



Australian Government

Department of Education, Employment and Workplace Relations

ICTCBL3067A Modify and cut over cable

Release: 1

ICTCBL3067A Modify and cut over cable

Modification History

Not Applicable

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit describes the performance outcomes, skills and knowledge required to modify an infrastructure to cut over new cables into an existing cabling installation.</p> <p>This may include communications applications in telephony, broadband, data, video, radio frequency identification (RFID), security and computer networks, including local area networks (LAN), wide area networks (WAN) and multimedia.</p> <p>Licensing, legislative, regulatory and certification requirements apply to working at heights. If an elevated work platform (EWP) is required, verify state or territory law requirements for a licence to operate an EWP. Users should confirm requirements with the relevant federal, state or territory authority.</p> <p>If working at heights, achievement of the unit 'CPCPCM2015A Work safely on roofs' from the CPC08 Construction and Plumbing Services Integrated framework training Package fulfils this requirement.</p>
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Application of the Unit

<p>Application of the unit</p>	<p>Field officers, technicians or lineman installers from carriers, contractors or other service providers apply the skills and knowledge in this unit.</p> <p>They may upgrade coaxial or optical fibre cables as part of a hybrid fibre coaxial (HFC) network, a broadband Access Network or a large customer private network.</p> <p>Cabling can be for indoor and outdoor installation within a customer premises or a service provider Access Network and may be a domestic, commercial or industrial installation.</p>
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for cable modification and cut over	1.1. Obtain relevant legislation, codes, regulations and standards for the given work 1.2. Scope the work by obtaining project plan from appropriate personnel and arrange for site access to comply with security arrangements 1.3. Notify appropriate personnel of identified safety hazards at the worksite 1.4. Determine cable route and type of cable from project plan and identify and avoid other services 1.5. Obtain plant, tools and safety equipment and material to perform tasks safely and efficiently 1.6. Prepare an implementation plan with cut over tasks based on identified nature of job and seek customer approval 1.7. Notify customer and network carrier of proposed cut over details and proposed disruption to services 1.8. Undertake additional preparatory non-jointing work , as required, according to enterprise guidelines and site conditions 1.9. Select labour support required according to cut over tasks and available skills 1.10. Select technical equipment for cut over to suit materials being used, cable type and joint enclosure
2. Joint and cut over cable	2.1. Follow occupational health and safety (OHS) and environmental requirements for the given work 2.2. Joint cable according to sequencing plan, materials, joint type, location, and enterprise and manufacturer's guidelines 2.3. Test cable for performance and rectify any faults relating to the cut over according to location, materials available, and industry practise 2.4. Seal all joints according to the cable type, location, and enterprise and manufacturer's guidelines
3. Complete project documentation	3.1. Record test results for future reference and complete reports on cut over installation and design amendments to reflect existing cable layout according to enterprise requirements 3.2. Recover obsolete materials and return to appropriate point for disposal

ELEMENT	PERFORMANCE CRITERIA
	3.3.Restore site according to the requirements of enterprise or approving authority and to customer satisfaction 3.4.Notify appropriate personnel completion of cut over and obtain sign off

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- analytical skills to evaluate test results
- communication skills to liaise with internal and external personnel on technical and operational matters
- literacy skills to interpret technical documentation, such as equipment manuals and specifications
- numeracy skills to take and analyse measurements
- planning and organisational skills to:
 - organise and maintain equipment
 - scope work and develop implementation plan for cut over project
- safety awareness skills to:
 - apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
 - select and use required personal protective equipment conforming to industry and OHS standards
- task management skills to work systematically with required attention to detail and adherence to all safety requirements
- technology skills to:
 - perform fault clearance
 - use diagnostic equipment
 - use hand and power tools

Required knowledge

- cabling types, connectors and cabling structures
- legislation, codes of practice and other formal agreements that impact on the work activity
- manufacturer's requirements for safe operation of equipment

REQUIRED SKILLS AND KNOWLEDGE

- overview knowledge of customer premises equipment
- specific OHS requirements relating to the activity and site conditions
- test methods and performance requirements, including features and operating requirements of test equipment
- typical issues and challenges that occur on site
- warranties and service level agreements (SLAs)

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • prepare for cut over • rearrange cable • conduct tests to determine success of cut over • interpret results and rectify faults occurring as a result of cut over • apply regulations and standards related to the cable rearrangement • comply with all related OHS requirements and work practices.
Context of, and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • systems and equipment involving cut over • use of installation equipment currently used in industry • relevant regulatory and equipment documentation that impact on work activities.
Methods of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct observation of the candidate performing cut over into an existing cabling installation • review of plans and reports completed by the candidate outlining system and equipment cut over and test results • oral or written questioning to assess knowledge of planning, types of systems and issues associated with cut over.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICTCBL2068A Install a telecommunications service to a building • ICTCBL3052A Cut over new systems and equipment

EVIDENCE GUIDE

	<p>on customer premises.</p> <p>Aboriginal people and other people from a non-English speaking background may have second language issues.</p> <p>Access must be provided to appropriate learning and assessment support when required.</p> <p>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.</p> <p>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.</p> <p>Where applicable, physical resources should include equipment modified for people with special needs.</p>
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Range Statement**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.

