



Australian Government

UEENEEG170A Plan large electrical projects

Release: 2

UEENEEG170A Plan large electrical projects

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers development and documentation of large electrical project proposals, milestones and completions. The unit encompasses, establishing budgets, critical path analysis, development of workflow strategies, documenting, presenting and negotiating budgets and timelines.

Application of the Unit

Application of the Unit 2)

This unit is intended for competency development entry-level employment based programs incorporated in approved contracts of training. It applies to any formal recognition for this standard at the aligned AQF 6 level or higher.

Licensing/Regulatory Information

License to practice 3)

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) 4)

Competencies 4.1)

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE1 01A Apply Occupational Health and Safety regulations, codes and practices in the workplace

Literacy and numeracy skills 4.2)

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

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 Prepare to plan project.	1.1 OHS processes and procedures for a given work area are identified, obtained and understood.
	1.2 Established techniques for project planning are reviewed and adopted in accordance with organisation's policies.
	1.3 The extent of the project is established from design brief, specification and/or other relevant documentation and from discussions with appropriate person(s).
2 Develop project plan proposal.	2.1 Estimated plant, material, labour and other costs are sought and obtained from appropriate person(s) in accordance with organisation's policies and procedures.
	2.2 Project budget is established from estimated plant, material, labour and other costs in accordance with organisation's policies and procedures.
	2.3 Knowledge of critical path analysis is applied to developing workflow strategies.
	2.4 Sources and availability of materials and human resources needed for the project are established in accordance with organisation's policies and procedures.
	2.5 Risk management strategies are sought and obtained for incorporating in the project plan.
	2.6 Project plan is reviewed against all inputs and adjusted to rectify any anomalies.

ELEMENT	PERFORMANCE CRITERIA
	2.7 Project plan proposal is documented in accordance with organisation's policies and procedures.
3 Obtain approval for project plan.	3.1 Project plan is presented and discussed with person(s) of higher authority.
	3.2 Alterations to the project plan resulting from the presentation/discussion are negotiated with person(s) of higher authority within the constraints of organisation's policy.
	3.3 Final project plan is documented and approval obtained from appropriate person(s).

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 safe working practices and planning large electrical projects.

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

KS01-EG170A

Electrical project planning

Evidence shall show an understanding of planning projects and analyzing progress to an extent indicated by the following aspects:

T1 Project planning encompassing:

T2 Purpose of project planning Evidence shall show an understanding of managing electrical projects to an extent indicated by the following aspects:

T3 Defining project parameters encompassing:

- Project scope
- Project stakeholders and clients
- Project phases and the relationship between phases
- Time requirements and limitations
- Resource requirements and limitations
- Quality requirements and limitations

T4 Time management concepts and standard practices

T5 Financial management encompassing:

- Financial management concepts
- Standard practices for managing project finances
- Project budgets
- Costs
- variations and estimations
- Invoicing against project phases/deliverables
- Acquittals and the like

T6 Quality management concepts and practices

T7 Human Resource management concepts and practices within a project

T8 Communication management concepts and practices within a project

T9 Risk management and contingencies encompassing:

- Risk management concepts
- Internal risks
- External risks

REQUIRED SKILLS AND KNOWLEDGE

- Contingencies
- Standard practices for managing risk within a project
- Risk minimisation
- Risk removal; and the like

T10 Procurement management concepts and practices

T11 Physical Resource management concepts and practices relating to equipment, technology, information and facilities

T12 Contracts encompassing:

- Contract format
- Contract content
- Interpreting contract clauses
- Legal obligations of contract parties
- Working to contract specifications
- Documentation accompanying contracts such as schedules and the like

T13 Performance assessment and continuous improvement

T14 Engineering ethics principles

T15 Customer/Client relations encompassing:

- Importance of customer/client relations
- Interpersonal skills that enhance customer/client
- Dispute resolution
- Customer/client relations strategies

T16 Electrical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles
- Documents needed to plan a project
- Factors influencing sequence and restraints of project activities
- Critical path analysis covering graphical representation methods and methods of representing time/rates

T17 Critical path and project analysis encompassing:

- Purpose of critical path analysis
- Essential data
- Relational sequence of work activities
- Graphical representation methods
- Methods of representing time/rates
- Monitoring methods

REQUIRED SKILLS AND KNOWLEDGE

T18 Electrical industry sector customs and practice encompassing:

- Equipment procurement, cost/benefit analysis and performance testing
- Typical approaches to planning and management
- Successful planning techniques
- Best practice management methods and styles

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 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'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 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 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 prerequisites 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 – UEE11'. 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:
 - Plan electrical projects as described in 8) and including:
 - A Determining the project requirements accurately.
 - B Establishing a project budget.
 - C Developing effective work flow strategies.
 - D Documenting project plan proposal.
 - E Negotiating alterations to the proposed project plan successfully.
 - F Obtaining approval of the final plan.
 - G Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

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 part of 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 planning electrical projects.

**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 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)**

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) 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 managing an industry accepted medium/large sized electrical project.

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

Competency Field 11)
 Electrical