



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **NWP258B Monitor and operate bulkwater transfer systems**

**Revision Number: 2**

## NWP258B Monitor and operate bulkwater transfer systems

### Modification History

NWP258B Release 2: Layout adjusted. No changes to content.

NWP258B Release 1: Primary release.

### Unit Descriptor

This unit of competency describes the outcomes required to monitor and operate bulkwater transfer systems.

### Application of the Unit

This unit supports the attainment of skills and knowledge required for staff with specific responsibility for ensuring that the operation of bulk water transfer systems complies with legislative and organisational 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
<b>1 Plan and prepare work.</b>	<p>1.1 Determine <i>work requirements</i> for operation and monitoring of <i>bulkwater transfer systems</i> are in line with specifications and instructions.</p> <p>1.2 Perform site check to prevent damage to other utilities and the environment, according to <i>legislative and organisational requirements</i>.</p> <p>1.3 Select and check <i>equipment</i> to meet safety requirements of task and site and select, fit and use personal protective equipment.</p> <p>1.4 Identify pumping stations and follow correct operating procedures.</p>
<b>2 Monitor system performance and usage.</b>	<p>2.1 Conduct routine monitoring programs according to organisational maintenance schedules.</p> <p>2.2 Identify fluctuations in demand and system changes causing dirty water.</p> <p>2.3 Collect, analyse and record data on system performance and usage according to organisational requirements.</p> <p>2.4 Collect and record water samples according to organisational requirements.</p>
<b>3 Regulate flow.</b>	<p>3.1 Monitor and <i>adjust flow regulating systems</i> to meet demand requirements, according to organisational procedures.</p> <p>3.2 <i>Regulate</i> and divert flows to facilitate repair or emergency activities.</p> <p>3.3 Conduct isolation and inspection of transfer systems.</p>
<b>4 Regulate pressure.</b>	<p>4.1 Monitor and adjust pressure to meet optimum delivery performance, according to organisational procedures.</p> <p>4.2 Investigate and report <i>pressure fluctuations</i> according to organisational requirements.</p>

## Required Skills and Knowledge

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

### Required skills:

- operate bulkwater systems
- identify and respond to operational problems
- collect data
- produce reports and logs
- use safety and personal protective equipment
- use tools and machinery
- follow plans, charts, specifications and instructions
- perform work-related calculations
- apply procedures and standards
- communicate with employees and customers
- work effectively as part of a team
- use communication equipment
- give and receive instructions
- identify system faults
- use literacy skills in regard to verbal and written communication in the workplace
- identify hazards

### Required knowledge:

- system hydraulics basics
- system layout
- environmental aspects of operation
- lock-out procedures for mechanical and electrical installations
- relevant utilities and service bodies
- communication systems
- hazardous materials handling
- landscape and ground structure of work area
- risk factors and potential hazards of operating water transfer systems
- equipment operation, capacity and limitations
- effects of weather and conditions on systems, site or plant
- pumps
- weirs
- valves
- flow meters
- run time meters
- diurnal variations
- wet and dry pumpwells
- illegal connections
- control systems

- disinfection of systems and chemical usage

## 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 operate bulkwater transfer systems by:

- planning and preparing for work
- monitoring transfer system performance
- collecting and recording data
- regulating water flow
- regulating water 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 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 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.

***Work requirements*** may include:

- work site boundaries
- extent and scope of work
- risk assessment and preventative measures
- utility location

***Bulkwater transfer systems*** may include:

- in-line pumping stations
- high and low range pumps
- incline meters
- scour chambers and air valves
- service reservoirs
- pipes, including:
  - polyvinyl chloride (PVC)
  - polyethylene
  - mild steel cement lined
  - ductile iron cement lined
  - cast iron cement lined
  - asbestos cement
  - copper
  - glass reinforced piping
- structures, including:
  - pumping stations
  - meter pits
  - person access chambers or pits
  - valve chambers
  - regulators
  - erosion barriers
  - head walls
  - thrust blocks

***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** used may include:

- hand and power tools
- lifting equipment
- metering equipment
- sluices
- control devices
- on- and off-road vehicles
- portable pumps
- communication equipment
- breathing apparatus
- gas detection equipment
- rescue equipment
- appropriate personal protective equipment

**Adjustment of flow regulation systems** may include:

- use of rating tables to determine:
  - release rates
  - valve positions

**Regulation** of the system will include operation of:

- pumping systems, including:
  - centrifugal
  - submersible
  - positive displacement
- valving systems, including:
  - sluice
  - gate
  - blade
  - non-return
  - electronic and manual controlling systems
- service reservoirs

**Pressure fluctuations** may include:

- high
- low
- outside acceptable limits

## Unit Sector(s)

Not applicable.

## Competency field

Collection and distribution.