



Australian Government

Department of Education, Employment and Workplace Relations

UEPOPS356B Apply environmental and sustainable energy procedures

Release: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit deals with the skills and knowledge required for the implementation of environmental procedures to demonstrate duty of care and to identify assess and control environmental risks and the impact of work related activities. It includes a commitment to the principles of sustainable energy.

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

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 Relate environmental procedures to the specific work/site	1.1 Environmental procedures are identified and examined
	1.2 Environmental procedures are related to the specific work(s)/site(s)
2 Implement environmental procedures	2.1 Relevant environmental procedures are applied to specific work(s)/site(s)
	2.2 Environmental risks and impacts are identified
	2.3 Environmental risks and impacts are assessed
	2.4 Environmental risks and impacts are controlled and monitored throughout the work
	2.5 Environmental incidents are dealt with and emergency procedures/contingencies are applied
	2.6 Work is conducted in accordance with the principles of sustainable energy and energy conservation.
	2.7 Provision for the re-cycling or re-use of materials is undertaken where possible
	2.8 Environmental incidents are reported and recorded according to established procedures
3 Application of environmental procedures is reported and reviewed	3.1 Reporting procedures for environmental processes are monitored with respect to a specific work(s)/site(s)
	3.2 Environmental risks, potential impacts and incidents are monitored and reported according to established procedures
	3.3 Participation and contribution into reviews of environmental procedures is carried out

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Evidence must show that knowledge has been acquired of safe working practices and environmental and sustainable energy practices.

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

KS01-PO356B Environmental and sustainable energy practices

Evidence shall show an understanding of how to implement environmental procedures, to demonstrate a duty of care and to assess and control environmental and control environmental risks and the impact of work related activities, to an extent indicated by the following aspects:

T1 Environmental fundamentals:

- Environmental standards, codes, environmental legislation, supply authority regulations and/or enterprise requirements applicable to the control of environment associated with the worksite encompassing:
 - Relevant Federal legislation
 - Relevant State/Territory legislation
 - Relevant local government by-laws
 - Relevant government or quasi-government policies and regulations
 - Relevant community planning and development agreements
- [N.B. Examples include land care agreements.]
 - AS/NZS ISO 14001 Standard
- Employer and employee responsibilities,
- Methods of obtaining information on environmental issues and updates,
- Methods of identifying environmental impacts from work related activities,
- Meaning of environmental terms encompassing:
 - Identification, assessment and control of risks
 - Compliance
 - Best practice
 - Sustainable Energy
 - Renewable Energy
- Environmental operating licence for electricity generation plant,
- List the penalties for environmental breaches,
- Authorities to be notified in the event of an environmental incident.

T2 Sustainable energy principles

- Notions of sustainable energy
- Solar energy
- Wind energy
- Tidal and wave energy

REQUIRED SKILLS AND KNOWLEDGE

- Biomass energy
- Hydro-electric energy
- Geothermal energy
- Non-renewable energy

T3 Environmentally sustainable work practice

- Notion of sustainable work practice
- Effects of neglecting sustainable work practice
- The greenhouse effect – causes, consequences
- International and national greenhouse imperatives
- The role of regulators and similar bodies
- Economic benefits of sustainable initiatives
- Techniques for reducing carbon-produced energy and hence greenhouse gases:
 - Domestic, commercial and industrial strategies
 - Trade related technologies and methods
 - Energy efficient retrofits (overview)
 - Renewable energy technologies (overview)

T4 Pollution control

- Air pollution
- Water pollution
- Soil pollution
- Noise pollution
- Greenhouse gases
 - CO₂
 - Methane
 - NO_x
 - Sulphur Hexafluoride (SF₆)
- Oxides of sulphur
- Environmentally hazardous chemicals used around electricity generating plants.
- Technology used to reduce gas emissions
- Cooling towers
 - Controlling Legionnaire's disease (Legionellosis bacterium)

T5 Waste management

- Types of waste associated with electricity generation plants:
 - Fly Ash
 - Sludge and slurry
 - Oil
 - Dust
 - Heat

REQUIRED SKILLS AND KNOWLEDGE

- Steam
- EMF radiation
- Asbestos
- Sulphur Hexafluoride (SF₆)
- Halon fire suppressant gas
- CFC refrigerant gases
- Classification of wastes
- Waste management standards
- Waste disposal methods.

T6 Environmental Management Systems (EMS)

- Principles of environmental management systems
- Models of environmental management systems (including specific enterprise models)
- Enterprise documentation and record keeping associated with EMS

T7 Vegetation management

- Protected and threatened species of flora
- Heritage listed vegetation
- Noxious weeds
- Pesticides and herbicides
- Bushfire management
- Erosion control

T8 Heritage protection

- Built environment
- Indigenous sites
- Culturally and historically significant sites
- Environmentally sensitive sites

T9 Recycling and re-use

- Uses of fly ash by-product

T10 Water management

- Dams and catchments
- Floodplains and wetlands
- Drainage sites
- Ponds

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, polices and workplace procedures
- Demonstrated performance across a representative range of contexts from the prescribed items below:
 - Knowledge and application of relevant sections of; Environmental Legislative requirements; Environmental Statutory legislation; Enterprise/site Environmental and Sustainable energy principles and practice
 - Apply environmental risk assessment process
 - Implement, monitor and review environmental procedures during the currency of the work
 - 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.

All work is performed in accordance with relevant enterprise safe working practices/established procedures and environmental requirements, manufacturer's specifications, codes of practice, statutory requirements, Australian Standards and Occupational Health and Safety standards.

Specific work(s)/site(s) may include, but is not limited to buildings; plants construction and maintenance sites; workshops; laboratories; dams; catchments; flood plains irrigation sites; wetlands; drainage sites; waste disposal sites

Environmental risks may include impact of mismanagement of chemicals; impact of mismanagement of biological agents; detrimental impact on limited water resources; spillage; waste disposal; detrimental impact on water catchment areas (urban and non-urban); detrimental impact on rivers, waterways and channels; unsatisfactory trade waste treatment and disposal processes; poor construction processes; planning deficiencies; neglect of sustainable energy principles

Environmental legislation may include relevant federal legislation; relevant State/Territory legislation; relevant local government by-laws; relevant government or quasi government policies and regulations; relevant community planning and development agreements (e.g. land care agreements)

Incidents of environmental impact may include emissions to air; releases to/of water; releases to land; vibration and noise; disposal of waste; contamination of land; impact on communities; reduction of biodiversity; destruction of habitat; use of energy sources; waste generation processes and technologies; impact on culturally significant sites; and may involve the implementation of emergency responses

Environmental management documentation may include information on applicable environmental laws or other requirements; complaint records; training records; process information; process operational log books; inspection, maintenance and calibration records; relevant contractor and supplier information; incident reports; information on emergency preparedness and response; records of significant environmental impacts and compliance records.

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.