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To: The Electricity Authority Email: fsr@ea.govt.nz

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The future operation of New Zealand's power system – submission of Genesis Energy

Genesis Energy Limited (Genesis) welcomes the opportunity to comment on the Electricity Authority's (the Authority) The future operation of New Zealand's power system consultation paper. We agree distributed energy resources (DER) and demand-side flexibility (DSF) have potential to create significant system and consumer benefits while also increasing the complexity of coordinating operation of the power system. We therefore support the Authority undertaking this work to ensure regulatory settings continue to support efficient power system operation to the long-term benefit of consumers.

In principle, we support the Authority's preferred hybrid option as this is the option most likely to efficiently leverage the capabilities of relevant participants (distributors, the transmission system operator, and third parties). This will be particularly important given the relatively wide range of functions that fall within the new distribution system operator role, including distribution system planning, real-time network operation, and 'distribution market mechanisms' (which includes procurement of energy, capacity, flexibility and ancillary services). Where these functions can be delivered by third parties in competitive markets, such as flexibility services falling under 'distribution market mechanisms', it will be critical to ensure there is a level playing field such that all participants in competitive markets have confidence to invest, as is acknowledged in the Authority's paper. This is particularly so given the Government has also committed to easing restrictions on distributors investing in and owning generation.

Yours sincerely,

Maria II T

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Consultation Questions and Genesis comment

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Consultation Question	Genesis Comment
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?	We agree with the Authority that regulatory certainty will be welcome and will give confidence to distributors and other participants. As noted in the consultation paper, Ofgem in the United Kingdom identifies the core functions of the distribution system operator as follows:
	 Real-time distribution network operations; Distribution market mechanisms (including facilitating flexibility market development); Integrated distribution system planning;
	These functions include both regulated natural monopolies under the Commerce Act (i.e. distribution system planning) and competitive markets (i.e. flexibility services). Risks arise where distributors are simultaneously network owners, network operators, and owners of DER. This is particularly so given the Government has committed to reviewing rules around distributor ownership of generation. Development of a flexibility market will require rules that provide a level playing field to ensure parties have confidence to invest in systems and capabilities that can deliver flexibility services. We therefore encourage the Authority to consider the interaction between the various DSO functions outlined above and the role of distributors as network owners and potential owners of DER and generation.
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?	We agree coordination problems are likely to become more complex on distribution networks with the growth in DER. The EA is right to identify data as critical to improve visibility, solve coordination problems, and enable efficient utilisation of networks and planning for new DER.
	Regarding the role of DSOs, we agree that 'measures' will be needed to 'ensure the neutrality of a distributor towards other aggregators'. As noted, this could be broadened to include other participants in competitive markets relevant to DSO. Given the potential benefits from DER and DSF, the Authority's role should be ensuring regulations enable investment, competition and innovation with confidence as the flexibility market develops.
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?	Yes, we agree, consistent with the Government Policy Statement and the final MDAG report. As part of our Gen35 Strategy, we aim to achieve 150 MW of demand-side flexibility in our customer book. We expect the market for flexibility services to continue growing.

	We support the Authority undertaking work to progress MDAG's recommendations as and when appropriate, including making aggregators Code participants.
Q4. Do you agree with how we have defined the problem, as the need for a more coordinated framework of integrated system operation?	Yes.
Q5. In your view, what aspects of the Australian and British deliberations around DSO models are relevant to New Zealand?	
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?	
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 The future operation of New Zealand's power system – Issues and high-level options 54 can that decision wait until the market for flexibility services is more developed?	We agree with the Authority that, in principle, an independent DSO that performs a subset of DSO functions, including aggregating all aggregated DER and facilitating flexibility market development, may be desirable to avoid perceived or actual misalignment of incentives that may arise from concentration of distribution system operation, network ownership and ownership of distributed generation or DER within the same entity or entities, particularly for market facilitation. This potential for perceived (or actual) conflicts of interest was canvassed by the Authority in its preceding 2024 consultation paper. While we note preliminary indications this may be a costly option, we encourage the Authority to give further consideration to this option for specific functions (as identified above), as in the UK. We also support further consideration of the potential for DSOs to 'ring-fence' flexibility services, as in Australia and the UK. However, as the Government has committed to easing restrictions on distributor ownership of generation, ring-fencing may be less effective.
Q8. What do you think about the three DSO models proposed by the Authority?	We agree the Authority's preferred option (the hybrid option) seems likely to be the most workable option and may be the most efficient way to utilise the capability and capacity of the System Operator and distributors (and third parties). As noted in the Paper, this option appears to offer the best of both models, and would require the least amount of regulatory change, and would therefore be the easiest to implement.
	The Paper refers to significant investment required by a DSO in 'automation, communications with smart meters, real-time systems, managing big data, and data analytics' (paragraph 3.13). Given consumers face significant price rises for transmission and distribution infrastructure under RCP4 and DPP4, it will be critical for the Authority to design the new framework of integrated system operation in such a way that it demonstrably lowers system and consumer costs compared to the counterfactual. We therefore agree the Authority

	should undertake thorough cost-benefit analysis of its preferred option (and potentially also a limited iDSO option, as in the UK).
	The best solution will balance efficiency benefits from integrating DSO functions with existing distributor (or TSO) capabilities, and ensuring DSOs are incentivised to outsource for functions that could more efficiently be performed by third parties. For example, to use the three core functions identified on page 28 of the paper, real-time network operations and distribution planning may integrate best with existing TSO and distributor capabilities, whereas distribution market mechanisms (particularly energy, capacity, flexibility and ancillary services) will likely be more efficiently delivered by third parties in many cases. As noted, where functions (such as flexibility services) can be provided by third parties it will be important to ensure a competitive and level playing field for those services to support market development, particularly given the Government has committed to removing restrictions on distributors owning generation. We refer to the comment by the Authority (paragraph 5.13) that flexibility market development functions might be performed by distributors-as-DSOs and/or aggregators or independent body if it appears flexibility market development might require an independent body to facilitate standardised products and ensure flexibility service market platforms are neutral. As noted in response to question 7, we therefore support the Authority giving further consideration to a limited iDSO option for specific functions, such as aggregating all aggregated DER and facilitating flexibility market development (as in the UK).
Q9. Do you prefer one model over the others?	Based on information available, we support the Authority's preferred hybrid option as this will best leverage the capabilities of distributors, the TSO, and third parties, and therefore in principle should be most efficient.
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?	See comments above – we have no more detailed comments at this stage.
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?	