



Electricity Supply Capstone Process

Te Tukatuka Whakawhiwhi Hiko

Waihanga Ara Rau

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1. Purpose and audience (Te kaupapa me te hunga whakarongo)

The purpose of this document is to outline the Consent to Assess process for Waihanga Ara Rau. The audience for this process is:

- GM Assurance
- Moderation Leads
- Electricity Supply Capstone Advisory Group
- Electricity Supply Industry

2. Approval (Whakaaetanga)

Approved by	Waihanga Ara Rau Assurance Committee
Reviewed	31/03/2022
Next Review	31/03/2023

Version	Date	Nature of Amendment
1.0	20/08/2020	New document created.
2.0	10/12/2021	Document transitioned from Connexis to Waihanga Ara Rau
3.0	31/03/2022	US28110 added to LMD and CJ capstones, minor edits of wording

3. Background (Papamuri)

In the Electricity Supply sector there is a direct correlation between Waihanga Ara Rau qualifications and registration with the EWRB. There are 'Capstone' units that have been put in place to give some robustness and quality assurance to the EWRB that graduates meet both the qualification outcomes and the registration requirements of the EWRB, without the need for additional external examinations.

A Memorandum of Understanding will be put in place between the EWRB Board and Waihanganga Ara Rau to ensure there is a common understanding and agreement around qualification and capstone requirements.

Capstone units are deemed to be 'high risk' and therefore there needs to be a robust process around the awarding of capstone unit standards and who can assess these unit standards.

The assessment of the practical capstone unit standard/s needs to be done independently of the training process. Therefore, the assessor must not be the person who has trained the learner.

4. Process purpose and application (Te kaupapa mahi me te tonono)

The purpose of this process is to ensure:

- A consistent approach to the awarding of Electrical Supply qualifications and EWRB registration requirements.
- A consistent approach to the assessment of capstone unit standards, including who can assess them.
- The process is fit for purpose and consistent with best practice principles.

This process is **applicable to all** Electricity Supply programmes and qualifications named in this policy. It will form part of the agreement with EWRB and ensure a link between qualification completion and EWRB registration.

This process is **not applicable** to the following qualifications, EWRB external examinations inform the capstone process for these qualifications.:

- New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388]
 - New Zealand Certificate in Electrical Trade (Level 4) [Ref: 4204] with strands in General Electrical and Electricity Supply
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5. Capstone units by qualification (Ko nga waeine Capstone ma te tohu tohu)

It has been agreed by the Electricity Supply industry that the following unit standards should be deemed as capstones.

This has been based on the following principles:

- There should be one theory unit standard on legislation and regulations for electricity supply. This should be common across all qualifications, unless specified separately. This assessment must be undertaken and cannot be awarded by RCC or another form of credit recognition, unless specified in this process document.
 - There should be one practical unit standard contextualized for each electricity supply qualification, unless specified as not required. There is a need to maintain a robust assessment and moderation practice as this is deemed to be a 'high risk' assessment. The assessment can be undertaken in a workplace or simulated environment using a common assessment tool. Evidence of one practical demonstration is deemed to be sufficient. This assessment must be undertaken and cannot be awarded by RCC or another form of credit recognition, unless specified in this process document.
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6. **New Zealand Certificate in Electricity Supply (Line Mechanic Distribution) (Level 4) with an optional strand in Live Low Voltage Lines [Ref: 2197-2]**

Unit Standard	Title
32255	Demonstrate and apply knowledge of legislation and codes of practice in the electricity supply industry
31954	Install and commission network lines, and service a transformer using an access permit
28110	Demonstrate knowledge of electrical power, energy, cost of consumption, and inductors and capacitors in AC circuits

Notes:

- US32255 has replaced US28109. Achievement of US28109 is deemed to meet the requirements of the theory capstone.
- US31954 replaced US28111. Achievement of US28111 is deemed to meet the requirements of the practical capstone.
- A learner who meets the following criteria is eligible for RPL for US32255:
 - Holds the New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388], or the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [REF: 4204], or an equivalent qualification, and has completed the Electrical Supply context or an equivalent context; **and**
 - Is currently registered as an Electrician and have a current practicing licence with the EWRB; **and**
 - Has a signed attestation from their employer or supervisor confirming that the applicant can demonstrate an understanding of Electricity Supply legislation and code of practice.

