



Australian Government

ICTPMG7145B Undertake a telecommunications project

Release 1

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Modification History

Release	Comments
Release 2	This version first released with <i>ICT10 Integrated Telecommunications Training Package Version 3.0</i>. Minor changes to several performance criteria. Outcomes deemed equivalent.
Release 1	This version first released with <i>ICT10 Integrated Telecommunications Training Package Version 1.0</i>.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to undertake a telecommunications project. It requires research and planning to cover an extensive range of complexities and technologies.

Application of the Unit

Telecommunications technical staff apply the skills and knowledge in this unit to undertake complex projects requiring high levels of planning and management.

Their job roles combine technical and occupational health and safety (OHS) skills to perform project work using emerging and converging technologies within the ICT industry.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Prepare for a telecommunications project	1.1 Obtain project plan from authorised personnel to identify the nature of the project and project specifications 1.2 Verify location of proposed project work according to the appropriate plans 1.3 Analyse project specifications and research emerging telecommunications technology that may benefit the project 1.4 Consult authorised personnel to finalise the project specifications and obtain agreement 1.5 Source and work with allocated project resources as required, including those for safe work practices 1.6 Prepare contingency plans, including any risks that could impact on the project 1.7 Develop implementation plan for ICT products and solutions according to standards with minimal workplace disruption and obtain agreement from authorised personnel 1.8 Notify authorised personnel of possible network outage where required
2. Carry out the telecommunications project work	2.1 Follow OHS and environmental requirements according to plan and manufacturer specifications 2.2 Inform appropriate personnel of existing and potential hazards on work site 2.3 Perform project work phases according to agreed plan and accepted work practice 2.4 Implement project planning principles, including risks that may impact on the project 2.5 Monitor the project to completion to ensure that it is progressing according to plan and risks are minimised 2.6 Report on the implementation phases
3. Clean up work site and complete documentation	3.1 Remove and dispose of project waste and debris from work site according to environmental requirements as required 3.2 Restore changes made to the work area to the customer's satisfaction as required 3.3 Complete all project documents and present to the customer

	3.4 Declare asset ready for commissioning and integration if required 3.5 Notify the customer and obtain sign-off
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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to evaluate risks and new technologies
- communication skills to work effectively in a group, present information and negotiate project implementation issues
- information technology skills for word processing and desktop research
- literacy skills to prepare reports and document work
- numeracy skills to carry out telecommunications work
- problem-solving skills to anticipate and respond to issues in project progress
- research skills to gather data, observe and analyse project issues.
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Required knowledge

- organisational project management policy and procedures
- operation of transmitters and receivers
- safety management:
 - personal protective equipment conforming to industry and OHS standards
 - precautions required to minimise, control or eliminate hazards that may exist during work activities
 - relevant legislation, codes, regulations and standards
- telecommunications system principles and operational procedures
- workplace and industry environment.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: - research and report on emerging technology for a telecommunications project - prepare an implementation plan with contingency plan and risk analysis - conduct and monitor telecommunications project work.
Context of and specific resources for assessment	Assessment must ensure: - a telecommunications operations site on which a project can be carried out - computers and relevant computer software - relevant legislation, codes, regulations and standards.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: - direct observation of the candidate carrying out project work - oral or written questioning to assess required knowledge and skills - review of reports and implementation plans prepared by the candidate for telecommunications projects.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: - ICTRFN7182B Produce a radio link budget - ICTTEN7193B Plan a transmission network. Aboriginal people and other people from a non-English speaking background may have second language issues.

	Access must be provided to appropriate learning and assessment support when required. Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. Where applicable, physical resources should include equipment modified for people with special needs.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Authorised personnel</i> may include:	• consultant • contractor • network administrator • project manager.
<i>Nature of the project</i> may refer to:	• equipment type: • computing • networking • optical • radio • switching • transmission • functional type: • building and construction • cabling • customer project • network • planning • service provider project • services • operational type: • service provisioning • switching • transmission • project type: • installation upgrade • maintenance • new installation.
<i>Project specifications</i> may include:	• budget • outage requirements • preferred vendor and vendor product • project plan • service level agreements

	• specific customer requirements • timelines • urgency.
Project resources may include:	• documentation: • installation manuals • manufacturer's instructions • testing procedures • vendor recommendations • funding • labour • major equipment and materials: • building provisioning • computer networking equipment • power management • radio and optical equipment • safety equipment and personal protective equipment • switching and transmission • test equipment: • communication system analysers • digital analysers • local area network (LAN) Cat tester • laptop computer • optical testers • optical time domain reflectometer (OTDR) • protocol analysers • radio frequency (RF) test sets • spectrum analysers • time • tools: • anti-static testers • hand • power • soldering irons.
Standards may include:	• Australian Communications and Media Authority (ACMA) regulations relating to functional earthing • ACMA Standards TS 14 • AS Communications Cabling Manual (CCM) Volume 1 • AS/NZS 3000:2007 • AS/NZS 3080:2003 • AS/NZS 3084:2003

	• AS/NZS 3085.1:2004 • AS/NZS IEC 61935.1:2006 • AS/NZS IEC 61935.2:2006 • AS/NZS ISO/IEC 14763.3:2007 • AS/NZS ISO/IEC 15018:2005 • AS/NZS ISO/IEC 24702:2007 • Australian Communications Industry Forum (ACIF) standards and codes • Australian standards applying to radiation hazards • AS 3901 and AS 3902 • cabling security codes and regulations • Environment Protection Acts • heritage legislation • International Telecommunication Union (ITU) recommendations • OHS Acts and relevant codes and standards • technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006.
<i>OHS and environmental requirements</i> may refer to:	• identifying other services, including power and gas • need to decommission and isolate work site and lines before beginning work • personal protective equipment: • earmuffs • gloves: • leather • plastic • rubber • head protection • kneepads • masks • protective suits • safety boots • safety glasses • safety equipment: • flashing lights • gas and other hazard detection equipment • safety barriers • trench guards • warning signs and tapes • witches hats • safe working practices such as the safe use and handling

	of: • asbestos • chemicals • materials • tools and equipment • work platforms • special access requirements • suitable light and ventilation • environmental considerations: • clean-up protection • stormwater protection • waste management.
Hazards may include:	• optical cable • building debris • earth potential rise (EPR) • glass fibre • live power lines • manual handling • mud and water • natural and other gas build-up • needle stick injury • RF equipment emitting radiation • remote power feeding services • vermin.
Principles may include:	• best practice • budget control • business continuity • complete and review • return on investment • service level agreements • waste minimisation.

Unit Sector(s)

Telecommunications - Project management