



Australian Government

ICTOPN510 Test and commission dense wavelength division multiplexing transmission systems

Release: 1

ICTOPN510 Test and commission dense wavelength division multiplexing transmission systems

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 test and commission optical transmission systems using dense wavelength division multiplexing (DWDM) technology.

It applies to individuals who work with networking carriers, service providers, public utilities and broadcasting companies. They combine technical optical communications skills with broader organisational and administrative skills in a range of commercial contexts and environments.

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 commission DWDM transmission system	1.1 Implement hazard risk control measures according to organisational standards and requirements 1.2 Review system specifications and technical data and identify system operating parameters 1.3 Obtain and check required equipment for faults and compliance with organisational regulations 1.4 Verify that all required equipment is installed, and that circuit cards and filler cards are correctly located and seated 1.5 Check that interconnecting fibres to optical multiplexers and shelves are intact and routed

ELEMENT	PERFORMANCE CRITERIA
	1.6 Establish communication between computer and DWDM shelf 1.7 Upload latest software release to each DWDM shelf in the network
2. Commission DWDM transmission system	2.1 Connect an optical test set and a physical optical loopback to the system, and select protocol compatible with DWDM hardware 2.2 Check connection status and that test set data is passing 2.3 Monitor quality of received signal, set performance monitoring (PM) features and retrieve PM counts 2.4 Conduct a long-term stability test and verify that no errors are noted while customer input signal is set to the worst case (minimum) power level 2.5 Verify that no alarms are generated during long term stability test periods 2.6 Dispose of antistatic packaging to minimise environmental impact
3. Complete test and commissioning documentation	3.1 Finalise documentation on commissioning test results according to organisational procedures 3.2 Present results to required person according to organisational procedures

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 and interpret results
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 and clients
Reading	Interprets textual information from required sources 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
Planning and organising	Accepts responsibility for planning and sequencing complex tasks and workload, negotiating key aspects with others taking into account capabilities, efficiencies and effectiveness

SKILL	DESCRIPTION
	Monitors progress of plans and schedules and reviews and changes them to meet new demands and priorities
Self-management	Takes responsibility for following policies, procedures and legislative requirements, and identifies organisational implications of new legislation or regulation

Unit Mapping Information

Supersedes and is equivalent to ICTOPN504 Test and commission a dense wavelength division multiplexing transmission system.

Links

Companion Volume Implementation Guide is found on VETNet -

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