7. **New Zealand Certificate in Electricity Supply (Cable Jointer High Voltage) (Level 4) with an optional strand of 33kV [Ref: 2227-3]**

Unit Standard	Title
32255	Demonstrate and apply knowledge of legislation and codes of practice in the electricity supply industry
28278	Plan, joint, and test underground cables, and carry out a rescue from a distribution pit
28110	Demonstrate knowledge of electrical power, energy, cost of consumption, and inductors and capacitors in AC circuits

Notes:

- US32255 has replaced US28109. Achievement of US28109 is deemed to meet the requirements of the theory capstone.
 - A learner who meets the following criteria is eligible for RPL for US32255:
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- Holds the New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388], or the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [REF: 4204], or an equivalent qualification, and has completed the Electrical Supply context or an equivalent context; **and**
- Is currently registered as an Electrician and have a current practicing licence with the EWRB; **and**
- Has a signed attestation from their employer or supervisor confirming that the applicant can demonstrate an understanding of Electricity Supply legislation and code of practice.

8. New Zealand Certificate in Electricity Supply (Transmission Line Maintenance) (Level 4) with strands in Line Mechanics and Structure Maintenance [Ref: 2705-2]

Unit Standard	Title
32255	Demonstrate and apply knowledge of legislation and codes of practice in the electricity supply industry
28943	Plan and carry out maintenance on transmission grid assets, and carry out a rescue

Notes:

- US32255 replaced US28942. Achievement of US28942 is deemed to meet the requirements of the theory capstone.
- A learner who meets the following criteria is eligible for RPL for US32255:
 - Holds the New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388], or the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [REF: 4204], or an equivalent qualification, and has completed the Electrical Supply context or an equivalent context; **and**
 - Is currently registered as an Electrician and have a current practicing licence with the EWRB; **and**
 - Has a signed attestation from their employer or supervisor confirming that the applicant can demonstrate an understanding of Electricity Supply legislation and code of practice.

9. New Zealand Certificate in Electricity Supply (Substation Maintenance) (Level 4) [Ref: 4126-1]

Unit standard	Standard name
32255	Demonstrate and apply knowledge of legislation and codes of practice in the electricity supply industry
28893	Maintain and test substation equipment

Notes:

- US32255 replaced US28885. Achievement of US28885 is deemed to meet the requirements of the theory capstone.

- A learner who meets the following criteria is eligible for RPL for US32255:
 - Holds the New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388], or the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [REF: 4204], or an equivalent qualification, and has completed the Electrical Supply context or an equivalent context; **and**
 - Is currently registered as an Electrician and have a current practicing licence with the EWRB; **and**
 - Has a signed attestation from their employer or supervisor confirming that the applicant can demonstrate an understanding of Electricity Supply legislation and code of practice.

10. New Zealand Certificate in Electricity Supply (Traction Line) (Level 4) [Ref: 3988-1]

Unit standard	Standard name
32255	Demonstrate and apply knowledge of legislation and codes of practice in the electricity supply industry
31968	Install or repair traction network structures

Notes:

- US32255 replaced US28109. Achievement of US28109 is deemed to meet the requirements of the theory capstone.
- A learner who meets the following criteria is eligible for RPL for US32255:
 - Holds the New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388], or the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [REF: 4204], or an equivalent qualification, and has completed the Electrical Supply context or an equivalent context; **and**
 - Is currently registered as an Electrician and have a current practicing licence with the EWRB; **and**
 - Has a signed attestation from their employer or supervisor confirming that the applicant can demonstrate an understanding of Electricity Supply legislation and code of practice.
- The normal assessment criteria of demonstrating competence in three separate practical tasks for US31968 is required to meet the capstone requirements.

11. New Zealand Certificate in Electricity Supply (Fault Response and Switching) (Level 4) with strands in Fault Response, and Network Switching [Ref: 3586-2]

There are no capstones required for this qualification. The pathway is via a registered Electrician or a registered Line Mechanic; therefore, the candidate would have already completed a form of capstone assessment.

