



Australian Government

Department of Education, Employment and Workplace Relations

UEPOPS327B Monitor and maintain civil assets

Release: 1

UEPOPS327B Monitor and maintain civil assets

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit deals with the skills and knowledge required to monitor and conduct remedial maintenance required to ensure the integrity of civil assets encountered within the hydro-electric generating system.

Application of the Unit

Application of the Unit 2)

This unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

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 and where applicable contracts of training such as apprenticeships.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting of competency in this unit shall be made only 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 be 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 the Work | 1.1 Occupational Health and Safety standards, statutory requirements, relevant Australian standards, codes of practice, manufacturer specifications, environmental requirements and enterprise procedures are identified, applied and monitored throughout the work procedure. |
| | 1.2 Work requirements are identified from request/works orders or equivalent and clarified/confirmed with appropriate parties or by site inspection. |
| | 1.3 Resources required to satisfy the work are identified, obtained and inspected for compliance in accordance with enterprise procedures. |
| | 1.4 Potential hazards are identified and prevention and/or control measures are selected in accordance with the work plan and site procedures. |
| | 1.5 Work is planned in detail including sequencing and prioritising and considerations made, where appropriate, for maintenance of plant security and capacity in accordance with system/site requirements |
| | 1.6 Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work |
| 2 Monitor Civil assets | 2.1 Monitoring frequencies of assets are determined in accordance with enterprise/site requirements. |
| | 2.2 Check lists are maintained in accordance with enterprise/site requirements. |
| | 2.3 Deficiencies and/or unusual events/conditions are reported to appropriate personnel in accordance with enterprise/site requirements. |

| ELEMENT | PERFORMANCE CRITERIA |
|-------------------------|--|
| 3 Maintain Civil assets | 3.1 Maintenance of civil assets is undertaken in accordance with site requirements and local conditions. |
| | 3.2 Appropriate tools, equipment or plant required to maintain assets is utilised in accordance with manufacturer specifications and job requirements. |
| 4 Complete the work | 4.1 Work is completed and appropriate personnel notified in accordance with enterprise/site requirements. |
| | 4.2 Work area is cleared of waste, cleaned, restored and secured in accordance with enterprise/site requirements |
| | 4.3 Tools and equipment are maintained in accordance with manufacturer specifications and enterprise/site procedures. |
| | 4.4 Work completion details are finalised in accordance with enterprise/site procedures. |

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 monitoring and maintaining civil assets.

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 hydroelectric generation plant

T5 Headgate, tailgate, intake, penstock, tunnels and tail races, types and characteristics

T6 Dam, types and characteristics

T7 Principles of hydro electric generation

T8 General layout of work site and associated assets

T9 Relevant monitoring and maintenance procedures and techniques

T10 Lifting equipment and techniques, surface preparation and treatment techniques

T11 Communication equipment and operating procedures.

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Specific skills needed to achieve the Performance Criteria:

T1 Interpret plant drawings and manufacturers manuals

T2 Apply monitoring and maintenance procedures

T3 Identify and select equipment and materials for the job

T4 Use and portable power tools

T5 Use relevant lifting and load shifting equipment

T6 Perform equipment user maintenance

T7 Store and maintain tools and equipment

T8 Communicate effectively.

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 in what detail) 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 of planning of work
 - Monitoring of civil assets.
 - Maintenance of civil assets.
 - Completion of work 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.

Civil assets may include dams, canals/flumes, tail race, intake structures, outlet structures, regulating structures, pen stocks, pipelines, syphons, rising mains, tunnels, pumping stations, access roads, fencing, other relevant buildings.

Safety standards may include relevant sections of Occupational Health and Safety legislation, enterprise safety rules, relevant state and federal legislation, local by-laws, environmental requirements, relevant licensing requirements for tools and mobile plant.

Communications may be by means of telephone, fax, two-way radio, dedicated computer equipment, logs, verbal.

Appropriate personnel to consult, give or receive direction may include power plant operator/system controllers or equivalent, technical and engineering officers or equivalent, maintenance staff, other authorities, contractors, general public.

Tools and equipment may include lifting equipment, cranes, hoists, mobile plant, four wheel drive vehicles, earth moving equipment, trash rakes, power tools, chainsaws, boats, hand tools, fire suppression equipment.

Extreme and varied weather conditions may be encountered, including snow, freezing rain, high winds and flooding.

Work completion details may include enterprise recording procedures (electronic or hard copy).

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.