Relevant legislation, codes, regulations and standards may include:

- Australian Communications Industry Forum (ACIF) standards and codes
- appropriate licences:
 - crane
 - EWP

RANGE STATEMENT	
	<ul style="list-style-type: none"> • forklift • winch • 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 • cabling security codes and regulations • Environmental Protection Acts • ISO Draft 11801 (International) • OHS • regulated or industry codes of practice and include appropriate ACMA and AS/ACIF technical standards • relevant Institute of Electrical and Electronics Engineers (IEEE) standards • road and traffic control legislation and codes • technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006.
<i>Appropriate personnel</i> may be:	<ul style="list-style-type: none"> • cable administrator • consultant • project engineer • site supervisor.
<i>Safety hazards</i> may refer to:	<ul style="list-style-type: none"> • access points that may contain: <ul style="list-style-type: none"> • hazardous light (non-visible laser) • radio frequency (RF) emission • contact with remote power feed • electrical supply and areas of earth potential rise (EPR) that require mandatory separation from communications cable • hazardous conduit as according to AS 1345:1995 conduit colours associated with a hazardous service • unsafe support structures: <ul style="list-style-type: none"> • condemned poles

RANGE STATEMENT	
	<ul style="list-style-type: none"> • visible signs of decay or stress • unsafe weather: <ul style="list-style-type: none"> • heavy rains • high winds • severe heat or cold • thunderstorms.
<i>Cable</i> may include:	<ul style="list-style-type: none"> • aerial or underground • coaxial • data cabling • distribution cable • hybrid fibre coaxial (HFC) cable • lead-in cable • multi-pair copper • optical fibre • radio feeder.
<i>Other services</i> may include:	<ul style="list-style-type: none"> • availability and suitability of existing cabling trays and fixing systems • fire sprinkler systems • gas and water mains • high voltage (HV) power.
<i>Plant, tools and safety equipment</i> may include:	<ul style="list-style-type: none"> • plant: <ul style="list-style-type: none"> • elevated platform vehicle • ladders • scissor lifts • wire raising tool (insulated) • safety equipment: <ul style="list-style-type: none"> • flashing lights • gas and other hazard detection equipment • personal protective clothing: <ul style="list-style-type: none"> • earmuffs • fall arrest systems • gloves • head protection • kneepads • masks • protective suits • safety boots • safety glasses

RANGE STATEMENT	
	<ul style="list-style-type: none"> • safety barriers • trench guards • warning signs and tapes • test equipment: <ul style="list-style-type: none"> • cable tester • continuity tester • LAN Cat tester • passive optical network (PON) meter • tools: <ul style="list-style-type: none"> • auger • fixing brackets • spanner.
<i>Cut over tasks</i> may include:	<ul style="list-style-type: none"> • alternate air supply • cable jumpering of distribution frames • installing temporary cable • job preparation for cut over activity • provide alternate cable path • reroute signal and traffic • shut down procedures • splicing new optical fibre.
<i>Cut over details</i> may include:	<ul style="list-style-type: none"> • contingency plan • date, time and duration • nature and type of work involved • request for customer representation • vendor or supplier.
<i>Disruption to services</i> may include:	<ul style="list-style-type: none"> • alarm systems • billing services • emergency calls • fire services • network traffic • security.
<i>Additional preparatory non-jointing work</i> may include:	<ul style="list-style-type: none"> • cable identification • double-jumpering • multiplying pairs or parallel pairs • splicing temporary fibres.
<i>Technical equipment for cut over</i> may include:	<ul style="list-style-type: none"> • personnel communications • service identifiers • testing equipment.

RANGE STATEMENT	
<i>Joint enclosure</i> may include:	<ul style="list-style-type: none"> • cabinet • fibre hub • housing • lead wiped sleeve • thermo shrink sleeve.
<i>OHS and environmental requirements</i> may relate to:	<ul style="list-style-type: none"> • decommissioning and isolate worksite and lines prior to commencement • identifying other services, including power and gas • personal protective clothing: <ul style="list-style-type: none"> • earmuffs • gloves: <ul style="list-style-type: none"> • leather • plastic • rubber • head protection • kneepads • masks • protective suits • safety boots • safety glasses • safety harness • safety line • safe working practices, such as the safe use and handling of: <ul style="list-style-type: none"> • asbestos • chemicals • materials • tools and equipment • work platforms • safety equipment: <ul style="list-style-type: none"> • flashing lights • gas and other hazard detection equipment • safety barriers • trench guards • warning signs and tapes • witches hats • special access requirements • suitable light and ventilation

RANGE STATEMENT	
	<ul style="list-style-type: none"> • environmental considerations: <ul style="list-style-type: none"> • clean-up protection • stormwater protection • waste management.
<i>Seal all joints</i> may provide:	<ul style="list-style-type: none"> • air-tight seal • moisture seal.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units	

Competency field

Competency field	Cabling
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