

9 August 2024

Making it easier to build granny flats
Building System Performance
Ministry of Business, Innovation and Employment
grannyflats@mbie.govt.nz

Tēnā koe,

Enabling granny flats with safeguards for electrical safety

Powerco provides essential electricity and gas services and has an interest in ensuring new granny flats are built safely around our infrastructure, particularly overhead electricity lines. Powerco is one of Aotearoa's largest gas and electricity distributors, supplying around 357,000 (electricity) and 114,000 (gas) urban and rural homes and businesses in the North Island. These energy networks provide essential services to around 1 million kiwis. Powerco has significant investment plans to serve growing demand, and we are ready to play our part in supporting housing growth which is safely integrated with our infrastructure. More information about Powerco is provided in Attachment 3. Our response to the discussion document is provided in Attachment 1. Our summary views are:

Ensure changes to enable granny flats account for heightened risks of building near electricity lines

- This is not adequately addressed in current Building Code requirements or Resource Management Act (RMA) standards, nor in the Ministry's discussion document.
- The risks of electrical fault, fire, or serious injury are heightened with infill housing development such as granny flats, and this risk can be addressed by incorporating the existing Worksafe Electrical Code of Practice for electrical safe distances (ECP34)¹ into any of the options to enable granny flats.
- Non-compliance with ECP34 also risks financial impact to home-owners and developers. The cost to retrospectively achieve compliance (eg undergrounding the line or demolishing the building) can exceed the value of the building work. A heightened fire risk may also result in financial impact, eg home-owners' insurance may not cover fire damage resulting from non-compliance with a mandatory requirement.

Incorporate ECP34 into Building Code and RMA standards

- Addressing the risk for granny flats is an important step. The approach to reference ECP34 more broadly in the Building Code is set out in Attachment 2. A similar approach to compliance with ECP34 could be incorporated into a new Building Act schedule providing an exemption for granny flats.
- To ensure clarity, RMA standards should also align to ECP34.

¹ <https://www.worksafe.govt.nz/laws-and-regulations/electrical-and-gas-codes-of-practice/electricity-codes-of-practice/>



The electricity distribution, transmission and engineering sectors have called for this disconnect between the Building Code and ECP34 to be corrected since 2009 via submissions on related legislative amendments. The issue has not been addressed despite the serious safety and financial risks for home-owners and developers associated with non-compliance with ECP34.

Our submission does not contain any confidential information and may be published in full. We would be pleased to work with the Ministry on the next stage of drafting amendments. If you have any questions regarding this submission or would like to talk further on the points we have raised, please contact Irene Clarke (Irene.Clarke@powerco.co.nz).

Nāku noa, nā,

A handwritten signature in black ink that reads "E. Wilson".

Emma Wilson

Head of Policy, Regulatory and Markets

POWERCO

Attachment 1 – Response to consultation questions

We have provided responses to the discussion document in the table below.

Consultation question	Powerco response
<p>Questions 2 & 3:</p> <p>Safeguards for key risks need to address electrical safety</p>	<ul style="list-style-type: none"> We agree with the outcome of “enabling granny flats and other structures in the resource management and buildings systems, with appropriate safeguards for key risks and effects” The identified risks (page 7) notes there are minimum standards to address risks to the health and safety of people using the building. Current Building Act and Resource Management Act requirements do not address the risks of buildings with inadequate safe setbacks from electricity lines. There is an existing Worksafe code of practice which sets mandatory requirements to address the risk of building near or using buildings near electricity lines – New Zealand Electrical Code of Practice for Electrical Safe Distances (ECP34:2001). Compliance with ECP34 addresses the risk.
<p>Questions 6 & 7:</p> <p>The heightened risk of electrical safety is not addressed with the proposed option</p>	<ul style="list-style-type: none"> The discussion on the benefits, costs and risks (page 9) with the proposed option does not address a heightened risk of electrical safety. MBIE's preferred option to establish a new schedule in the Building Act focuses on using existing occupational regulation of qualified professionals and certain Building Code Acceptable Solutions. However, this does not and will not ensure safe setbacks from electricity lines. The proposed exemption heightens the risk as this necessary point of compliance is not clear for qualified professionals looking to the Building Code for compliance. To enable qualified professionals to consider and mitigate this risk, the solution needs to ensure an explicit link between the Building Code and NZECP34
<p>Questions 8 & 9</p> <p>Building consent conditions to protect workers and granny flat owners</p>	<ul style="list-style-type: none"> The proposed Building Act conditions for granny flats (page 9-11) refer to Building Code compliance and other additional conditions. This does not address the heightened risk of electrical safety with infill development, and the need to address this by ensuring ECP34 is explicitly part of the Building Code. Many of the conditions in the table on pages 9-11 pertain to safety (risk of collapse, protection from fire, limitation on wind zone exposure), including a condition that requires compliance with NZECP34 rounds off the safety element. We acknowledge the proposed Building Act conditions for one level (5m) height restriction and boundary setback, but a restriction on building height (5m) does not protect against the harm that can be caused from encroaching safe setbacks from electricity lines. ‘Granny Flats’ enabled under this proposal will require construction and periodic ongoing maintenance. Scaffolding and other construction methods will extend beyond the 5m height envelope, maintenance activities such as reroofing, solar panel installation, roof and gutter cleaning will expose people to electrocution hazards if NZECP34 is not adhered to within this enabling proposal. Under the Building Act, recommended practices of national organisations can be incorporated into Building Act instruments, solutions and methods. Unfortunately, ECP34 is not currently incorporated into the Building Code or forms.

