3 July 2025

Electricity Authority
PO Box 10041
Wellington 6143
By E- Mail: taskforce@ea.govt.nz

Re: Rewarding industrial demand flexibility – Issues and options paper

Counties Energy Limited (**CEL**) welcomes the opportunity to comment on the Electricity Authority's (**EA's**) consultation on the Rewarding industrial demand flexibility – Issues and options paper.

Summary

CEL supports the potential opportunities that demand flexibility can bring to consumers. We consider there is significant potential value that this can offer the market that is currently being under-utilised across the sector.

For this reason, as a registered electricity distributor under the Electricity Industry Participation Code 2010 (**the Code**), we actively consider opportunities to more efficiently manage and build our electricity distribution network by exploring non-network solutions, including demand response by industrial and commercial customers, and aggregation of mass market load.

CEL generally supports greater emphasis on encouraging demand response. We agree there is a large unrealised opportunity of demand response to provide greater flexibility and support for NZ's electricity system. However, we consider that industrial[1] demand flexibility should be considered on equal basis with other forms of supply- and demand-side flexibility (including, aggregation of mass-market load). Industrial demand flexibility shouldn't be favoured or treated on a different basis to other forms of flexibility.

[1] We understand 'industrials' is referred by the EA to include large direct connect industrial customers, and medium-sized commercial and industrial customers that are not directly connected to the transmission system, but have large, disaggregated loads.

This is particularly given that industrial Value of Lost Load (**VoLL**) has been shown to be significantly higher than residential load.[2] If VoLL is representative of consumer's perceived value of lost load, then this would imply a much higher cost is required to incentivise industrials to reduce load during peak demand events. This appears counterintuitive to the ERS's primary objective to prioritise more economic load shedding and in contrast with objectives of similar schemes overseas.[3]

We appreciate the EA's efforts in developing a multi-year roadmap to develop demand response in the system. However, from a market design perspective, we consider the focus should instead be on the wider system challenges to support a market-led approach for demand-side flexibility. This is consistent with the Market Development Advisory Group's (**MDAG's**) view, which suggested that "marginal prices from security constrained economic dispatch will correctly incentivise investment in [Demand-Side Flexibility] DSF (as they do for all other resources) if the framework for security and pricing is integrated over the whole transmission and distribution network".[4]

Our specific comments on the EA's proposal are discussed below.

Emergency Reserve Scheme (ERS)

From a market design perspective, CEL agrees in principle with the development of a proposed ERS as a 'last resort' option before involuntary load shedding of customers. We consider there is some merit in the proposal, as envisaged in MDAG, as this edge case is unlikely to be procured bilaterally by participants due to its infrequent nature.

This is because nodal prices are not completely efficient. There may be certain 'edge cases' that may require a more direct, administrative intervention, as suggested by the EA, to address the social cost of adverse market outcomes.[5] The uneconomic load shedding during emergency events is one such example. We understand EA's proposed ERS is intended to mitigate this risk by introducing a 'last resort' voluntary load shedding scheme to be supplied by 'willing-and-able' industrial load before involuntary load shedding occurs.

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[2] Transpower New Zealand, Value of Lost Load Study. November 2018. p 14. https://static.transpower.co.nz/public/publications/resources/Value%20of%20Lost%20Load%20(VoLL)%20Study%20-%20June%202018.pdf

[3] The Brattle Group, International Review of Demand Response Mechanisms – prepared for Australian Energy Market Commission (AEMC). October 2015. p 6. https://www.aemc.gov.au/sites/default/files/content/9207cd67-c244-46eb-9af4-9885822cefbe/Final-AEMC-DR-Report_International-Review-of-Demand-Response-Mechanisms.pdf

[4] Market Development Advisory Group, Price discovery in a renewable-based electricity system – Final recommendation paper. 11 December 2023. p 127, para A.54. https://www.ea.govt.nz/projects/all/pricing-in-a-renewables-based-electricity-system/

[5] The Electricity Authority, Rewarding industrial demand flexibility – Issues and options paper. 28 May 2025. p 31, para 6.9. https://www.ea.govt.nz/projects/all/energy-competition-task-force/consultation/rewarding-industrial-demand-flexibility

However, we consider that further consideration is required on how an ERS would work alongside the System Operator's (**SO's**) Scheduling, Pricing and Dispatch (**SPD**) model, Emergency Management Policy (**EMP**), and proposed changes to ancillary services procurement[6]. There is a wider question as to whether an ERS will continue to be net beneficial as we transition to a 'new' market design that better integrates and coordinates wholesale generation, demand response, transmission and distribution network constraints, and increasing number of distributed assets that can compete with grid-connected flexibility.

