Title	Explain and action fault diagnosis and repair and restore customer telecommunications network		
Level	3	Credits	10

Purpose	This unit standard is intended for technicians who work on basic optical fibre telecommunications network. People credited with this unit standard are able to: − explain fault diagnosis in telecommunications optical fibre network − action fault incident report or service investigation request − carry out basic fault location and restoration of telecommunications optical fibre network − confirm service restoration with customer.

Classification	Telecommunications > Telecommunications - Service Delivery

Available grade	Achieved

Guidance Information

1   Learning and assessment within this unit standard must be carried out in accordance with the following legislation, guidelines, and codes of practice, as relevant to role, and any subsequent amendments:
  − New Zealand Telecommunications Forum Inc., *Customer Complaints Code*, available from https://www.tcf.org.nz/industry/resources/publications/industry-standards-guides/
  − Health and Safety at Work Act 2015
  − Privacy Act 2020
  − Resource Management Act 1991
  − Telecommunications Act 2001, all available from http://legislation.govt.nz/.

2   Definitions
  Basic knowledge refers to some operational and theoretical knowledge of the subject matter to interpret available information.
  Company requirements refer to the policy, procedures, and methodologies of the company. They include legislative and regulatory requirements that may apply across the company or to a specific site. Requirements are documented in the company health and safety plans, contract work programmes, quality plans, policies, and procedural documents.
  Industry practice refers to those practices, which competent practitioners within the industry recognise as current industry best practice, including standard operating procedures.

3   The range for this unit standard is 10 different faults on different telecommunications
       systems or services.

Outcomes and performance criteria

Outcome 1

Explain fault diagnosis in telecommunications optical fibre network.

Performance criteria

1.1   Techniques to diagnose faults in telecommunications optical fibre network are
           explained in terms of industry practice.

           Range   techniques include but are not limited to – observation, simulation,
                         measurement, identification of function loss, comparison, previous
                         fault data including frequency of occurrence, manufacturers'
                         documentation and diagnostic data, built-in diagnostics.

Outcome 2

Action fault incident report or service investigation request.

Performance criteria

2.1   Job request is accepted within company and client required time frames.

2.2   Optical fibre reticulation details are obtained for the affected circuit/service.

2.3   Items and material required are purchased or obtained from stock as per
           company requirements.

2.4   Contact is made with customer confirming receipt of incident report, requesting
           any further details that may be of assistance and confirming appointment.

Outcome 3

Carry out basic fault location and restoration of telecommunications optical fibre network.

Performance criteria

3.1   Test equipment is selected, and tests are completed in terms of confirming the
           nature of the fault.

3.2   Remote restoration procedures are implemented and explained in terms of the
           appropriate application method.

3.3   Site arrival procedures are followed in terms of log in, inspections, diagnostics
           and health and safety procedures and in accordance with company
           requirements.

3.4 Diagnostic tools and or equipment are selected and appropriate for the task.

3.5 Faults are located, and causes are found, through logical analysis of symptoms, observations, simulation, and measurements.

   Range   may include but is not limited to – common alarms, LEDs, manufacturer's diagnostic procedures, resetting of customer premises equipment (CPE).

3.6 Diagnostic tests are completed in terms of ensuring there is no impact on the performance of existing services.

3.7 Test results are interpreted in terms of identifying faulty system component(s).

   Range   may include but is not limited to – CPE(s), cable(s), component(s), configuration.

3.8 Faulty system component(s) are repaired or replaced in accordance with industry practice.

Outcome 4

Confirm service restoration with customer.

Performance criteria

4.1 Service restoration is completed in terms of confirming with the customer and offering an alternative service if further restoration work or permanent repairs are required.

4.2 Records of test results and completed repair work are supplied to the customer in accordance with company requirements.

4.3 Service request is completed and signed off in accordance with industry practice and client requirements.

Planned review date	31 December 2025

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 September 2017	N/A
Rollover and Revision	2	27 June 2019	N/A
Rollover and Revision	3	25 January 2024	N/A

Consent and Moderation Requirements (CMR) reference	0101

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.