



Australian Government

Department of Education, Employment and Workplace Relations

NWP241B Inspect and maintain basic dams and water storages

Revision Number: 2

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Modification History

NWP241B Release 2: Layout adjusted. No changes to content.

NWP241B Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to undertake basic inspection of dams and water storages and to conduct routine maintenance according to organisational maintenance plans and manufacturer specifications.

Application of the Unit

This unit supports the attainment of skills and knowledge required for field staff with specific responsibility for undertaking basic surveillance and conducting routine maintenance on dams and storages, including urban reservoirs and large wastewater lagoons.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit of competency 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 Undertake basic dam or storage inspection.	1.1 Select, fit and use safety equipment, including personal protective equipment. 1.2 Carry out <i>routine inspections</i> of dams and <i>storages</i> according to organisational procedures. 1.3 Read and record monitoring devices and flow recording and measurement systems. 1.4 Identify assets and structural components requiring routine maintenance or repairs.
2 Undertake routine maintenance of dam or storage equipment and structures.	2.1 Select and check equipment and materials required for maintenance and repair tasks. 2.2 Carry out <i>routine maintenance</i> according to organisational requirements. 2.3 Operate <i>basic flow control, measuring, surveillance and ancillary devices</i> as part of routine checks.
3 Report basic dam or storage inspection and routine maintenance.	3.1 Communicate abnormal observations and potentially serious maintenance issues with line management. 3.2 Complete dam inspection reports and routine maintenance reports and forward to relevant personnel.

Required Skills and Knowledge

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

Required skills:

- undertake visual inspections
- undertake routine maintenance of plant, equipment and structures
- exercise valves
- perform work-related calculations
- measure and record seepage flow
- operate controls and ancillary equipment according to standard operating procedures
- operate communications equipment
- produce reports or logs
- follow policies, procedures and standards
- use safety and personal protective equipment
- adjust mechanical and electrical systems
- identify control system faults
- communicate with other employees
- use literacy skills in regard to verbal and written communication in the workplace
- work effectively as part of a team

Required knowledge:

- visual and electronic inspection procedures
- equipment operation, capacity and limitations
- system layout
- risk factors and potential hazards of surface water systems
- routine maintenance procedures
- communication and reporting 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 undertake basic inspection of dams and water storages and to conduct routine maintenance including:

- conducting routine inspections of dams and storages according to organisational requirements
- taking readings from specified devices
- identifying and reporting repair and maintenance requirements
- conducting routine basic maintenance according to organisational maintenance plans
- completing inspection and maintenance 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 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 only taken at the point 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.

Routine inspections may include:

- visual observation of changes to assets, including:
 - cracking
 - movement
 - debris
 - concrete erosion
 - flaking of paint or coatings
 - corrosion of materials
- electronic inspection

Storages may include:

- urban water storages
- urban reservoirs
- large wastewater lagoons

Routine maintenance may include:

- greasing or oiling plant and equipment
- exercising valves
- checking pressures and position indicators

Basic flow control, measuring, surveillance and ancillary devices may include:

- auxiliary power plants and auxiliary drives
- electronic catchment surveillance
- monitoring and measuring systems
- recording systems
- small marine craft
- manual and electrical hydraulic systems
- flow control and adjustment equipment
- pumping systems, including:
 - submersible
 - centrifugal
- valving systems, including:
 - sluice
 - blade
 - gate
 - non-return
 - pressure reducing
- manually and electronically operated floodgates
- spillways

Unit Sector(s)

Not applicable.

Competency field

Dam safety.