



Australian Government

Department of Education, Employment and Workplace Relations

NWP232B Operate water reticulation and distribution system

Revision Number: 2

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Modification History

NWP232B Release 2: Layout adjusted. No changes to content.

NWP232B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to operate and adjust water reticulation and distribution system devices to meet organisational requirements.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field and operational staff with responsibility for ensuring the practical delivery, monitoring and regulation of reticulated water distribution services.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit of competency 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 <i>bold italicised</i> text is used, further information is detailed in 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 Establish system constraints and prepare work site.	1.1 Determine system layout and operational problem areas. 1.2 Plan work required to operate and adjust water reticulation system according to legislative and organisational requirements. 1.3 Select and check equipment and personal protective equipment to meet safety requirements of task and site. 1.4 Identify and locate isolation valves and hydrants and follow standard organisational procedures for their operation.
2 Monitor performance and usage of distribution system devices.	2.1 Identify fluctuations in supply, system changes, community demands and water quality complaints. 2.2 Collect and report data on system performance and usage according to organisational requirements.
3 Regulate flow.	3.1 Inspect flow regulating systems and adjust to meet demand requirements. 3.2 Regulate and divert flows to facilitate repair or emergency activities.
4 Regulate pressure.	4.1 Monitor and adjust pressure to meet optimum delivery. 4.2 Investigate pressure fluctuations and report according to legislative and organisational requirements. 4.3 Document and report reticulation and distribution information according to organisational procedures.

Required Skills and Knowledge

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

Required skills:

- identify and respond to operational problems
- collect data
- produce reports and logs
- use safety equipment and personal protective equipment
- use tools and machinery
- follow plans, charts and instructions
- perform work-related calculations
- work effectively as part of a team
- apply procedures and standards
- communicate with employees and customers
- use communication equipment
- install and operate a stand pipe or fire plug
- record water losses
- give and receive instructions
- communicate effectively with utilities and service bodies
- identify system faults
- identify hazards
- use literacy skills in regard to verbal and written communication in the workplace
- implement remedial action to maintain supply

Required knowledge:

- impact of the principles of hydraulics on the operation of flows
- system layout and performance
- standard operating procedures
- water hammer
- water quality and disinfection requirements
- environmental aspects of operation
- electrical safety for disconnecting and changing meters and fittings
- lock-out procedures for mechanical and electrical installations
- organisational communication systems
- hazardous materials handling
- landscape and ground structure of work area
- risk factors and potential hazards of operating water distribution systems
- conditions for connection to live water mains
- equipment operation, capacity and limitations
- effects of weather and conditions on systems, site or plant
- control systems

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 operate reticulation and distribution systems by:

- identifying conditions of system
- preparing work site
- monitoring system performance and usage
- monitoring and diverting flow
- monitoring and regulating pressure

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 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 and cultural issues that may affect responses to the questions, and will reflect 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.

Water reticulation system may include:

- scours
- chambers
- hydrants
- sluices
- valves
- main taps
- fire services
- service reservoirs

Legislative and organisational requirements may include:

- relevant federal and state or territory legislation and regulations
- codes of practice, associated standards and guidance material
- documented organisational policies, manuals and induction programs
- relevant community planning and development agreements, such as land care agreements

Equipment may include:

- hand and power tools
- lifting equipment
- on- and off-road vehicles
- portable pumps
- communication equipment
- disinfection and sampling equipment
- gas detection equipment
- rescue equipment
- appropriate personal protective equipment

Flow regulating systems will include operation of:

- valving systems, such as:
 - sluice
 - gate
 - blade
 - non-return
 - electronic and manual controlling systems
 - service reservoirs

Pressure fluctuations may be:

- high
- low
- outside acceptable limits

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.