Australian Government

ICTCBL246 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule

Release: 2

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Modification History

Release	Comments
Release 2	This version released with ICT Information and Communications Technology Training Package Version 6.0. Release 2 created for editorial corrections.
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to safely install, maintain and modify communications cabling, according to the Australian Communications and Media Authority (ACMA) 'restricted' Cabling Provider Rules, on customer premises for cabling terminated on sockets and network termination devices (NTDs) of indoor and external metallic cable in either aerial or underground situations.

It applies to individuals who connect telecommunications devices including telephony systems, security alarm panels and fire control panels in either a new cable installation or upgrade of cable capacity for an existing network or subsystem for convergence to next generation network (NGN) applications.

Customer premises are typically domestic, small offices, home offices and small businesses. Large commercial and industrial premises are generally excluded, except in special circumstances where the cabling is behind a compliant device and is not via jumperable distributors or patch panels.

Licensing, legislative, regulatory and certification requirements apply to telecommunications systems. All customer cabling work in the telecommunications, fire, security and data industries must be performed by a registered cabler. All cablers are required to register with an ACMA accredited registrar.

Pre-requisite Unit

ICTTEN208 Use electrical skills when working with telecommunications networks

ICTWHS204 Follow work health and safety and environmental policy and procedures

Unit Sector

Telecommunications – Cabling

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Plan restricted cabling work	1.1 Identify building infrastructure that places critical constraints on cabling
	1.2 Apply organisational strategies to manage other infrastructure in relation to cabling
	1.3 Notify appropriate personnel of identified safety hazards at cabling work site
2. Manage remote power feed	2.1 Identify and avoid risks posed by contact with remote power feeding services when performing cabling activity
	2.2 Make site safe by identifying remote power feeding services that operate at above telecommunications network voltage (TNV) inside customer premises
3. Install cables and protective earth wires	3.1 Install cables according to manufacturer application specifications, including tension and bending stress requirements
	3.2 Identify and avoid sources of possible damage to cable, including hot pipes, sharp edges and cable burn
	3.3 Allow sufficient excess at cable ends to facilitate termination
	3.4 Place and secure cable to maintain safety and interference segregation according to legislative and industry standards
	3.5 Install cable fasteners with correct tension to prevent cable sheath damage or transmission impairment and trimmed flush to prevent risk of personal damage
	3.6 Use appropriate underground cable installation techniques associated with minimum depth of cover and segregation from hazardous electrical and other services according to current Australian Standards
	3.7 Identify issues surrounding underground cables (excluding blown fibre tube systems) to incorporate a blocking agent within the cable to prevent the ingress of water
	3.8 Use appropriate aerial cable installation techniques associated with minimum clearance, segregation from hazardous electrical and other services and minimum height requirements according to current

ELEMENT	PERFORMANCE CRITERIA
	Australian Standards
	3.9 Install over-voltage protection devices to all cable pairs according to Australian Standards, as required, to suppress voltage surges and protect from earth potential rise (EPR) hazards and protectively earth the devices
	3.10 Protect earth wire insulation against damage and segregate protective earths according to relevant legislative and industry standards
4. Terminate and test cables and earth wires	4.1 Remove cable sheath to allow for correct termination length and without damage to underlying conductors and their insulation
	4.2 Install cable modules according to manufacturer specifications, and cable pairs neatly and sequentially fan for termination
	4.3 Terminate conductors according to recommended colour code sequence using appropriate termination tools according to manufacturer specifications
	4.4 Earth cable shield, as required, according to manufacturer specifications, relevant industry codes of practice and Australian Standards
	4.5 Conduct visual inspection to confirm termination colour code sequence has been followed prior to end-to-end testing of wire and pair termination integrity
	4.6 Terminate earth wire according to industry codes of practice and Australian Standards
	4.7 Ensure earth wire continuity throughout and observe interface requirements with electrical systems
	4.8 Test earthing installation for continuity, insulation resistance and conductive resistance according to industry standards and Australian Standards
	4.9 Confirm compatibility of alterations with existing systems and test new work both in isolation and when integrated with existing systems
5. Inspect cable route to ensure correct separations	5.1 Inspect separations along the entirety of the cable route and rectify separations that do not comply with regulations
	5.2 Install barriers to achieve separations where sufficient spatial separation cannot be met
6. Create records	6.1 Provide customer with a job sign-off telecommunications cabling advice form at the completion of each cabling task
	6.2 Complete NTD record cards for work undertaken

ELEMENT	PERFORMANCE CRITERIA
7. Monitor work activity	7.1 Supervise unregistered cablers undertaking work in line with scope of own role and organisational procedures
	7.2 Ensure cabling activity is according to legislative requirements for safety and network integrity including the relevant Australian Standards

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance, but not explicit in the performance criteria.

Skill	Description
Reading	• Recognises and responds to some conventions of complex texts • Recognises when unknown words are essential to meaning and uses a range of decoding strategies to identify them
Writing	• Uses a legible handwriting style or a computer font appropriate to the audience and purpose
Oral Communication	• Demonstrates awareness of choices for register, especially in situations that are familiar
Numeracy	• Relies substantially on hands-on (concrete) and real life materials, personal experience and prior knowledge to make estimations and check the reasonableness of processes • Identifies appropriate tools and uses them to take measurements • Interprets information based on results of technical tests
Navigate the world of work	• Takes personal responsibility for adherence to legal/regulatory responsibilities relevant to own work context, and draws attention to any issues that may affect self or others
Get the work done	• Implements actions as per plan, making slight adjustments if necessary, and addressing some unexpected issues • Automatically implements standard procedures for routine decisions in response to familiar problems

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. It is restricted to essential operating conditions and any other variables essential to the work environment.

Termination systems must include:	• network termination device • Australian modular socket • Mode 3 alarm socket • RJ45, RJ12 or RJ11 modular socket (Note: jumperable distributors are not included in this requirement)
Earthing and protection must include:	• earthing for protection • surge suppression

Unit Mapping Information

ICTCBL246 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule supersedes and is equivalent to ICTCBL236 Install, maintain and modify customer premises communications cabling: ACMA Restricted Rule.

Links

Companion Volume Implementation Guides are available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2