



Australian Government

ICTOPN502 Perform acceptance and commissioning tests on optical network

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to conduct acceptance tests and commissioning tests on optical networks, including the optical portion of broadband hybrid fibre coaxial (HFC) networks, fibre to the x (FTTx) passive optical networks (PONs) and metropolitan and long haul dense wavelength division multiplexing (DWDM) networks.

It applies to individuals who work as members of a team and use high-level communication and technical skills to provide services in Next Generation Networks (NGN) using emerging technologies.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications – Optical Networks

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to conduct acceptance tests	1.1 Obtain installation and commissioning documents and planning specifications from appropriate personnel to ensure installed optical network is as planned and specified 1.2 Conduct visual inspection of new installation and verify system compliance against relevant legislation, codes, regulations and standards, and accepted industry practice

	1.3 Select and obtain required test equipment for suitability of acceptance testing 1.4 Prepare acceptance schedule and test criteria in consultation with appropriate personnel
2. Conduct acceptance testing	2.1 Conduct and evaluate performance tests to ensure measurements meet with predetermined specifications and approved operating margins 2.2 Verify performance levels to be within tolerance specifications set in manufacturer's instructions 2.3 Test protection mechanisms to ensure performance criteria meets specified standard 2.4 Test alarms for satisfactory operation and refer identified problems to appropriate personnel for remedial action 2.5 Record all acceptance test procedures and results
3. Complete administrative tasks	3.1 Complete acceptance documentation including recommendations 3.2 Notify appropriate personnel and obtain sign-off

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.2, 2.2, 2.3	Interprets textual information from relevant sources, including equipment readings to identify and plan for all job requirements and adhere to procedures and standards
Writing	1.1, 1.4, 2.5, 3.1, 3.2	Accurately completes relevant reports and documentation using clear and technically specific language and numerical data
Oral Communication	1.1, 1.4, 3.2	Uses listening and questioning skills to confirm understanding for requirements, participates in a verbal exchange of ideas and solutions, and uses appropriate, detailed and clear language to address key personnel
Numeracy	2.1	Uses mathematical equations to evaluate technical data to determine measurements and any required calibration changes

Navigate the world of work	1.1, 1.2	- Understands how own role meshes with others and contributes to broader work goals - Monitors adherence to legal and regulatory rights and responsibilities
Interact with others	3.2	Actively identifies requirements of important communication exchanges, selecting appropriate channels, format, tone and content to suit purpose and audience and monitoring impact
Get the work done	1.1, 1.3, 1.4, 2.3, 2.4	- Develops plans to manage relatively complex, non-routine tasks with an awareness of how they may contribute to longer term operational and strategic goals - Takes responsibility for high-impact decisions in complex situations involving many variables and constraints - Demonstrates a sophisticated understanding of principles, concepts, language and practices associated with the digital world - Recognises and addresses some unfamiliar problems of increasing complexity within own scope, recognising when to seek the expertise of others

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTOPN502 Perform acceptance and commissioning tests on optical network	ICTOPN5119A Perform acceptance and commissioning tests on optical network	Updated to meet standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTOPN502 Perform acceptance and commissioning tests on optical network

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Performance Evidence

Evidence of ability to:

- verify ‘as built’ installation against installation plans
- undertake acceptance and commissioning tests and analysis against specified installation and commissioning documents
- complete and submit all acceptance documentation incorporating test procedures, results and recommendations
- comply with all related work health and safety (WHS) requirements and work practices.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify cabling, terminations and supporting structures that may be encountered in the system under inspection
- outline common performance levels and standards
- describe electrical and optical properties to be measured
- explain health and safety issues appropriate to the work environment under inspection
- summarise typical network topologies, switching, routing and transmission techniques
- discuss transmission type and signals that may be encountered
- identify various test equipment types suitable for tests to be made.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the Telecommunications – Optical Networks field of work and include access to:

- testing equipment currently used in industry
- relevant regulatory and equipment documentation.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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