



Australian Government

Department of Education, Employment and Workplace Relations

NWP244B Maintain and repair bulkwater assets

Revision Number: 2

NWP244B Maintain and repair bulkwater assets

Modification History

NWP244B Release 2: Layout adjusted. No changes to content.
NWP244B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to maintain and repair bulkwater assets, including planning and preparing for work, conducting maintenance and repair work and cleaning, flushing and disinfecting as appropriate.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff with responsibility for ensuring that maintenance and repair work on bulkwater assets is completed in a safe and timely manner.

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 <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.
---	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for maintenance.	1.1 Determine work requirements for the maintenance and repair of assets from work drawings, plans, specifications and instructions. 1.2 Select and check equipment and tools required to meet safety requirements of task and site. 1.3 Select, fit and use personal protective equipment.
2 Maintain and repair assets, pipes and fittings.	2.1 Repair or replace leakages and damaged assets according to organisational procedures. 2.2 Check and clean pipes and fittings before use. 2.3 Select fittings and tools and lay and/or join assets according to manufacturer guidelines and legislative and organisational requirements. 2.4 Conduct preventative maintenance according to organisational maintenance programs. 2.5 Perform cleaning, flushing and disinfection according to organisational requirements. 2.6 Check work to ensure that specifications have been met.
3 Finalise work.	3.1 Check, maintain and store equipment, tools and materials according to manufacturer guidelines and organisational procedures. 3.2 Restore work site to meet environmental and organisational requirements. 3.3 Complete workplace records and process them as required.

Required Skills and Knowledge

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

Required skills:

- maintain appropriate assets
- dewater and clean system and structures
- maintain surface protection
- record work activities
- identify and respond to operational problems
- use communication systems
- follow plans and instructions
- follow policies and procedures
- use safety equipment and personal protective equipment
- use tools and machinery
- perform calculations
- work effectively as part of a team
- identify hazards
- give and receive instructions
- use literacy skills in regard to verbal and written communication in the workplace
- communicate with customers and other employees

Required knowledge:

- risk factors and potential hazards involved in maintenance of bulkwater asset processes
- component parts
- standard operating procedures for maintenance activities
- system hydraulics basics
- system layout
- environmental aspects of operation and maintenance
- lock-out procedures for mechanical and electrical installations
- relevant utilities and service bodies
- communication systems
- landscape and ground structure of work area
- control systems
- OHS procedures
- personal work site safety
- disinfection procedures in line with legislative and organisational 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 conduct maintenance and repair work on bulkwater assets by:

- planning and preparing the work site
- performing maintenance and repair tasks according to manufacturer specifications and organisational requirements
- conducting cleaning, flushing and disinfection as required
- checking work, restoring work site, storing equipment and completing 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 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.

Assets may include:

- bulkwater pipes, including:
 - reinforced concrete
 - polyvinyl chloride (PVC)
 - polyethylene
 - cast iron cement lined
 - ductile iron cement lined
 - glass reinforced piping
 - mild steel cement lined
- structures, including:
 - meter pits
 - valve pits
 - regulators
 - person access chambers and pits
 - head walls
 - thrust blocks
 - large mains
 - flow recorder

Equipment and tools may include:

- hand and power tools
- lifting and winching equipment
- mechanical excavation equipment
- pneumatic and motorised equipment, including:
 - compressors
 - pneumatic spades and attachments
 - motorised cutting equipment
 - on- and off-road vehicles
 - portable pumps
- communication equipment
- breathing apparatus
- gas detection equipment
- rescue equipment
- appropriate personal protective equipment

Fittings may include:

- jointing systems for pipe types, e.g. gibault
- tension bands
- compression ring joints

Legislative and organisational requirements may include:

- bolted flanges
- dismantling joints
- cathodic protection
- electrofusion
- welded joints
- 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

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.