Title	**Joint, test and commission specialist communication cable systems**		
Level	**4**	**Credits**	**5**

Purpose	People credited with this unit standard are able to: identify types of communication cable systems and jointing specifications; prepare for cable jointing; carry out cable jointing and testing; and commission cable systems and document the results.

Classification	Electricity Supply > Electricity Supply - Testing

Available grade	Achieved

Prerequisites	Unit 14287, *Use and maintain test instruments used in the high voltage electrical industry*, or demonstrate equivalent knowledge and skills.

Guidance Information

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.

2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of the Health and Safety at Work Act 2015; Electricity Act 1992; Electricity (Safety) Regulations 2010; and any subsequent amendments and replacements; Electricity supply industry codes of practice and documented enterprise procedures, including *Safety Manual – Electricity Industry* (SM-EI) (2015) Wellington: Electricity Engineers' Association, available at www.eea.co.nz.

3 Definitions
Asset owner refers to a participant who owns or operates assets used for generating or conveying electricity.
Industry requirements include all asset owner requirements; manufacturers' specifications; and enterprise requirements which may include the documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.

4 The range of this unit standard is limited to jointing, testing, and commissioning specialised communication cable systems normally applied at electricity supply substations.

Outcomes and performance criteria

Outcome 1

Identify types of communication cable systems and jointing specifications.

Performance criteria

1.1 The rating and parameters of a range of communication cable systems are identified in accordance with international standards.

Range may include but are not limited to – fibre optic, coaxial, twist pair, pilot cables, elliptical wave guides.

1.2 The tests required after jointing are identified as required by international standards.

Range may include but are not limited to – industry, client or manufacturer test requirements.

1.3 The jointing specifications for each cable type are identified in terms of international standards.

Range may include but are not limited to – fibre optic, coaxial, twisted pair, pilot cables, elliptical wave guides.

Outcome 2

Prepare for cable jointing.

Performance criteria

2.1 The tools and materials required for jointing each type of cable are identified and prepared prior to jointing.

Range may include – basic craft tools and special manufacturer’s tools.

2.2 The work conditions at the site of the jointing are made ready to meet manufacturer’s recommendations.

Range may include but are not limited to – clean, dry, well lit, humidity control.

2.3 The cable is labelled for future reference.

Outcome 3

Carry out cable jointing and testing.

Performance criteria

3.1 The cable jointing is completed ready for testing in accordance with industry requirements.

Range may include but is not limited to – work being done in compliance with selected jointing procedures, completed within the industry recognised time frame, jointing work done in a thorough manner.

3.2 The cable joint is tested, and the results are analysed to confirm compliance with industry requirements.

Range may include but is not limited to – resistance of joints, signal attenuation, conductor-to-conductor checks.

Outcome 4

Commission cable systems and document the results.

Performance criteria

4.1 The cable is commissioned.

Range may include but is not limited to – acceptable ‘end to end’ function tests and signal attenuation not significant.

4.2 The cable system details and test results are recorded for future reference in accordance with industry requirements.

Range may include but is not limited to – summary of all test results, confirmation of compliance with selected standard, recommendation for any corrective work, recommendations for acceptance of system into service.

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	27 April 1998	31 December 2020
Revision	2	11 February 2004	31 December 2020
Rollover and Revision	3	21 November 2008	31 December 2020
Review	4	21 May 2010	31 December 2020
Review	5	22 October 2010	31 December 2020
Review	6	24 January 2019	31 December 2020
Review	7	27 February 2020	N/A

Consent and Moderation Requirements (CMR) reference	0120

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