

Buller Electricity Limited (BEL)

Submission on: Promoting reliable electricity supply – Options to address a harmonics issue

Q1. Do you agree the Authority should be short listing Option 1 for further consideration? If you disagree, please explain why.

Yes. BEL supports Option 1 as the preferred option for further development. We agree that NZECP 36:1993 is no longer fit for purpose and should be replaced by a framework based on modern international standards and contemporary industry practice. Option 1 provides the best balance between regulatory certainty, consistency across the electricity sector, and flexibility for network operators to manage harmonics according to local network conditions. BEL particularly supports the proposal to adopt harmonics planning levels through the Code while allowing network operators flexibility in how harmonics are allocated and managed.

Q2. Do you agree the Code should not mandate harmonics management requirements, other than harmonics planning levels? If you disagree, please explain why.

Yes. BEL agrees that the Code should primarily establish harmonics planning levels and overarching obligations, rather than prescribing detailed harmonics management methodologies. Harmonics management is a technically complex area that requires engineering judgement and consideration of local network characteristics.

Q3. What regulatory instrument (ie, the Code or the Electricity (Safety) Regulations) do you consider should be used to regulate installation standards for harmonics?

BEL considers installation standards should primarily be regulated through the Electricity (Safety) Regulations, supported by recognised technical standards. The Code should focus on electricity industry obligations, planning levels, and responsibilities between industry participants.

Q4. Which, if any, aspects of AS/NZS 61000 do you consider need substituting or adapting in order to accommodate New Zealand conditions?

BEL considers adaptation may be required to reflect smaller and more radial New Zealand networks, increasing penetration of inverter-based resources, capability constraints faced by smaller EDBs, and the need for proportional compliance requirements based on connection size and risk.

Q5. Do you consider the establishment, monitoring and enforcement of harmonics requirements should be a contractual matter between electricity network owners

and their customers, or a Code-enforceable matter? Please give reasons with your answer.

BEL supports retaining a primarily contractual framework between network owners and connected parties, with the Code establishing planning levels and high-level obligations.

Q6. Do you consider distributors should have a mandated responsibility to investigate and resolve security of supply or reliability issues caused by non-compliance with the harmonic levels specified for distribution networks?

BEL supports distributors having a responsibility to investigate significant harmonics-related reliability or security-of-supply issues. However, distributors should not be solely responsible for resolving issues where the underlying cause originates from connected parties.

Q7. What guidance for industry participants do you consider would be necessary under Option 1?

Guidance should include assessment methodologies, allocation methodologies, monitoring requirements, treatment of inverter-based resources, management of legacy assets, dispute resolution processes, and worked examples.

Q8. What do you consider to be the main benefits and costs associated with Option 1?

Benefits include replacing an outdated framework, improving consistency, aligning with international standards, and supporting electrification. Costs include implementation, training, monitoring equipment, engineering assessments, and updating connection standards.

Q9. Do you agree the Authority should be short listing Option 2 for further consideration? If you disagree, please explain why.

Yes. BEL supports retaining Option 2 for evaluation as a useful comparator, although Option 1 remains BEL's preferred option.

Q10. What do you consider to be the main benefits and costs associated with Option 2?

Benefits include flexibility and lower regulatory burden. Costs include inconsistent application, higher transaction costs, and reduced certainty for developers.

Q11. Do you agree the Authority should be short listing Option 3 for further consideration? If you disagree, please explain why.

BEL agrees Option 3 warrants consideration but does not support it as the preferred option.

Q12. What do you consider to be the main benefits and costs associated with Option 3?

Benefits include familiarity and tailoring to New Zealand conditions. Costs include significant development effort, long implementation timeframes, and potential divergence from international standards.

Q13. What do you consider to be the benefits and costs of the current arrangements for obtaining harmonics data from distributors and from Transpower, as a transmission network owner?

Current arrangements are relatively low-cost and flexible but rely on manual processes and provide inconsistent access to information.

Q14. What do you consider to be the benefits and costs of a database of harmonics measurements?

Benefits include transparency, improved planning, and reduced duplication of information requests. Costs include establishment, governance, cybersecurity, and data quality assurance.

Q15. Would access to raw harmonics measurement data be useful for your organisation? If so, why?

Yes. It would assist BEL with connection assessments, network planning, power quality investigations, and benchmarking.

Q16. Who do you consider should host a database of harmonics measurement data? Please give reasons.

BEL considers the Electricity Authority is the preferred host due to its independence, industry-wide perspective, and existing information management capability.