

11 August 2026

Future Security and Resilience Team
Electricity Authority
By email: fsr@ea.govt.nz

Tēnā koe,

Common quality information sharing for efficient network operation

We welcome the opportunity to respond to the Electricity Authority (**Authority**)’s consultation paper proposing Code amendments for sharing of common quality information between the System Operator (**SO**) and Transpower. A fair and collaborative approach to maintaining a reliable electricity supply during Aotearoa’s energy transition requires enhanced data sharing. Sharing common quality information between Transpower as network owner and the SO is part of that, however, also critical will be sharing between the SO and distributors in a future system which will increasingly involve distributed energy resources (**DER**) and distribution system operation (**DSO**).

Powerco has held a consistent view¹ that phase 2 (sharing with distributors) is necessary to meet the objectives in sharing common quality information, the proposed amendments do not align with this. We have commented on the consultation questions in the attachment, with our summary observations set out as follows:

Information sharing is a priority

- We have supported² prioritising phase one of the common quality information sharing options for information sharing between asset owners and the SO, but highlighted phase two should be progressed promptly to realise the full objectives of the proposal across both transmission and distribution networks
- Clarifying information requirements and enabling sharing between the SO, distributors, and Transpower is the most efficient option for both generators and network operators
- Access to asset capability statement (ACS) information is a priority for network planning and operational decision-making for distributors, in the same way Transpower requires access to this information.

Efficiency and future focus are drivers for phase 2

- As highted in the consultation paper, current arrangements require separate functions (SO and Transpower) to seek the same information from asset owners. The same inefficiency occurs for distributors, increasing administrative and compliance effort for all parties
- A future DSO model, including Powerco’s transition to a DSO, requires not only visibility but understanding the dynamic response of inverter-based resources (**IBRs**) to ensure coordination across distribution, grid, generation and flexibility dispatch to maintain a stable system. Deferring Phase 2 information sharing with distributors is inconsistent with the Authority’s recently published DSO roadmap

¹ Powerco submissions 12 August 2025 – [Common quality related information Code amendment](#) and 12 November 2024 – [Common quality information requirements](#)

² In submissions above.

- Secure system operation in a future with increasing penetration of IBRs will require distributors to assess system stability in a dynamic state, rather than only steady state.
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**The Code
manages roles
and use of
information**

- Enhanced information sharing can be designed to be compatible with, and not blur, the distinct roles of the SO, distributors, and Transpower
- A balanced approach to proprietary information, focusing on control functions and responses (features) rather than the specific software implementation details would mitigate manufacturer concerns.

We strongly recommend that the Authority extend the Code amendment to include common quality information sharing with distributors. While the consultation document states that there were mixed views on this option, and there would be some cost for distributors, the Authority has not provided clear evidence that the costs outweigh the benefits. We would be pleased to meet with the Authority and discuss our views.

This submission does not contain any confidential information. If you have any questions or would like to talk further on the points we have raised, please contact Irene Clarke (Irene.Clarke@powerco.co.nz).

Nāku noa, nā,



Emma Wilson

Head of Policy, Regulation and Markets

POWERCO

1. Dynamic modelling will be a key capability in distribution network planning and operation

Traditional distribution network planning has relied primarily on steady-state analysis because distribution networks were mainly made up of passive loads supplied from the upstream transmission system. As DER penetration levels increase to take up a growing proportion of connected generation, displacing thermal rotating generating plants, the distribution network becomes an active distribution network (**ADN**). In this situation, the ADN increasingly exhibits dynamic behaviour influenced by inverter controls, distributed voltage regulation, frequency response and fast interactions between multiple devices.

Dynamic modelling is therefore going to become an essential capability for distributors to assess secure operation, maximise DER integration and support the transition to a DSO future. Access to common quality information is therefore important to develop these foundational capabilities.