Consultation question	Powerco response
	<ul style="list-style-type: none"> If a new Building Act Schedule is created (or other option), criteria to address risks must include compliance with essential codes of practice (such as ECP34) as well as other relevant standards. Ultimately, the Building Code should be amended to include reference to ECP34 for all buildings. As an interim measure, and recognising the heightened risk with infill granny flats, the proposed Building Act Schedule could include this specific reference.
<p>Questions 21 & 22</p> <p>Resource management tools to be consistent and avoid confusion</p>	<ul style="list-style-type: none"> We note that the proposed standards for height and setbacks in the National Environmental Standard are not consistent with those proposed under the Building Act conditions and expect this to create considerable confusion and non-compliance. These should be consistent. The standards are also not consistent with ECP34. Current national direction and most district plans do not incorporate requirements for setbacks from electricity lines consistent with ECP34. The proposed National Environmental Standard under the Resource Management Act can set permitted activity standards to address risks and manage potential effects. This must include consistency with relevant New Zealand Standards and Codes of Practice such as safe setbacks in ECP34. Powerco endorses new RMA national direction for electricity distribution as a priority to ensure that the functional and operational requirements of distribution networks are consistently recognised. NPS and NES for electricity distribution can protect existing electricity assets, support the significant energy system build required in the next 20 years, and support safe and affordable housing growth.

Attachment 2 – Amending the Building Code to reference ECP34

Context

The New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 (ECP34)² provides for minimum safe distances for excavation and construction near overhead electric line supports (section 2), and safe distance requirements between conductors and buildings and other structures (section 3). The minimum safe distances are set to protect persons, property, vehicles and mobile plant from harm or damage from electrical hazards.

Clause 2.4.1 of ECP34 provides that:

“Except with the prior written consent of the overhead electric line owner, no building or similar structure shall be erected closer to a high voltage overhead electric line support structure than the distances specified in Table 1...”.

Clause 3.2 of ECP34 sets out the process for establishing safe distances prior to any planned construction, which can be done with the assistance of the line owner, if necessary. Compliance with ECP34 is mandatory. Regulation 17 of the Electricity (Safety) Regulations 2010 provides that anyone who “carries out any construction, building, excavation, or other work on or near an electric line must maintain safe distances... in accordance with ECP34”. It is an offence under regulation 17(3) if safe distances are not maintained.

Home-owners and many practitioners in the building sector are unaware of the requirements of ECP34. This lack of awareness is despite the mandatory requirements and the educational tools available on ECP34 and information that may, in some cases, be on LIMs. A key reason for this situation is that there is nothing in relevant building legislation that provides a clear link to these safety obligations when performing or undertaking building work or functions.

Compliance with ECP34 does not necessarily mean that home-owners or developers face additional costs. Compliance with the setbacks in ECP34 Table 2 does not require specific engineering advice, setbacks can be achieved and demonstrated simply. However, home-owners or developers looking to maximise their space availability or with compact allotments, may be eligible for reduced setbacks in compliance with Table 3 with relevant specialist advice.

