



Australian Government

Department of Education, Employment and Workplace Relations

NWP418B Coordinate and monitor bulkwater system operations

Revision Number: 2

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Modification History

NWP418B Release 2: Layout adjusted. No changes to content.

NWP418B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to monitor and coordinate the operation of bulkwater systems and to measure and report on system performance and process quality control.

Application of the Unit

This unit supports the attainment of skills and knowledge required for staff with a specific responsibility for ensuring that bulkwater system operations are coordinated and monitored to ensure compliance with organisational and statutory requirements.

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 performance measures in bulkwater management plan.	1.1 Identify water flow, quality and quantity requirements. 1.2 Identify <i>surveillance</i> requirements. 1.3 Identify <i>stakeholder</i> requirements that impact on system operation. 1.4 Identify performance measures for the resource and operation. 1.5 Identify environmental flows that impact on water flows and quality.
2 Monitor performance of assets.	2.1 Correctly select, fit and use <i>equipment</i> , including personal protective equipment. 2.2 Apply <i>monitoring</i> and testing programs according to <i>organisational and statutory requirements</i> . 2.3 Monitor assets to ensure performance meets specifications in management plan. 2.4 Schedule maintenance programs to meet current and/or potential problems.
3 Coordinate processes.	3.1 Monitor water flows and quality according to plan. 3.2 Coordinate processes to meet plan requirements and targets. 3.3 Take action to optimise system performance.
4 Report outcomes of coordination and monitoring.	4.1 Analyse, record and report coordination and monitoring data according to organisational procedures and statutory requirements. 4.2 Identify and report current and/or potential problems.

Required Skills and Knowledge

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

Required skills:

- solve operational problems
- produce reports and logs
- interpret plans, charts and instructions
- interpret policies, procedures and standards
- communicate with employees and customers
- use communication equipment
- give and receive instructions
- operate computerised equipment
- identify control system faults
- use safety equipment and personal protective equipment
- identify and investigate operational problems
- collect and analyse data
- use communication systems
- control system operations

Required knowledge:

- system hydraulics
- coordination processes
- system layout
- system processes
- environmental aspects of bulkwater systems
- chemical use
- safety procedures
- lock out procedures for mechanical and electrical installations
- policies, procedures and legislation
- relevant utilities and service bodies
- communication systems
- risk factors and potential hazards involved with water pressures and flows
- equipment operation, capacity and limitations
- effects of weather and conditions on operation of supply networks
- pipes and fittings
- pumping and valving systems
- 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 monitor and coordinate the operation of bulkwater systems, including:

- identifying system performance measures, stakeholder requirements and environmental factors that may influence performance
- implementing monitoring and testing programs
- scheduling maintenance
- coordinating and optimising system performance
- collecting and recording data
- producing required reports

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.

Surveillance may apply to:

- earthen walls
- concrete walls
- hydraulic structures
- electrical equipment
- spillways
- outlets
- pipes
- conduits
- foundations
- mechanical equipment (e.g. gates, valves)
- reservoir perimeter
- weirs
- tunnels
- galleries

Stakeholders may include:

- dam owners
- water authorities
- government
- water consumers
- downstream land owners
- meteorological bureau
- local government
- emergency organisations
- police
- land care and water watch groups
- industry

Equipment used may include:

- electronic monitoring and metering systems
- manual chart recording systems
- on- and off-road vehicles
- communication equipment
- personal protective equipment

Monitoring may require:

- interaction and communication with other employees, other authorities and the general public
- visual observation
- implementation of reporting procedures that may also include procedures for the implementation of by-laws,

Organisational and statutory requirements may include:

- organisational policies and statutory requirements
- environmental laws and policies
- by-laws and organisational policies
- Water Acts
- Australian Drinking Water Guidelines
- construction and occupational health and safety regulations
- public safety and disaster plans
- International Commission on Large Dams and Australian National Committee on Large Dams (ANCOLD) guidelines
- state government or state committees
- asset management plan

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.