2. Responses to the Authority's consultation questions

Questions	Comments
Deferral of phase 2 - sharing with distributors	Section 2.18 of the consultation document suggests that stakeholders did not view sharing information with distributors as a priority. Powerco's view is that deferring Phase 2 information sharing with distributors is inconsistent with the Authority's recently published DSO roadmap as this information is part of future system operation in a DSO environment, especially given the rise of DER and the need for distribution-level coordination. Powerco is committed to a DSO transformation. Without equivalent access, distributors must either make conservative assumptions or independently request the same information from asset owners, which leads to increased costs and inefficient system coordination. In future, as flexibility resources become aggregated together to form virtual power plants for example, asset owner performance obligations (AOPs) will have to apply to aggregators as well. While the AOPs applies to the aggregated participant, the physical assets are connected throughout the distribution network. Therefore, distributors require visibility of the aggregate dynamic behaviour to assess network impacts and coordinate operational responses to maintain secure system operation. This Code change would link directly to the Authority's work to drive future market evolution.
Q1: Access to Asset Capability Statement (ACS) Database	Powerco supports the proposal to provide Transpower with access but strongly urges the Authority to include distributors in this access: • Visibility as a priority: Direct access to the ACS platform for all embedded generators connected to their distribution network is a priority • Operational necessity: This visibility is critical for distributors to perform their own network planning and operational decision-making, particularly as the system becomes more complex. It enables distributors to carry out dynamic studies of IBRs, assess interactions between connected DERs, assess voltage and frequency performance following disturbances, and determine appropriate hosting capacity (dynamic operating envelopes).

Questions	Comments
Q2 & Q3: Sharing Modelling Information and Security Obligations	Powerco supports these proposals but maintains they should extend to distributors to ensure a holistic approach to system stability: • Efficiency: Enabling sharing between the SO, distributors, and Transpower is the most efficient option for both generators and network operators, as it reduces the need for parties to separately seek identical information from asset owners. • Dynamic modelling capability: As IBRs increasingly make up a significant proportion of despatched generation and load (flexible demand), traditional steady state studies will no longer be sufficient to demonstrate secure and stable system operation. Distributors will eventually require access to validated dynamic models to assess various conditions such as voltage recovery, frequency response, inverter control interactions, fault ride-through performance as well as system stability under credible disturbances. • Network impact: Flexibility resources aggregated together at scale—to form virtual power plants or flexible demand under contract—for use cases such as fast frequency response (similar to a hydro station operating in tailwater-depressed mode) or contingency reserve will, one day, be required to have AOPOs if they are 10MW or more. Distributors connecting these aggregated resources need to understand whether the aggregated dynamic response will create localised voltage excursions, or will simultaneous inverter response overload feeders, or will controller interactions cause oscillations (small signal instability). • Proprietary concerns: The proposed Code amendments address manufacturer concerns about commercially sensitive data. Provisions which would apply to Transpower (eg encryption, purpose limitation, secure storage, confidentiality) could equally apply to distributors management of this information • Role clarity: Powerco’s role as a distributor and asset owner does not lead to actual or perceived conflicts of interest regarding this common quality information.
Q5: Objective of the Code Amendment Proposal	Powerco supports the objective of maintaining network integrity but considers the current scope too narrow by excluding distributors. Powerco has consistently endorsed the need for prompt progression of phase 2 (sharing with distributors) to realise the full objectives of the proposal. The proposals do not align with objectives for a Future System Operation incorporating DSO models, where visibility and coordination across distribution, grid, and generation dispatch are fundamental.

Questions	Comments
Q6: Evaluation of Benefits and Costs	Powerco agrees that the benefits outweigh the costs but argues the net benefit would be significantly higher if distributors were included: • Reducing duplication: The current "fragmented approach" where separate functions seek the same info from asset owners increases administrative and compliance costs for all parties • System stability: Some distributors may incur costs for new modelling software and staff upskilling, others will not. These costs are far outweighed by the system stability benefits and the avoidance of significant network investments that would otherwise be needed. We understand that extending the provisions to distributors may result in some cost to distributors (eg capability or systems), but we are satisfied that the benefits (outlined above) for distribution network planning and operation would outweigh any costs.
Q7: Preference over other options	Powerco maintains its preference for Option 3 (from the October 2024 options paper), which provided for improved access to common quality information for both distributors and Transpower. Option 3 is viewed as the most efficient overall choice for generators and network operators.