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Consultation Paper – Improving information on high-voltage network capacity

Introduction

The Lines Company (TLC) appreciates the opportunity to provide a cross submission on the Electricity Authority's (Authority) consultation paper. The purpose of the paper is to seek feedback on proposed draft Code amendments to require distributors to publish network information relating to the hosting capacity of their high-voltage networks.

The Lines Company

The Lines Company (TLC) supports the Authority's strategic direction to improve visibility of distributed generation and load, where this leads to better investment decisions, improved network utilisation and long-term benefits for consumers.

TLC is already progressing in this direction. We have commenced development of enhanced internal datasets to support whole-of-network power flow analysis, enabling improved understanding of network capacity, constraints and future connection impacts. In parallel, TLC is collaborating with other distributors and external software developers to develop visibility tools and data capabilities that are consistent with existing industry approaches and published information.

These initiatives reflect a sector that is actively responding to the need for improved transparency and planning capability, without the need for immediate prescriptive regulation.

Consistent with positions raised across other distributor submissions, TLC considers the current proposal is premature, insufficiently justified and operationally challenging in its proposed form and timeline.

1. Regulation is premature

TLC aligns with other distributor and Electricity Network Aotearoa (ENA) submissions that regulation should not be imposed at this stage. The sector is already progressing improvements through connection processes, publication of pipeline information and implementation of various capacity hosting map projects. Many of these projects are collaborative approaches with distributors which will create a manner of consistency and keep costs down for customers while providing access seekers the necessary information to inform and direct initial opportunities.

Introducing mandatory reporting ahead of consistent standards, tested processes and proven value risks imposing unnecessary cost and complexity without delivering meaningful benefits. A non-regulated or pilot phase would allow the Authority and industry to:

- refine and align technical specifications and methodologies
- assess availability and quality of information
- validate whether the data improves decision-making
- assess whether the proposed code changes improve decision-making for access seekers

Premature regulation risks locking in requirements before these fundamentals are properly established and risk destroying value and effort for both existing capacity hosting maps and capacity maps that are actively being developed now.

2. Cost-benefit analysis

TLC agrees with other distributors that the cost-benefit case is not sufficiently developed for all the requirements proposed for capacity, non-network solutions and reliability visibility. While the Authority identifies qualitative benefits in improved visibility, it has not quantified:

- initial system builds and integration costs
- ongoing quarterly modelling and reporting costs
- resource impacts on network businesses
- costs imposed with increasing line charges
- marginal benefit of incremental data fields and update frequency

The associated costs are non-trivial and compete directly with investment in network reliability, resilience and safety outcomes and without a clear demonstration that benefits outweigh costs, the proposal risks delivering regulatory burden rather than customer value.

3. No evidence additional data and frequent updates deliver customer value

TLC is in support of the ENA and other distributors noting there is no clear evidence that expanding the dataset or increasing reporting frequency materially improves outcomes for access seekers.

Key concerns include:

- Many data points rely on applicant estimates and are inherently uncertain, particularly at early stages
- Project milestones often change frequently, meaning quarterly updates provide limited additional insight
- Additional data requirements increase effort but not necessarily decision quality

There is also no demonstrated link between broader data collection (such as reliability-related metrics or similar concepts) and improved connection, investment or market outcomes.

A more proportionate approach could focus on:

- core connection and capacity information
- lower frequency updates initially
- targeted expansion only where benefits are demonstrated

4. Non-network solutions require more than a static capacity map

TLC agrees with other distributors that static capacity maps are insufficient to enable non-network solutions and flexibility opportunities. Non-network opportunities depend on:

- dynamic power flows and real-time network conditions

- location-specific constraints (thermal, voltage, protection)
- timing and coincidence of load and generation
- network configuration and outage states
- commercial and contractual arrangements

A static or simplified representation risks:

- overstating available capacity
- creating false expectations for developers
- misinforming investment decisions

Capacity information must therefore be clearly framed as indicative and cannot substitute for detailed engineering assessment with regular power flow studies across the entire network not possible for many distributors and not providing opportunity to discuss specific flexibility and other options with access seekers.

5. Duplication of regulatory requirements

TLC shares concerns raised across distributor submissions regarding duplication of regulatory requirements. Distributors are already subject to extensive Commerce Commission Information Disclosure obligations, including reliability performance reporting. The Authority's proposal risks:

- duplicating existing data collection e.g. SAIDI/SAIFI
- creating multiple versions of similar datasets
- increasing compliance burden without added value
- introducing confusion for stakeholders where datasets differ

This is particularly relevant where similar metrics (for example, reliability-related data) are already governed through established regulatory frameworks.

The Authority could prioritise:

- leveraging existing datasets
- aligning definitions and reporting structures
- avoiding parallel reporting obligations

6. Power-flow based capacity maps are not yet practical

Requiring capacity maps based on nodal power-flow analysis is a significant step that is not yet practical across the sector. Delivery of this requirement would depend on:

- high-quality, validated network models
- consistent modelling assumptions across distributors
- accurate and granular load and generation data
- established methodologies for constraints and contingencies
- sufficient specialist capability and systems

Even in mature environments, running and validating these models on a regular cycle (e.g. quarterly) would be resource intensive. Across the sector, data and model maturity is improving but not yet sufficiently standardised to support consistent, reliable outputs at the level implied by the proposal.

Premature implementation risks publishing data that is inconsistent or misleading and targeted power flow modelling has a far better and more valuable outcome for access seekers.

7. Timelines – staged approach required

TLC agrees with other distributors that the proposed timelines are too compressed given the scope and complexity of the requirements, especially if power flow models for the entire network are required.

Implementation requires:

- system development and integration
- process redesign
- engagement with applicants to obtain additional data
- establishment of governance and validation processes
- testing and assurance

A staged approach is essential. TLC recommends:

Stage	Scope	Key actions
Stage 1	Core data and limited project scope	Non-enforcement supported implementation
Stage 2	Gradual expansion of data fields	Refinement of definitions and templates; improved alignment with connection processes
Stage 3	Higher frequency reporting, where justified	Potential introduction of more advanced data if benefits are demonstrated

Clear Authority guidance, templates and worked examples would be prudent ahead of each stage and based on capability and data availability across all distributors.

8. Data quality requires a maturity pathway

TLC supports improving data quality over time but agrees with other distributors that current data limitations must be recognised.

Key issues include:

- reliance on applicant-provided data that may be incomplete or uncertain
- variability in data availability across project stages
- evolving network model maturity

Immediate full compliance expectations are not realistic and risk:

- creating misleading outputs
- diverting effort into compliance rather than quality improvement
- penalising reasonable limitations outside distributors' control

A more effective approach is to:

- adopt a continuous improvement framework
- clearly communicate data limitations and assumptions
- prioritise accuracy over completeness in early stages
- allow flexibility where information is unavailable

Summary

TLC, consistent with broader distributor feedback, supports the objective of improved visibility but recommends a more proportionate approach that is:

- staged rather than full-fledged within a year
- targeted rather than comprehensive

- aligned with existing regulation
- supported by clear guidance and standards, keeping in mind significant investment already incurred by many distributors in producing capacity hosting maps
- grounded in demonstrated customer benefit

This approach will better balance transparency objectives with cost, practicality and data quality, and support more effective long-term outcomes for customers.

For further information, please contact the writer, [REDACTED] or Craig Donaldson,

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Yours sincerely

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