



**Australian Government**

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

# **UEENEEE016B Write specifications for electrotechnology projects**

**Release: 1**

## **UEENEEE016B Write specifications for electrotechnology projects**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit Descriptor**

**1)**

##### **1.1) Descriptor**

This unit covers developing requirements to be incorporated into the writing of specifications for electrotechnology projects. It encompasses determining the safety requirements to be met, establishing client expectations, ensuring cost effective solutions are pursued and documenting design and technical requirements.

### **Application of the Unit**

#### **Application of the Unit 4)**

This unit is intended for competency development entry-level employment based programs incorporated in approved contracts of training. It is intended to apply to any formal recognition for this standard at the aligned AQF 5 level or higher.

## Licensing/Regulatory Information

### 1.2) License to practice

The skills and knowledge described in this unit do not require a license to practice 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)** 2)

### 2.1) Competencies

There are no prerequisite competencies for this unit.

## Employability Skills Information

**Employability Skills** 3)

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 unit of competency

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 Prepare specification requirements.	1.1 OHS processes and procedures for a given work area are identified, obtained and understood.
	1.2 Established techniques for specification writing are reviewed and adopted in accordance with organisation policies.
	1.3 The scope of the specification is established using a formal evaluation/survey processes.
	1.4 Criteria from other related works impacting on the specification are determined from other relevant documentation, site visits and/or discussion with appropriate person(s).
2 Write specification.	2.1 Specification is developed to include scenarios/requirements established in consultation with appropriate person(s), and regulatory requirements.
	2.2 Specification is developed in collaboration with all relevant design professionals and contractors involved in the project.
	2.3 Competent persons required for the project are identified and their roles specified in the specification.
	2.4 Specification is reviewed against all inputs and adjusted to rectify any anomalies.
	2.5 Specification is developed in accordance with organisation policies and procedures.
3 Approval of specification is obtained.	3.1 Specification is presented and discussed with person(s) of higher authority.
	3.2 Alterations to the specification resulting from the discussion are negotiated with person(s) of higher authority within the constraints of organisation policy.
	3.3 Specification is finalised and approval obtained from appropriate person(s).

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

Evidence shall show that knowledge has been acquired of safe working practices and writing specifications for electrotechnology projects.

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 (EKAS) required is given in Volume 2 - Part 2.2 EKAS. It forms an integral part of this unit.

- 2.2.6 Enterprise quality management systems, basics
- 2.2.7 Enterprise purchasing system
- 2.2.10 Job costing techniques
- 2.2.11.2 Specification development
- 2.2.15 Risk management, application and techniques
- 2.2.18 Critical path and project analysis
- 2.2.19 Customer/client relations
- 2.2.20 Computer use basics
- 2.2.25 Research concepts
- 2.18.8.2 Occupational Health and Safety, enterprise responsibilities

## Evidence Guide

### EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the 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

## EVIDENCE GUIDE

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 prerequisites must 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 - UEE07'. 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 this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Write specifications for electrotechnology projects as described in 8) and including:
    - A Establishing the scope and parameters of the specification.
    - B Determining the impact of other related works.
    - C Developing the specification incorporating scenarios and all requirements.

## EVIDENCE GUIDE

- D Identifying competencies required for the specifications.
- E Writing specifications.
- F Negotiating alterations to the proposed specification successfully.
- G Obtaining approval of the final specification.
- H Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a 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 in this unit.

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

Note:

Where simulation is considered a suitable strategy for assessment, conditions for assessment 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 writing specifications for electrotechnology projects.



## EVIDENCE GUIDE

### Method of assessment

#### 9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 '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 concurrent assessment recommendations for this unit.

## Range Statement

### RANGE STATEMENT

8) This relates to the 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.

This unit shall be demonstrated in relation to developing requirements to be incorporated into the writing of specifications for electrotechnology projects with the following attributes:

- safety requirements met
- client expectations established
- cost effective solutions pursued and assured
- design and technical requirements documentation

Developing requirements to be incorporated into the writing of specifications for electrotechnology projects shall be demonstrated in any of the following electrotechnology disciplines:

- Automation technologies
- Computers
- Data Communications
- Electrical
- Electrical Machines
- Electronics
- Fire protection
- Instrumentation
- Refrigeration and Air Conditioning
- Renewable/sustainable energy
- Security technology

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 Volume 2, Part 2.1.

## Unit Sector(s)

Not Applicable

## Competency Field

### 2.2) Literacy and numeracy skills

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading	5	Writing	5	Numeracy	5
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## Custom Content Section

Competency Field            5)

Electrotechnology