



Australian Government

ICTOPN508 Perform acceptance and commissioning tests on optical networks

Release: 1

ICTOPN508 Perform acceptance and commissioning tests on optical networks

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to conduct acceptance tests and commissioning tests on optical networks, including 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 and commissioning tests	1.1 Obtain installation and commissioning specifications from relevant personnel, and confirm that installed optical network is accessible and available 1.2 Conduct visual inspection of installation and confirm that system complies with required legislation, codes, regulations and standards, and accepted industry practice 1.3 Obtain required test equipment for acceptance and commissioning tests 1.4 Prepare acceptance schedule and test criteria in consultation with

ELEMENT	PERFORMANCE CRITERIA
	relevant personnel
2. Conduct acceptance and commissioning tests	2.1 Conduct and evaluate performance tests and ensure measurements meet with predetermined specifications and approved operating margins 2.2 Confirm whether performance levels are 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 relevant personnel 2.5 Record all test procedures and results
3. Complete administrative tasks	3.1 Complete acceptance documentation and recommendations 3.2 Notify relevant 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	DESCRIPTION
Numeracy	• Uses mathematical equations to evaluate technical data to determine measurements and any required calibration changes
Oral communication	• Uses listening and questioning skills to confirm requirements • Participates in verbal exchanges of ideas and solutions, and uses required, detailed and clear language to address key personnel
Reading	• Interprets textual information from required sources for equipment readings to identify and plan for all job requirements and adhere to procedures and standards
Writing	• Completes required reports and documentation using clear and technically specific language and numerical data
Teamwork	• Identifies requirements of important communication exchanges, selecting required channels, format, tone and content to suit purpose and audience and monitoring impact
Planning and organising	• Develops plans to manage relatively complex, non-routine tasks with an awareness of how they may contribute to longer term operational and strategic goals • Demonstrates a sophisticated knowledge of principles, concepts, language and practices associated with the digital world

SKILL	DESCRIPTION
Problem solving	• Takes responsibility for high-impact decisions in complex situations involving many variables and constraints • Recognises and addresses some unfamiliar problems of increasing complexity within own scope, recognising when to seek the expertise of others
Self-management	• Understands how own role meshes with others and contributes to broader work goals • Monitors adherence to legal and regulatory rights and responsibilities

Unit Mapping Information

Supersedes and is equivalent to ICTOPN502 Perform acceptance and commissioning tests on optical network.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTOPN508 Perform acceptance and commissioning tests on optical networks

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- perform at least two acceptance and commissioning tests on optical networks.

In the course of the above, the candidate must:

- analyse results against specified installation and commissioning documents
- verify 'as built' installation against at least one installation plan
- 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.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation, codes, regulations and standards, WHS and organisational requirements for scoped work
- features of installation and commissioning specifications
- typical test equipment used for acceptance and commissioning tests
- features of acceptance schedules and test criteria
- cabling, terminations and supporting structures that are encountered in the inspected system
- common performance levels and standards
- electrical and optical properties measured in optical networks
- health and safety issues required to the work environment under inspection
- typical network topologies, switching, routing and transmission techniques
- transmission type and signals that may be encountered
- test equipment types suitable for tests to be made.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- testing equipment used in industry
- required regulatory and equipment documentation.

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

Links

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