



Australian Government

Department of Education, Employment and Workplace Relations

NWP245B Maintain tanks and water storage assets

Revision Number: 2

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Modification History

NWP245B Release 2: Layout adjusted. No changes to content.
NWP245B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to maintain and repair tanks and water storage assets, including reservoirs, balancing storages, sand dams and ring dams.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff with specific responsibility for ensuring that maintenance and repair of tanks and water storage assets are 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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for work.	1.1 Determine work requirements for maintenance and repair of tanks and water storage assets from specifications and instructions. 1.2 Plan work according to job requirements using relevant plans, drawings, standards and technical data. 1.3 Check coordination issues with relevant personnel, including isolations and permits to work. 1.4 Identify, check and prepare materials, equipment and resources required to satisfy job plan according to legislative and organisational requirements. 1.5 Select, fit and use personal protective equipment.
2 Clean and maintain water tanks and water storage assets.	2.1 Monitor, operate and tag flow-regulating devices to isolate tanks according to organisational requirements. 2.2 Use safety equipment and follow safety procedures for entry into storages. 2.3 Carry out de-silting processes and clean and flush assets according to organisational requirements. 2.4 Repair minor structural damage to storage assets and tanks and identify and report major faults according to organisational procedures. 2.5 Check and operate flow-regulating devices to return tank to service. 2.6 Check maintenance and repairs to tanks and water storage assets to ensure specifications are met. 2.7 Check level sensing equipment and alarms to ensure effective operation.
3 Review, report and record 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 Maintain workplace records as required.

Required Skills and Knowledge

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

Required skills:

- maintain structures, fittings and assets
- conduct earthworks
- identify and respond to operational problems
- produce reports and logs
- use safety and personal protective equipment
- use tools and equipment
- follow plans and instructions
- perform work-related calculations
- apply procedures and standards
- communicate with employees and customers
- work effectively as part of a team
- use communication systems
- 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 maintenance
- lock-out procedures for mechanical and electrical installations
- relevant utilities and service bodies
- communication systems
- hazardous materials handling
- material safety data sheets (MSDS)
- landscape and ground structure of work area
- risk factors and potential hazards of maintenance processes
- equipment operation, capacity and limitations
- control systems
- pipes and fittings
- 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 perform maintenance and repair work on tanks and water storage assets by:

- planning and preparing work site
- performing maintenance and repair tasks according to manufacturer specifications and organisational requirements
- 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
- the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice
- 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
- types of tanks and assets to be maintained or repaired
- methods to be used
- risk assessment and preventative measures

Tanks and water storage assets may include:

- pipes
- valves
- controlling equipment of polyvinyl chloride (PVC)
- polyethylene
- mild steel cement lined
- ductile iron cement lined
- cast iron cement lined
- asbestos cement
- copper
- glass reinforced piping
- structures, including:
 - meter pits
 - person access chambers or pits
 - valve chambers
 - regulators
 - erosion barriers
 - head walls
 - thrust blocks
 - fittings, including:
 - hydrants
 - sluices
 - scours
 - main taps
- jointing systems for pipe types, e.g. gibault
- tapping bands
- tension bands
- solvent cement joints
- compression ring joints
- bolted flanges
- electrofusion

Equipment used may include:

- welded
- cathodic protection
- 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
- 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

Legislative and organisational requirements may include:

Unit Sector(s)

Not applicable.

Competency field

Collection and distribution.