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Electricity Authority
Level 7
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Via email: fsr@ea.govt.nz

Consultation Paper - The future operation of New Zealand's power system – Issues and high-level options

Introduction

The Lines Company (TLC) appreciates the opportunity to provide feedback on the Electricity Authority's (Authority) consultation paper. The purpose of the paper is to consult with interested parties on options for the future operating model of New Zealand's power system, particularly the distribution component of the power system.

Summary

TLC is supportive of proactively preparing for a system that supports New Zealand's move to a more electrified economy. This should enable a smoother transition to a decentralised power system, leading to better outcomes for all consumers.

Please find our responses to the questions in the Appendix on the following pages. For further information, please contact the writer, [REDACTED] or Craig Donaldson, [REDACTED]

Yours sincerely

Gerhard Buitendach
General Manager Network

Appendix: Format for submissions

Submitter The Lines Company Limited (TLC)

Questions	Comments
Q1. Do you agree with the explanation of the distribution system operator (DSO) role/entity, and the explanation of the distribution system operation (DSO) functions that one or more DSO entities would be required to perform?	<p>TLC supports clearly identifying the various roles and functions that are needed to ensure system reliability, stability and affordability for consumers in a changing market where dynamic and unpredictable power flows are brought about by more DER sources.</p> <p>Network operators will have the need to have and provide greater flexibility to efficiently balance supply and demand, manage congestion, and maintain voltage stability and consumers will need the ability, correct pricing incentives and trust to actively participate.</p> <p>TLC supports the roles summarised as being:</p> <ul style="list-style-type: none"> • Real-time distribution network operations • Distribution market mechanisms • Integrated distribution system planning <p>We believe distribution market mechanisms should be more granular, considering customer types before assigning functions to specific parties.</p> <p>For example, aggregation and market participation for industrial or commercial customers will be different to that of local lwi groups where peer-to-peer trading might be more suitable.</p>
Q2. Do you think we are correct that the themes we identified in submissions to the initial consultation paper mean we should focus mostly on system operation at the distribution level, and on the new functions required for effective distribution system operation?	<p>A clear definition of system operation is essential, with consumer behaviour and participation recognised as important outcomes—however, these should not come at the cost of equity and affordability for all consumers. TLC supports prioritising new DSO functions and examining how they interact. Effective coordination of these functions necessitates a strong focus on consumer needs. Distributors are well positioned to represent customers, given the specific characteristics unique to each network.</p>

Questions	Comments
Q3. Do you think we have accurately covered the main changes to the distribution system in this section? If not, what have we missed or where have we gone wrong?	<p>The changes have been thoroughly addressed, and TLC concurs with ENA's assessment that the rate of change varies among distributors. The implementation of regulation must prioritise both affordability for all customers and considerations of equity. Distributors serve a diverse customer base; some can invest in rooftop solar panels and battery systems, while others may face challenges affording essential services such as hot water. The proportion of these groups differs across networks.</p> <p>It is good to see the acknowledgment that Multiple Trading Relationships (MTR) (Section 4.13), provides options and we believe this is a critical factor that will provide suitable options for different customers with different financial capability and needs, including social responsibility.</p>
Q4. Do you agree with how we have defined the problem, as the need for a more coordinated framework of integrated system operation?	<p>TLC acknowledges the importance of establishing a more coordinated and integrated system. However, optimisation efforts should begin with the digitalisation at the distribution level, as these initiatives constitute multiyear projects involving large investments.</p> <p>Investment to get ready for a DSO environment is not only on a digital level but also includes investment on data quality, especially the low voltage (LV) network for many distributors. These investments need careful consideration by the Commerce Commission when price paths are set for Transpower and the distributors as it can have a significant impact on customers.</p>
Q5. In your view, what aspects of the Australian and British deliberations around DSO models are relevant to New Zealand?	<p>All three model options are relevant to New Zealand with the Ofgem outcome that distributors should remain responsible for real-time operations, ensuring accountability for reliability and safety.</p> <p>Introducing an independent distribution system operator (iDSO) in New Zealand is premature, as distributors are already well connected through the ENA, Northern Energy Group (NEG), and South Island Distribution Group (SIDG); coordination can occur without a new entity that would increase costs and require more regulation.</p>

Questions	Comments
Q6. What do you think about the direction of research conducted in New Zealand by bodies such as the ENA, NEG and SIDG on the challenges of preparing to perform DSO functions?	TLC supports both the ENA and NEG research and the Baringa report prepared for the ENA Future Network Forum (FNF) captures the advantages, disadvantages and cost associated with the three models well.
Q7. What is your view about the need for an independent DSO (iDSO)? Should we consider an iDSO now as an option to perform all DSO functions, or a subset of functions related to market facilitation? Or can that decision wait until the market for flexibility services is more developed?	<p>We believe that implementing an iDSO at this stage would introduce unnecessary complexity and expense, without adequately addressing the variability and differences present across regions of the country. Accommodating these variances would further increase costs and intricacy and may not deliver optimal outcomes for customers across the various networks.</p> <p>There may be an opportunity to revisit an iDSO in the future.</p>
Q8. What do you think about the three DSO models proposed by the Authority?	TLC supports the three DSO models as these cater for the functions needed in a changing distribution environment.
Q9. Do you prefer one model over the others?	Considering the ENA's FNF research and the findings of the Baringa report, TLC endorses the Hybrid model, recognising its numerous benefits for New Zealand consumers currently. The model offers considerable flexibility and, provided it is not subject to excessive regulation, can be implemented with minimal cost and complexity.

Questions	Comments
Q10. Given the hybrid model can take several forms, what do you think would be the best allocation of DSO functions between the TSO and one or more distributors as DSOs?	<p>Distributors are best placed for operational network control, managing constraints on the network through Distributed Energy Resources (DER) capacity including batteries, hot water cylinders etc. Distributors are also best connected to local communities through long lasting relationships, especially in the more rural parts of the country. These relationships and connections are critical in providing the best options for customers and their needs. Distributors have the responsibility to ensure equity amongst their customers and are best to create local markets and work with aggregators.</p> <p>Distributors should operate DER Management System (DERMS) and set the Dynamic Operating Envelopes (DOEs) in the distribution system operation.</p> <p>Transmission system operator (TSO) to dispatch transmission and distribution connected resources to counter for transmission network constraints.</p>
Q11. How would you rank the DSO models in terms of enabling the process of price discovery in the market for flexibility services to approach the wholesale market ideal of security-constrained economic dispatch?	<ol style="list-style-type: none"> 1. Hybrid 2. Total DSO 3. Total TSO