Powerco is aware of examples of non-compliance including:

- Building design complies with the ECP34 setback but the construction methodology does not, for example placement of scaffolding
- Mobile buildings or plant located close to lines during construction projects
- After construction, building maintenance activities occurring closer to lines, for example re-roofing, solar panel installation, gutter cleaning or activities involving scaffolding.

An example of non-compliance is shown in Figure 1.

² [Electrical codes of practice | WorkSafe](#)

Figure 1 Construction breaching ECP34, New Plymouth



The solution

The best solution is to ensure these risks do not occur through compliance at the time of building approval. Although the Building Code contains certain clauses that may appear to cover ECP34 compliance, they do not. For example:

- Clause B1.3.5 has a performance requirement that site work must be carried out to avoid the likelihood of damage to other property. However, the focus of that clause is about 'structures' and structural safety rather than electrical safety.
- Clause F5 concerns construction and demolition hazards, and while the functional requirement in that clause appears that it could apply to this situation, ultimately the performance requirements only deal with falling objects and barriers to sites.
- Clause G9, concerning electricity, is arguably the most logical place where some form of restriction would be found, but it only concerns electrical safety 'in' buildings, not **external** to buildings.

Preferred option

There are a number of options to help ensure compliance with ECP34. The preferred option is to **make compliance with ECP34 a requirement of the Building Code with either clause F5 or G9 amended to establish this requirement.**

This would be the most robust, and effective option. Amending the Building Code will ensure that whether or not any building work requires consent, the requirement to comply with NZECP34 is made clear, given section 17 of the Act requires that all building work must comply with the Building Code.

Inclusion in G9 would be the most appropriate, through:

- Expanding the objective of G9 so that *buildings / installations have safe setback distances from overhead electric lines to comply with NZECP34 (electrical safe distances)*
- An additional Functional Requirement – *a building shall be safe for their intended use; including the construction of, and ongoing maintenance activities of, a building.*
- An additional Performance requirement(s) in G9.3 that *the building incorporates minimum safe distances from overhead electric lines that complies with NZECP34.*

Alternative Building Act options

Other options to help with compliance with ECP34 include:

- Changes to [building consent application forms](#) to trigger a requirement to identify if ECP34 applies to the building work, or not, how compliance will be achieved, or include a requirement for a document from an approved body/person certifying compliance (and BCA therefore not responsible for ensuring complying methodology).
- A provision along the same lines as the certificate required to be issued (with a project information memorandum or consent) under [section 37 of the Building Act](#). This certificate is issued when a resource consent is required and will or may materially affect the proposed building work. If an applicant has identified in their application that ECP34 will be relevant to their building work, the BCA could be placed in a position of being able to issue a certificate stating that building work must not proceed until they are provided with proof of compliance with ECP34.
- Include provisions similar to [section 39 and/or section 46 of the Building Act](#), which require that Heritage NZ and Fire and Emergency NZ are advised when certain applications are made. In this case the electricity distributor (or Transpower as the case may be) would be advised. However this would require the BCA to determine whether the lines company should be notified and would also not link compliance with ECP34 with the building consent, so is not a preferred option.
- Include a provision to require an application for the [code compliance certificate](#) to show that the building complies with ECP34.

Resource Management Act (RMA) standards also need to be consistent

District Plans set setback distances which may not align with ECP34. To avoid conflicting requirements and confusion, RMA options would also assist with compliance to ECP34. This could include:

- National Environmental Standards (NES) under the RMA set permitted activity standards to address risks and manage potential effects. This could [include conditions in relevant housing NES](#) for consistency with New Zealand Standards and Codes of Practice such as safe setbacks in ECP34. Relevant NES would include those for urban development or granny flats.
- [New and/or amended RMA national direction for electricity distribution](#) and transmission would ensure that the functional and operational requirements of electricity networks are consistently recognised. NPS and NES for electricity distribution and transmission can protect existing electricity assets, support the significant energy system build required in the next 20 years, and support safe and affordable housing growth, including through standards for compliance with ECP34.
- [Amending S87B of the RMA](#) to include another clause - any activity that is not in compliance with the minimum safe electrical distance requirements set out in NZECP34 must be treated as a prohibited activity. Note that under clause 3.2.1.4 of ECP34, "construction is prohibited" if the setback requirements are not met.

