



Australian Government

NWPSOU024 Inspect and report on concrete dam safety

Release: 1

NWPSOU024 Inspect and report on concrete dam safety

Modification History

Release	Comments
1	This unit was released in NWP Water Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to NWP327A Inspect and report on concrete dam safety. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to plan, implement and report on concrete and masonry around dam safety inspection. This requires the operator to conduct routine visual inspections, to capture and report dam condition and faults in dams. Dam safety operators should be aware of the damage potential of the dam and be able to recognise and report deficiencies, or adverse trends that could lead to failure.

This unit applies to those working as operators with responsibility for the inspection of concrete dams and reporting of faults or trends.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work under indirect supervision while performing routine tasks in a limited range of familiar contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Source

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Plan and prepare concrete dam inspection	1.1 Identify and apply the relevant organisational procedures and proformas relating to concrete dam safety inspection. 1.2 Identify features and applications of concrete dam types to be inspected. 1.3 Identify concrete dam behaviour under a range of conditions. 1.4 Assess information from checklists and previous inspection reports. 1.5 Schedule activities and equipment for concrete dam inspection according to workplace requirements.
2. Inspect and assess the condition of components of concrete dams	2.1 Implement concrete dam inspection procedures and practices including for unusual events. 2.2 Inspect and assess the condition and performance of identified areas and features of the concrete dam. 2.3 Recognise, record and assess any faults and changes in the condition of the concrete dam and its structures.
3. Report the condition of the components of the concrete dams	3.1 Compare observations with previous inspection reports. 3.2 Collect and record evidence to establish the extent of changes in conditions. 3.3 Prepare and submit inspection reports. 3.4 Report significant changes and deviations with recommendations for follow up action.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Learning NA					Reading					Writing					Oral communication					Numeracy				

Performance variables:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Support					Context					Text complexity					Task complexity				

Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Unit Mapping Information

This unit supersedes and is equivalent to NWP327A Inspect and report on concrete dam safety.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Assessment Requirements for NWPSOU024 Inspect and report on concrete dam safety

Modification History

Release	Comments
1	These Assessment Requirements were released in NWP Water Training Package release 1.0 and meet the Standards for Training Packages. • Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- planning and organising work schedules and responses to contingencies
- communicating with engineering professionals, team members and the public on concrete dam safety using clear and direct communication and identifying and confirming monitoring requirements
- recording and reporting information and interpreting a range of workplace documents
- making mathematical calculations to collect and process data from dam inspections
- identifying concrete dam faults and failure indicators
- assessing the importance and urgency of deficiencies
- collecting and processing concrete dam observation information
- reading and interpreting plans, drawings and charts
- producing inspection reports
- identifying safety hazards and implementing safety protocols
- using digital photography and equipment for determining location
- interpreting and applying relevant organisational and regulatory information and requirements to the planning of safety monitoring activities
- identifying inspection features and scheduling activities according to the required frequency
- conducting concrete dam inspection activities
- gathering and recording data
- identifying faults, changes and failure indicators
- reporting on inspection and monitoring outcomes, with recommendations for action

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- concrete dam types, elements, and failure modes
- historic information and lessons from previous concrete dam incidents
- properties of stored water
- concrete dam design and construction principles, including:
 - materials science
 - hydraulics
 - aging of concrete
 - concrete technology
 - treatment of foundations, grouting and drainage systems
 - post tensioning principles
 - principles of gravity action
 - principles of arch action
 - principles of buttress action
 - principles of roller compacted concrete
- uplift pressures and drainage systems
- concrete dam faults and change indicators
- dam performance history
- principles of concrete dam inspection
- work health and safety and personal work site safety in procedures and worksite specific requirements
- organisational policies, procedures, guidelines and requirements relevant to the work site and dam safety monitoring

Assessment Conditions

Competency should be assessed in an actual workplace or in a simulated environment, with access to equipment and infrastructure appropriate to the outcome. Competency should be demonstrated over time to ensure the candidate is assessed across a variety of situations.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>