

# Submission form

Promoting reliable electricity supply: Options to address a harmonics issue

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| Submitter | Tesla |
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| Questions                                                                                                                                                                                                                                              | Comments                                                                                                                                                  |
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| Q1. Do you agree the Authority should be short listing Option 1 for further consideration? If you disagree, please explain why.                                                                                                                        | Agree.                                                                                                                                                    |
| Q2. Do you agree the Code should not mandate harmonics management requirements, other than harmonics planning levels? If you disagree, please explain why.                                                                                             | Agree.                                                                                                                                                    |
| Q3. What regulatory instrument (ie, the Code or the Electricity (Safety) Regulations) do you consider should be used to regulate installation standards for harmonics?                                                                                 | N/A                                                                                                                                                       |
| Q4. Which, if any, aspects of AS/NZS 61000 do you consider need substituting or adapting in order to accommodate New Zealand conditions?                                                                                                               | None, AS/NZS 61000 is suitable in current form.                                                                                                           |
| 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. | We support harmonics being a Code-enforceable manner to facilitate standardisation and clarity.                                                           |
| 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?                      | N/A                                                                                                                                                       |
| Q7. What guidance for industry participants do you consider would be necessary under Option 1?                                                                                                                                                         | Given AS/NZS 61000 is used in other markets, there will likely be many global learnings that will be helpful for implementation in New Zealand market.    |
| Q8. What do you consider to be the main benefits and costs associated with Option 1?                                                                                                                                                                   | Benefits are aligning with global modern best practices and consistency of treatment of harmonics, well understood.                                       |
| Q9. Do you agree the Authority should be short listing Option 2 for further consideration? If you disagree, please explain why.                                                                                                                        | Disagree. For transmission-level harmonics, aligning with AS/NZS 61000 will be the most straightforward for project proponents to engage with.            |
| Q10. What do you consider to be the main benefits and costs associated with Option 2?                                                                                                                                                                  | A new expansion of the guidelines will cause ambiguity due to the potential inconsistent applications.                                                    |
| Q11. Do you agree the Authority should be short listing Option 3 for further consideration? If you disagree, please explain why.                                                                                                                       | Disagree, given the significant time, effort and cost to fully revise harmonics standard. This will have significant work for project proponents as well. |
| Q12. What do you consider to be the main benefits and costs associated with Option 3?                                                                                                                                                                  | Agree with the costs and shortcomings outlined in 6.2.                                                                                                    |
| 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?                                                                | N/A                                                                                                                                                       |
| Q14. What do you consider to be the benefits and costs of a database of harmonics measurements?                                                                                                                                                        | N/A                                                                                                                                                       |

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| Q15. Would access to raw harmonics measurement data be useful for your organisation? If so, why?   | Yes, it would be helpful during the connection process as it enables us to validate against NSP interpretation.   |
| Q16. Who do you consider should host a database of harmonics measurement data? Please give reasons | Supportive of the Authority or Transpower, as the system operator, to host the data base as a neutral aggregator. |