Attachment 3 – Information about Powerco and our network

Providing an essential service

We bring electricity and gas to around 1 million kiwis across the North Island. We're one part of the energy supply chain. We own and maintain the local lines, cables and pipes that deliver energy to the people and businesses who use it. Our networks extend across the North Island, serving urban and rural homes, businesses, and major industrial and commercial sites. We are also a lifeline utility. This means that we have a duty to maintain operations 24/7, including in the case of a major event like an earthquake or a flood.

The cost of operating our business is not dependent on the amount of gas or electricity we distribute in our networks. These costs reflect the need to maintain the safe operation of the network and are mostly driven by compliance with safety regulations. This includes replacing assets when they reach their end of life. Additional costs to grow the size or the capacity of the network are often met by customers requiring the upgrade or new connection.

Under Part 4 of the Commerce Act, Powerco's revenue and expenditure are set by the Commerce Commission as part of monopoly regulation. We are also subject to significant information disclosure requirements, publicly publishing our investment plans, technical and financial performance, and prices. The regulatory regime allows us to recover the value of our asset base using a regulated cost of capital (WACC) set by the Commission, and a forecast of our expenditure. Every five years, the Commission reviews its forecasts and resets our allowable revenue. This process is designed to ensure the costs paid by customers for us to manage and operate our network is efficient given we are a monopoly and an essential service.

Our electricity customers

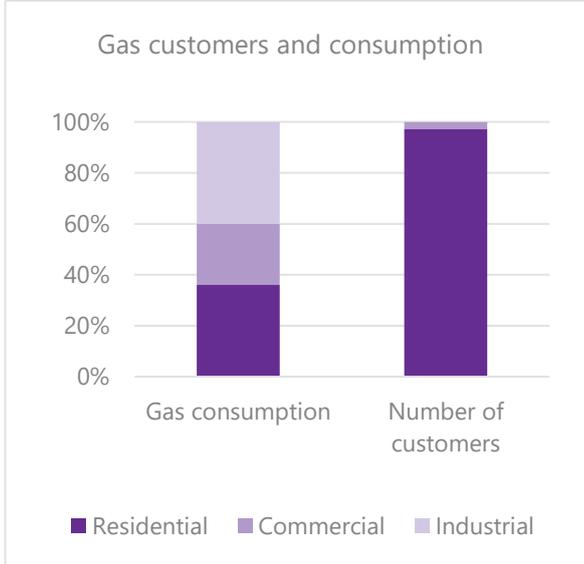
Powerco is New Zealand's largest electricity utility by the area we serve. Our electricity networks are in Western Bay of Plenty, Thames, Coromandel, Eastern and Southern Waikato, Taranaki, Whanganui, Rangitikei, Manawatu and Wairarapa. We have over 29,000 km of electricity lines and cables connecting around 357,000 homes and businesses. Our place in the electricity sector is illustrated below.



Our network contains a range of urban and rural areas, although is predominantly rural. Geographic, demographic, and load characteristics vary significantly across our supply area. Our development as a utility included several mergers and acquisitions that have led to a wide range of legacy asset types and architecture across the network. Powerco is one of 29 electricity distribution companies. Our customers represent around 13% of electricity consumption (similar in magnitude to the Tiwai aluminium smelter) and around 14% of system demand. Powerco's

network is almost three times the size of Transpower’s in terms of circuit length. The peak demand on our combined networks (2023) was 974 MW, with an energy throughput of 5,225 GWh.

Our gas customers



Powerco is New Zealand’s largest gas distribution utility. Our gas pipeline networks are in Taranaki, Hutt Valley, Porirua, Wellington, Horowhenua, Manawatu and Hawke’s Bay. We have over 6,200 km of gas pipes connecting to around 114,000 homes and businesses. Our customers consume around 8.6 PJ of gas per year.

Our industrial customers are less than 1% of our customer base and consumer approx. 40% of gas on our network. Our residential customers are 97% of our customer base and consume approx. 35% of gas on our network. The remaining 25% of gas is consumed by our commercial customers.

Around 30% of our larger customers are in the food processing sector, around 20% in the manufacturing sector and around 10% in the healthcare sector.

Our network footprint

Our network represents 46% of the gas connections and 16% of the electricity connections in New Zealand. We operate assets within six regions and across 29 district or city council areas.

