



Australian Government

Department of Education, Employment and Workplace Relations

NWP417B Coordinate and monitor groundwater system usage

Revision Number: 2

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Modification History

NWP417B Release 2: Layout adjusted. No changes to content.

NWP417B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to coordinate and monitor the use of groundwater as a source of water supply ensuring that Ground Water Management Plan (GWMP) performance measures are met, environmental issues are addressed and a source of supply is maintained.

Application of the Unit

This unit supports the attainment of skills and knowledge required for staff with a specific responsibility for ensuring that groundwater system usage complies with the GWMP and that assets and processes comply with organisational and statutory requirements. The level of responsibility may vary according to the size, scope and complexity of the groundwater system.

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 Confirm GWMP performance measures.	1.1 Identify groundwater management requirements. 1.2 Identify <i>stakeholder</i> requirements that impact on the groundwater quality, quantity and conservation. 1.3 Gather <i>historical groundwater information</i> and apply as required. 1.4 Identify water quality and quantity requirements. 1.5 Identify <i>environmental and development factors</i> that impact on groundwater.
2 Monitor and coordinate processes.	2.1 Conduct <i>monitoring and testing programs</i> . 2.2 Monitor groundwater usage and quality according to the GWMP. 2.3 Identify, investigate and report breaches of usage provisions and changes to quality parameters.
3 Monitor performance of assets.	3.1 Monitor assets to ensure performance meets specifications in plan. 3.2 Correctly select, fit and use personal protective equipment. 3.3 Schedule maintenance programs to meet current and potential problems.
4 Report on groundwater system usage.	4.1 Analyse, record and report coordination and monitoring data according to <i>organisational procedures and statutory requirements</i> . 4.2 Identify and investigate current and potential problems. 4.3 Report investigation results and recommendations.

Required Skills and Knowledge

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

Required skills:

- interpret and apply legislation and policies
- coordinate measuring and testing activities
- conduct investigations
- assess environmental impact
- solve operational problems
- produce reports
- calculate flows
- undertake source inspections
- follow standard operating procedures
- communicate with employees and customers
- use communication equipment
- identify control system faults
- use safety equipment and personal protective equipment
- identify potential sources of contamination

Required knowledge:

- relevant legislation
- relevant enterprise policies
- range of appropriate measuring and testing procedures
- investigation procedures
- customer expectations and requirements
- groundwater analysis procedures
- groundwater hydraulics
- environmental legislation
- properties of stored water
- system layout
- control systems
- equipment operation
- relevant utilities and service bodies
- hazardous materials handling
- effects of weather and conditions on bulkwater assets
- principles of soil mechanics
- concrete structure, strengths and deterioration
- construction procedures
- risk management techniques
- occupational health and safety
- organisational and statutory requirements

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 coordinate and monitor groundwater system usage including:

- identifying groundwater management requirements, including water quality and quantity requirements
- identifying stakeholder requirements and environmental and development factors that impact on groundwater
- implementing monitoring and testing programs
- monitoring groundwater usage and quality
- investigating and reporting on breaches
- monitoring assets performance
- scheduling asset maintenance programs
- analysing and reporting asset performance data
- identifying, investigating and reporting current and potential asset problems, including recommendations for action

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 should only be made 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.

Stakeholder may include:

- water consumers
- government
- water authorities
- environmental departments
- general public
- interest groups
- industry
- extractive industry

Historic groundwater information may include:

- relevant geological data
- hydro-geological data
- hydrological information
- previous monitoring studies
- land use studies
- environment management studies

Environmental and development factors may include:

- human interaction
- adsorption
- pollutants
- nutrients
- salinity
- cultural aspects
- land use
- other human activity
- vegetation
- urban growth
- industry growth

Monitoring and testing programs may include:

- resource yield
- testing procedures
- testing medium
- frequency
- quality requirements
- geophysical work
- modelling
- surveys
- water quality
- other variables

Organisational procedures and statutory requirements may include:

- statutory requirements, including:
 - relevant federal legislation
 - relevant state or territory legislation
 - relevant local government by-laws
 - Australian Drinking Water guidelines

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.