



Australian Government

UEPMNT369A Monitor climatic conditions for renewable electricity generation

Release: 1

UEPMNT369A Monitor climatic conditions for renewable electricity generation

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit deals with the skills and knowledge required to monitor weather and climate conditions for purposes of planning electricity generation from renewable sources and ensuring safety of plant and personnel.

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 and the like.

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 have been completed.

Unit Code	Unit Title
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace

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
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Employability Skills Information

Employability Skills 5)

This unit contains Employability Skills.

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 Interpret weather and climate information	1.1 Weather and climate information and warnings are regularly monitored to determine likely conditions.
	1.2 Potential variations in weather and climate conditions are anticipated and assessed according to warnings, weather patterns and historical experience.
	1.3 Possible impacts of weather and climate on plant, equipment, grid demand, and civil assets are identified.
2 Plan for adverse or extreme weather conditions	2.1 Enterprise operational guidelines and Employee Enterprise Agreements for adverse weather conditions are accessed.
	2.2 Possible outages and actions to be taken are discussed with key stakeholders and customers
3 Take action in response to adverse or extreme weather conditions	3.1 Work schedules are adjusted to take account of planning for extreme weather events.
	3.2 Workplace actions and required procedures to be followed during and after extreme weather event are analysed and discussed with other site personnel and team members
	3.3 External assets in the perimeter area of the wind turbine generator are prepared for extreme weather event(s).
	3.4 Emergency and evacuation procedures are executed as a result of the expected adverse

ELEMENT**PERFORMANCE CRITERIA**

weather conditions

- 3.4 Stakeholders and key personnel are informed of the anticipated impacts of weather and climate on plant, equipment, grid demand and civil assets.
- 3.5 Meteorological incidents and rates during extreme weather events are monitored and required preventative action taken.
- 3.6 Normal operations are only recommenced after confirmation of return to normal weather conditions.

4 Complete
documentation

- 4.1 Enterprise documentation is updated 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.

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

KS01-PM369A Monitor climatic conditions for renewable energy production

Evidence shall show that knowledge has been acquired of monitoring and maintaining wind farm civil assets to the extent indicated by the following aspects:

- T1. Basic knowledge of meteorology
 - Lightning and storms
 - Wind speed and direction
 - Atmospheric pressure
- T2. Sources of meteorological information
 - Bureau of meteorology
 - On-site weather measuring technology
 - Proprietary sources of meteorological data
- T3. Weather safety alert systems
 - SMS alerts
 - Internet alerts
- T4. Enterprise documentation and procedures relating to operations and management of renewable electricity generation plant and equipment during extreme weather events
- T5. Lightning protection systems
 - Generator protection
 - Lightning rods and conductors
- T6. Post-weather event damage inspections
- T7. National energy market pricing

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this 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)

Longitudinal 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-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 accordance with industry and regulatory policy.

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. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday 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, Section 3.1 of this Training Package.

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

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated:

- On at least two (2) occasions. In accordance with the "Assessment Guidelines" for the UEP12 Training Package.

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; and
 - Apply sustainable energy principles and practices as specified in the Performance Criteria and range; and
 - Demonstrate an understanding of the required skills and knowledge as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
 - Demonstrate an appropriate level of employability skills; and
 - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and

Demonstrated performance across a representative range of contexts from the prescribed items below:

- | | |
|------------------------|--|
| A All of the following | <ul style="list-style-type: none"> • Access Bureau of Meteorology data • Access local weather data from on-site monitoring systems |
| B All of the following | <ul style="list-style-type: none"> • Wind speed • Wind direction • Atmospheric pressure |

- | | | |
|---|----------------------|---|
| | | <ul style="list-style-type: none">• Lightning strike geographical data |
| C | All of the following | <ul style="list-style-type: none">• Enterprise documentation regarding dealing with adverse weather effects |
| D | All of the following | <ul style="list-style-type: none">• Deal with an unplanned event by drawing on essential knowledge and skills to provide appropriate solutions. |

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.

These should be used in the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to:

Monitor climatic conditions for renewable electricity generation

Method of assessment **9.4)**

This unit shall be assessed by methods given in the Assessment Guidelines, Section 1.3 of this Training Package.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this competency standard unit applies. This requires assessment 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)

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

UEPMNT446 Coordinate maintenance on a wind farm
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Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit 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.

Adverse weather conditions include:

- High wind
- Lightning events
- Extreme hot or cold
- High precipitation
- Cyclonic events

Meteorological data includes:

- Wind speed
- Atmospheric pressure
- Precipitation (rain, hail or snow)
- Lightning strikes
- Weather forecasts

Documentation includes:

- Enterprise procedures applicable to extreme weather events
- Employee industrial agreements
- Wind farm management plans
- Emergency evacuation procedures applicable to extreme weather events

Safety alerts and warnings

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in the Glossaries, Section 2.1 of this Training Package.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Maintenance

