



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **UEPOPS345B Implement dam safety surveillance procedures**

**Release: 1**

## UEPOPS345B Implement dam safety surveillance procedures

### Modification History

Not applicable.

### Unit Descriptor

#### Unit Descriptor

#### 1) Scope:

##### 1.1) Descriptor

This unit deals with the skills and knowledge required for the scheduling, implementation and reporting of dam safety surveillance.

### Application of the Unit

#### Application of the Unit 2)

This unit is intended to augment formally acquired competencies. Work in this unit is typically carried out under broad or limited guidance

### Licensing/Regulatory Information

#### License to practice 3)

The skills and knowledge described in this unit do not require a licence to practise in the workplace. However, practice in this unit is subject to regulations directly related to Occupational Health and Safety.

### Pre-Requisites

#### Prerequisite Unit(s) 4)

#### Competencies 4.1)

Granting of competency in this unit shall be made only

**Prerequisite Unit(s) 4)**

after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must have been completed.

There are no pre-requisite units.

**Literacy and numeracy skills 4.2)**

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following levels. A description of what each level entails is provided in Section 2.3.1 Language, Literacy and Numeracy.

Reading 3      Writing 3      Numeracy 3

**Employability Skills Information****Employability Skills 5)**

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

**Elements and Performance Criteria Pre-Content**

**6)** Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element.  
Assessment of performance is to be consistent with the Evidence Guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and Prepare for dam surveillance	1.1 Occupational Health and Safety standards, statutory requirements, relevant Australian standards, codes of practice, manufacturers' specifications, environmental requirements and enterprise procedures are identified, applied and monitored throughout the work procedure.
	1.2 Resources required to satisfy the work plan are identified and obtained in accordance with enterprise procedures.
	1.3 Coordination requirements are resolved with others involved, affected or required by the work.
	1.4 International and national guidelines for dam surveillance together with appropriate regulatory requirements are interpreted and adopted.
	1.5 Monitoring frequency and sites for dam surveillance are determined in accordance with site requirements.
	1.6 Instrument requirements and data collection methods are identified in accordance with enterprise/site procedures.
2 Implement Dam Safety Surveillance	2.1 Dam safety surveillance procedures are implemented in accordance with enterprise procedures.
	2.2 Data from instruments and personnel is collected and processed in accordance with enterprise procedures.
	2.3 Test and measurement instruments are used in accordance with manufacturers' instructions and site requirements.
	2.4 Abnormal conditions/defects are identified and reported to the appropriate personnel in accordance with enterprise/site requirements.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>				
3 Complete Safety Surveillance Reports	<table><tr><td data-bbox="549 309 592 347">3.1</td><td data-bbox="668 309 1283 421">Calibration of instruments checked after each use in accordance with manufacturers' specification and site requirements.</td></tr><tr><td data-bbox="549 454 592 492">3.2</td><td data-bbox="668 454 1283 564">Dam surveillance reporting and documentation is undertaken in accordance with enterprise/statutory and site procedures.</td></tr></table>	3.1	Calibration of instruments checked after each use in accordance with manufacturers' specification and site requirements.	3.2	Dam surveillance reporting and documentation is undertaken in accordance with enterprise/statutory and site procedures.
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## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

Evidence shall show that knowledge has been acquired of implementing dam safety surveillance procedures for a permit to work.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

The extent of the Essential Knowledge and Associated Skills required follows:

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Evidence shall show that knowledge has been acquired for safe working practices of:

T1 Relevant environmental, occupational health and safety legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers manuals

T4 Introduction to and typical arrangements of hydro power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Relevant state and territory regulations

T7 Dam, types and characteristics

T8 Properties of stored water

T9 Dam design principles

T10 Materials science, e.g. corrosion, paint coating

T11 Relevant utilities

T12 Principles of hydraulics

T13 Principles of soil mechanics

T14 Concrete structure, strengths and deterioration

T15 Construction procedures; safe dam operating procedures

T16 Principles of dam surveillance

T17 Risk management techniques

T18 Maintenance practices

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Specific skills needed to achieve the Performance Criteria:

T1 Interpret plant drawings and manufacturers manuals

T2 Apply relevant state and territory regulations

T3 Analysis

T4 Data processing

T5 Communication

T6 Use of equipment and instruments

T7 Interpretation of plans and charts

T8 Production of reports

T9 Inspection skills

T10 Operation of instruments.

# Evidence Guide

## EVIDENCE GUIDE

**9)** This provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria and the Range Statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

### Overview of Assessment

#### 9.1)

Longitude competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment. Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects  
of evidence  
required to  
demonstrate  
competency in  
this unit**     9.2)

Before the critical aspects of evidence are considered all pre-requisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the “Assessment Guidelines – UEP12”. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and Range Statement
  - Apply sustainable energy principles and practices as specified in the Performance Criteria and Range Statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in 6) Essential Knowledge and Associated Skills of this unit
  - Demonstrate an appropriate level of employability skills
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated performance across a representative range of contexts from the prescribed items below:
  - Knowledge and application of relevant sections of: Occupational Health and Safety legislation; Statutory legislation; Enterprise/site safety procedures; Enterprise/site emergency procedures
  - Preparation and planning of work
  - Implementation of surveillance procedures
  - Actions taken in response to findings
  - Care of test/recording equipment
  - Data collection methods
  - Enterprise documentation procedures
  - Dealing with an unplanned event by drawing on essential



knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

**Context of and specific resources for assessment**      **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

Competency Standards should be assessed in the workplace or simulated workplace and under the normal range of workplace conditions.

Assessment of this unit will be supported with documentary evidence, by means of endorsement stating type and application of work.

In addition to the resources listed above in Context of assessment', evidence should show competency working, in limited spaces, with different types of plant and equipment as well as different structural/construction types and methods and in a variety of environments.

**Method of assessment**      **9.4)**

This unit shall be assessed by methods given in Section 1.3.00 Assessment Guidelines.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

**Concurrent  
assessment and  
relationship with  
other units**

**9.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

Nil

## Range Statement

### RANGE STATEMENT

**10)** This relates to the unit of competency as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

Surveillance sites may include earthen walls; concrete walls; hydraulic structures; electrical equipment; spillways; outlets; pipes; conduits; foundations; mechanical equipment (gates/valves); reservoir perimeter; weirs; tunnels/galleries.

Historical information may include past surveillance reports; observation and associated comments/reports; original design plans; design modifications; construction records and reports; survey information.

Data recorded and utilised may include but is not limited to current and past monitoring records; flood information; seismic details; previous safety reviews; geological/foundation investigation reports; hydrological reports; past remedial works; past incidents; past surveillance reports; inspection reports; original design plans; design modifications; construction records and reports; O and M performance data.

Instruments may include simple manual devices through to complex computer controlled systems.

Inspections may include interaction and communication with employees/general public; visual observation; use of electronic and/or computer equipment; operational preparedness checks; specialist inspections.

Organisational and statutory requirements may include environmental laws and policies; by-laws or organisational policy; water acts; construction and Occupational Health and Safety regulations; public safety and disaster plans; ICOLD and ANCOLD guidelines; state government or state committees; asset management plan.

Stakeholders may include dam owners; water authorities; government; water consumers; downstream land owners; meteorological bureau; local government; emergency organisations; police; land care/water watch groups; industry.

Generic terms are used throughout this Training Package for vocational standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms are given in Section 2.1 Preliminary Information and Glossaries.

## Unit Sector(s)

Not applicable.

## Competency Field

### Competency Field

**11)**

Operations

