telecommunications and other underground utility services using a range of specialised instruments and asset plans.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff with a specific responsibility for identifying the presence and exact position of utility services prior to commencing work tasks involving excavation.

Licensing/Regulatory Information

Not applicable.

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 required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for locating services.	<p>1.1 Determine work site boundaries and task requirements from plans, specifications and instructions.</p> <p>1.2 Use available <i>information sources</i> for the location of underground <i>services</i> and consider the presence of <i>undocumented services</i>.</p> <p>1.3 Select and check appropriate <i>pipe and cable locating equipment</i>.</p> <p>1.4 Assess <i>hazards</i> associated with underground services and plan preventive measures.</p>
2 Operate pipe and cable locating equipment.	<p>2.1 Mark work site boundaries and set up work-site according to <i>organisational and statutory requirements</i>.</p> <p>2.2 Operate pipe and cable locating equipment according to manufacturer's specifications and guidelines.</p> <p>2.3 Interpret spurious signals or interference with pipe and cable locating equipment and make appropriate compensation.</p> <p>2.4 Identify and remedy malfunctions of locating instruments.</p> <p>2.5 Mark the approximate location of services on the surface of the work site <i>according to organisational and statutory requirements</i>.</p> <p>2.6 Obtain confirmation of services' locations prior to excavation, according to organisational and statutory requirements.</p>
3 Maintain locating equipment.	<p>3.1 Perform daily maintenance of equipment according to organisational and manufacturer's requirements.</p> <p>3.2 Record maintenance details in a logbook according to organisational and manufacturer's requirements.</p>

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- use pipe and cable locating equipment
- interpret policies, procedures and standard operating procedures
- provide maintenance records for equipment
- solve problems
- use basic mathematics for calculation and measurement
- collect data
- analyse data to take remedial action
- produce reports and logs
- use safety and personal protective equipment
- use tools and machinery
- communicate with employees, other service providers and customers
- use communication equipment
- give and receive instructions
- identify hazards

Required knowledge:

- system hydraulics
- system layout
- environmental requirements
- lock out procedures for mechanical and electrical installations
- legal and social consequences of service disruption
- relevant utilities and service bodies
- communication systems
- landscape and ground structure of work area
- risk assessment and the identification of potential hazards
- equipment operation, capacity and limitations
- effects of weather and conditions on site or plant

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The candidate should demonstrate the ability to determine and mark the location and identity of gas, water, electrical, telecommunications and other underground utility services including:

- identifying work site and task requirements
- accessing appropriate sources of information for location of underground services
- assessing the possible presence of undocumented services
- selecting appropriate locating equipment
- assessing the site hazards and take preventive action
- marking out the worksite
- operating utility locating device, including compensation for spurious signals
- identifying and correcting equipment malfunction
- marking and confirming location of utilities
- maintaining equipment on good working order
- completing relevant documentation

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards, and government regulations

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.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- a decision of competence only taken at the point when the assessor has complete confidence in the person's

competence over time and in various contexts

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence
- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge. Questioning will be undertaken in a manner appropriate to the skill levels of the operator, any cultural issues that may affect responses to the questions, and reflecting the requirements of the competency and the work being performed.

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. Add any 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.

Information sources may include:

- Dial before you Dig service
- service search diagrams
- asset owner
- land owner

Services may include:

- electricity
- gas
- fuel and oil
- water
- sewer and stormwater
- telecommunication lines
- pay television
- road traffic control
- power cables
- steam pipes
- relevant surface fittings

Undocumented services may include:

- customer's service from main service
- private street lighting
- private effluent mains

Pipe and cable locating equipment may include:

- equipment suitable for locating pipes such as:
 - vitrified clay
 - reinforced concrete
 - polyvinyl chloride (PVC)
 - polyethylene
 - cast iron cement lined
 - ductile iron cement lined
 - glass reinforced plastic
 - mild steel cement lined
- equipment suitable for locating cables, such as:
 - post tensioning cables
 - earthing cables

Hazards may include:

- contact with live conductors
- injury from high pressure gas stream
- engulfment

Organisational and

- by-laws or organisational policies

statutory requirements may include:

- standard operating procedures
- environment protection
- occupational health and safety, including the use of personal protective equipment
- mines and subsidence
- road signage
- electrical safety
- dangerous goods
- manufacturer's guidelines

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.