It is expected that a learner holds the New Zealand Certificate in Electrical Engineering Theory and Practice (Level 4) [REF: 2388], or the New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical, and Electricity Supply [REF: 4204], or the New Zealand Certificate in Electricity Supply

(Line Mechanic Distribution) (Level 4) with an optional strand in Live Low Voltage Lines [Ref: 2197-2], or an equivalent qualification, before undertaking the Fault Response and Switching qualification.

12. New Zealand Certificate in Electricity Supply (Power Technician) (Level 5) with optional strands [Ref: 3535-1]

Unit standard	Standard name
29738	Plan, install and test electrical installation wiring and equipment
29739	Demonstrate knowledge of the electricity act, circuit protection and compliance testing of works or installation.

Notes:

- The common pathway into Power Technician is a registered Electrician or registered Line Mechanic.
 - A learner who meets the following criteria is eligible for RPL for the two capstone units:
 - Holds a National or New Zealand Certificate qualification in an Electrical or Electricity Supply based trade at Level 4; **and**
 - Is currently registered as an Electrician and have a current practicing licence with the EWRB; **and**
 - Has a signed attestation from their employer or supervisor confirming that the applicant is operating at the level required of a Power Technician.

13. Capstone assessment (Te aromatawai Capstone)

All designated capstone units must be undertaken by a learner under normal assessment conditions. Unless otherwise specified these units are unable to be achieved through RCC.

Theory capstone:

- Learners must attend a tuition course and be assessed with an assessment tool that has been pre-moderated by Waihanga Ara Rau prior to use.
- US32255 will be developed as an online assessment, including the learning material, and available to all learners at any time. A question bank shall be used to make the questions random. The assessment tool shall be reviewed by the Capstone Assessment Reference Group on an annual basis to ensure it is still fit for purpose.
- Independent assessors must be a registered assessor with Connexis and have the unit standard on their scope. This ensures they have a contract with Connexis to be able to report the results using the Connexis Consent to Assess.
- For a provider-based assessment, the assessment shall be undertaken using the providers normal policies and procedures for training and assessment. The provider shall keep a list of assessors or verifiers who have been used as part of any capstone assessment.

Practical capstone:

- Learners must be assessed in a workplace situation or through a simulated workplace scenario using an assessment tool that has been pre-moderated by Waihanga Ara Rau prior to use.
- Evidence of one practical demonstration is deemed to be sufficient for the capstone assessment unless otherwise specified.
- Independent assessors must be a registered assessor with Connexis and have the unit standard on their scope. This ensures they have a contract with Connexis to be able to report the results using the Connexis Consent to Assess.
- For a workplace-based assessment, the assessment of the practical capstone needs to be done independently of the training process. Therefore, the assessor must not be the person who has trained the learner.
- For a provider-based assessment, the assessment shall be undertaken using the providers normal policies and procedures for training and assessment. The provider shall keep a list of assessors or verifiers who have been used as part of any capstone assessment.

14. Assessor and moderation requirements (Nga whakaritenga a te Kai-whakarite me te whakaōrite)

The capstone units are designated as high risk due to the linkage between the competency requirements of the qualification and EWRB registration. It is important that there is a robust process for designating who is able to assess these unit standards and the ongoing monitoring to ensure consistency of assessment across the industry.

Therefore, an independent assessor must meet the following requirements:

- Must have been a registered assessor with Connexis for 3 years, been regularly assessing in the workplace, and have met all of the requirements of being a registered assessor.
- Must hold the qualification associated with the capstone units being assessed, or an equivalent qualification.
- Must engage in moderation, at least twice yearly, for capstones unit standards assessed.
- Be approved as an assessor by the Capstone Reference Group.

The Capstone Reference Group may approve an independent assessor based on different criteria from time to time, this is at the discretion of the group and Waihanga Ara Rau. For these assessors they must also:

- Engage in peer moderation with an experienced assessor until they are able to demonstrate a consistent approach to assessment of capstone units.
 - Results for units assessed under peer review must not be submitted to NZQA until approved by the QA Manager at Connexis. This will be based on the outcome of the peer moderation.

All approved capstone assessors will be involved in an annual peer review and moderation meeting.