

Grid-connected Battery Storage Systems, Design and Install (Micro-credential) (Level 4)

Intakes
30/11/2026 (New Plymouth)
15/02/2027 (New Plymouth)
22/03/2027 (New Plymouth)

Duration
3 days

Domestic Fees
$665.00* (+$250 e-textbook or hardcopy)
All fees are GST inclusive

International Fees
$1,910.00 (+$250 e-textbook or hardcopy)
All fees are GST inclusive

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Grid-connected Battery Storage Systems, Design and Install (Micro-credential) (Level 4)

Grid-Connected Battery Storage Systems, particularly those integrated with Grid-Connected Photovoltaic Systems, provide many valuable options to home and business owners.

With climate change being a huge environmental issue worldwide, clean energy to power communities is needed. Solar can help lower our carbon footprint and can make a huge contribution to the environment's health.

It is essential that electrical workers involved with these systems fully understand the operating theory and safety requirements in order to design and install safe and effective systems, as well as adequately manage customer expectations.

This is a recommended pre-requisite course for those wanting to install complete standalone (off-grid) systems and builds upon the basic knowledge provided in Grid-Connected Photovoltaic Systems.

EWRB (Endorsed Mains Parallel Generation Systems) Electricians, Electrical Engineers and Electrical Inspectors

The adequate knowledge, training, skill and experience for registration with the EWRB to work on Mains Parallel Generation Systems can be satisfied by completing:

- Grid-connected PV Systems, Design and Install (Micro-credential) (Level 4)
- Grid-connected Battery Storage Systems, Design and Install (Micro-credential) (Level 4)

Course structure

The delivery of this course is designed for busy tradespeople who do not have the time to attend lengthy face-to-face courses. The online component is fully flexible to allow students to complete the theory in their own time.

- Pre-course learning: Online self-directed learning at your own pace, with tutor support (100 hrs)
- Three day course at the WITT Campus, New Plymouth (24 hrs)
- Post-course assignment (16 hrs)

With successful completion of the course, the applicant achieves the following NZQA framework registered micro-credential: Grid-connected Battery Storage Systems, Design and Install (Micro-credential) (Level 4)

At the end of the course, participants will have the knowledge to:

- Assess a site's suitability for a Grid-Connected Battery Storage system and calculate an estimated energy yield for the client.
- Assess a client's energy consumption, create a load vs PV profile and recommend options to improve self-consumption of PV energy.
- Determine best battery technology for a given scenario based on a variety of factors.
- Select appropriate components and assess their suitability.
- Design and Install a Grid-Connected Battery Storage system.
- Commission and Fault-Find Grid-Connected Battery Storage systems.
- Optimise Grid-Connected Battery Storage systems for non-typical usages.

Topics include:

- Commonly used battery chemistries and their characteristics
- Battery charging
- Multimode (hybrid) battery inverters
- AC and DC coupled battery inverter architectures
- Cable sizing, fault level calculations and selection of protective devices.
- Balance of System components
- Site suitablility and Load assessment
- System Design and Yield calculations
- Applicable Regulations, Standards – in particular

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NZIHT and this programme are part of Te Pūkenga – New Zealand Institute of Skills and Technology

Last updated: 30 September 2026

AS/NZS5033, AS/NZS4777.1, various battery standards including a look at the new AS/NZS5139 (not yet cited in Regs) and examples of lines company connection requirements in New Zealand
- Installation, testing, commissioning and fault-finding of Grid-Connected Battery Storage systems
- Hazards associated with batteries and Grid-Connected Battery Storage systems
- Energy consumption assessment, detailed load profiling and optimisation strategies.
- Multiple scenarios where Grid-Connected Battery Storage systems can be of use for:
  - Maximising self-consumption of renewable energy
  - Short-medium duration backup power
  - Load shifting
  - Tariff optimisation
  - Grid support
  - Avoidance of need to upgrade mains for some high-power loads
  - Single to three-phase conversion

Pre-requisites

- Completion of Grid-connected PV Systems, Design and Install (Micro-credential) (Level 4) is a pre-requisite for this course.
- All applicants must be registered electrical workers and hold a current practicing licence (proof is required)

Who should attend?

- Electricians
- Electrical Engineers
- Electrical Inspectors

Cancellation policy:

Participant withdrawals must be notified in writing. Any withdrawals after 15 working days of receiving the online login details will be charged the full course fee, including text book fee. If a participant requests to be transferred to a practical course on a different date, or fails to complete the required online modules and WITT is required to transfer the participant to a different date, the participant will be charged an additional fee of $300. Non-attendance of participants on the course date will be charged the full course fee. These cancellation fees are non-transferrable.

Additional Information

(Minimum numbers apply before a course is confirmed)
* Applicants must supply a verified copy of either their NZ Passport, NZ Birth Certificate or Residency Visa, as well as a copy of their current electrical practicing licence

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