



Australian Government

NWPSOU025 Inspect and report on embankment dam safety

Release: 1

NWPSOU025 Inspect and report on embankment 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 NWP328A Inspect and report on embankment 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 embankment on dam safety inspection. This requires the operator to conduct routine visual inspection and capture and report dam condition and faults, in dams constructed primarily from earth and rock materials. 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 with responsibility for the inspection of embankment 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 supervision while performing routine tasks in 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 embankment dam inspection	1.1 Identify and apply organisational requirements relating to embankment dam safety inspection. 1.2 Identify features of embankment dam types and their applications to the dams to be inspected. 1.3 Identify embankment dam behaviour under a range of conditions. 1.4 Gather and validate checklists and previous inspection reports. 1.5 Schedule activities for embankment dam inspection.
2. Inspect and assess the condition of components of embankment dams	2.1 Implement embankment dam inspection procedures and practices including for unusual events. 2.2 Inspect and assess the condition and performance of identified areas and features of embankment dams. 2.3 Recognise, record and assess any faults and changes in the condition of the embankment dam and its appurtenant structures.
3. Report the condition of the components of embankment dams	3.1 Identify the purpose and audience of dam safety reports. 3.2 Collect and record measurements and evidence to establish the extent of changes in conditions. 3.3 Prepare and submit reports to meet organisational requirements.

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 NWP328A Inspect and report on embankment dam safety.

Links

Companion Volume implementation guides are found in VETNet -

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

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Assessment Requirements for NWPSOU025 Inspect and report on embankment 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.

- following instructions, standard operating procedures, policies and standards for embankment dam safety
- planning and organising work schedules and responses to contingencies
- communicating with engineering professionals, team members and the public on dam safety using clear and direct communication
- making mathematical calculations to collect and process data from dam inspections
- identifying embankment dam faults and failure indicators
- assessing the importance and urgency of deficiencies
- applying safety hazards protocols
- using digital photography and locational equipment
- reporting on embankment dam safety inspection
- interpreting and applying relevant organisational and regulatory information and requirements to the planning of inspection activities
- identifying inspection features and scheduling activities according to the required frequency
- conducting embankment 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.

- embankment dam types including:
 - concrete faced rock fill dams
 - elements, zones
 - risks and failure modes
- historic information and lessons from previous embankment dam incidents
- potential earthquake effects and damage
- properties of stored water
- embankment dam design and construction principles, including basic understanding of:
 - materials science (in particular soil and rock properties)
 - hydraulics and erosion by water
 - principles of filters, piping and embankment stability
 - treatment of foundations, grouting and drainage system
 - pore pressures
 - causes of cracks and settlement
 - dam performance history
 - principles of embankment dam inspection
- WHS and personal work site safety relevant to worksite and working with dams including working in confined spaces
- 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.

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