



Australian Government

ICTOPN509 Plan for optical system upgrades

Release: 1

ICTOPN509 Plan for optical system upgrades

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 plan the activities of major upgrades of optical systems from specifications provided by the planning and design section or its equivalent. Major upgrades in enterprise networks or a communications service provider's network involve cut over activities to integrate additional work into the existing network.

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. Gather information to prepare upgrade activity plan	1.1 Obtain and review legislation, codes, regulations and standards required for optical system upgrades and cut overs 1.2 Obtain design specifications and determine the scope and nature of all required upgrades 1.3 Analyse the design specification and design plan, and confirm that it complies with site installation requirements and customer instructions 1.4 Determine network equipment types and obtain installation details from manufacturer 1.5 Prepare equipment and component list and source vendors for

ELEMENT	PERFORMANCE CRITERIA
	procurement
2. Prepare upgrade activity plans	2.1 Create a detailed installation upgrade procedure for the installer 2.2 Prepare pre-installation optical tests on existing equipment and determine benchmarks and performance levels prior to the upgrade 2.3 Prepare post-installation optical tests on upgrade and confirm that upgraded system is achieving desired results 2.4 Prepare monitoring schedule and progressively assess upgrade progress 2.5 Prepare upgrade contingency plan and methods to avoid systemic disruption in an event where the upgrade fails 2.6 Prepare cutover procedures
3. Complete documentation	3.1 Document results of system upgrades, issues and cutover procedures 3.2 Submit planning activity document for approval

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 • Uses basic arithmetic to determine work schedules
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 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, numerical data and diagrammatic information
Teamwork	• Identifies requirements of important communication exchanges, selecting required channels, format, tone and content to suit purpose and audience and monitoring impact
Initiative and enterprise	• Understands how own role meshes with others and contributes to broader work goals • Monitors adherence to legal and regulatory rights and responsibilities with specific reference to safe industry practices

SKILL	DESCRIPTION
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
Problem solving	Takes responsibility for high-impact decisions in complex situations involving many variables and constraints
Technology	Demonstrates a sophisticated knowledge of principles, concepts, language and practices associated with digital factors

Unit Mapping Information

Supersedes and is equivalent to ICTOPN503 Plan for an optical system upgrade and cut over.

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 ICTOPN509 Plan for optical system upgrades

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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:

- plan for at least two optical system upgrades.

In the course of the above, the candidate must:

- create a detailed installation plan and procedure
- incorporate pre-installation and post-installation test methods and document corresponding results
- assess upgrade progress in accordance with monitoring schedule
- prepare a contingency plan.

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, work health and safety (WHS) requirements for scoped work
- functions and features of:
 - alarms and backup systems that apply to optical networks
 - escalation and outage procedures
 - network management systems
 - design specifications and design plans
- fundamentals of networks and networking equipment
- networking monitoring tools
- networking test equipment and test setups
- networking wiring practices
- upgrade and post-upgrade routines.

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:

- a site where upgrade and cutover can be planned
- equipment, software, test and monitoring equipment used in industry
- required regulatory, equipment, enterprise and vendor documentation that impacts work activities.

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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