We understand the EA's reasoning for its secondary objective, for the ERS to "build consumer capability to participate in demand flexibility more generally, through organisational capability and investments in equipment".[7] This appears akin to an 'availability' payment (or call option premium) to have the flexibility resource available, and a 'dispatch price' paid for when the resource is called or used (or call option strike price). In this case, the dispatch price paid to customers to reduce load is reflected in the benefit received from price avoidance.

However, we do not consider that the ERS payment should be made available to industrial load only. The key risk is that an ERS, while it provides greater assurance, could also distort the accountability of market participants to invest in and/or provide capacity to meet peak demand events. It also takes the focus away from more fundamental design changes we need to make to our electricity system, such as integrating flexibility at the distribution level and into SO processes to better coordinate and reward Distributed Energy Resources (**DERs**).

If an ERS is pursued, we consider it should be open to all flexible resources, such as back-up generation, aggregation of mass-market load, and not just industrial demand response. This is to preserve the dispatch of most economically efficient resources first. For example, from conversations with customers on our network, industrial plant equipment often requires retrofits to be able to respond to network signals in a timely manner. They also have slow ramp up/down times which makes short notice changes to their operations challenging. In contrast, capability for hot water load or ripple control is already available and could arguably be used at lower cost for emergency or contingent events.

We therefore consider the design features of the ERS will need to be carefully examined before implementing to avoid any distortions to existing market signals and 'chilling' market-led investment already being actively pursued, some of which may be more economically efficient to address peak capacity issues.

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[6] Transpower New Zealand, Ancillary Services Procurement Plan Review 2025 – Proposal Document. 6 June 2025. https://www.transpower.co.nz/invitation-comment-draft-ancillary-services-procurement-plan-2025-closed

[7] The Electricity Authority, Rewarding industrial demand flexibility – Issues and options paper. 28 May 2025. p 36. https://www.ea.govt.nz/projects/all/energy-competition-task-force/consultation/rewarding-industrial-demand-flexibility

Standardised demand flexibility product

CEL agrees in principle there is value in developing a standardised demand flexibility hedge product as a low-cost, low-risk measure that could support a greater level of demand response participation in the sector. This could be designed to allow for smaller-scale industrial and commercial load to also participate in demand response markets, including by those who might not have the requisite expertise or dedicated resources to otherwise participate. However, by itself, we do not consider this would be sufficient to increase demand response participation in the market. As discussed in our submission, further intervention is needed at the system level to resolve key barriers to demand response participation.

Proposed roadmap

CEL considers a market-led approach is required for demand response to develop. The key to enabling this is greater transparency and readily available information as the mechanisms already exist (e.g. ancillary service markets, bilateral contracting) for demand-side participation to occur. This will enable price discovery and product innovation – both necessary components during the infancy stages of any market development.

With this, the EA's focus should instead be on designing a complete regulatory framework that enables, over the long-term, for a demand response market to prosper. For instance, it is currently unclear whether bilaterally contracted demand response between participants, outside of what is publicly announced, is being traded at 'inefficient' levels. As the EA suggests, "more information about these agreements is needed to confirm whether these existing mechanisms for demand flexibility are effective, or whether there are barriers or missing incentives to be addressed".[8] Before any regulatory changes to address "market failures" or inefficient barriers are explored, we consider that monitoring and transparency is a better focus for regulators.

More importantly, we encourage measures that enable our electricity system to better utilise the value of all distributed assets as part of the wider system optimisation. For example, an ERS may be needed over the next few years, as we currently have higher instances of low residual events in the near-term, with declining thermal.[9] However, as the system evolves and market dynamics change and adapt over time, we query whether reliance on an ERS would still be net beneficial for consumers in the future.[10]

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[8] The Electricity Authority, Rewarding industrial demand flexibility – Issues and options paper. 28 May 2025. p 4. https://www.ea.govt.nz/projects/all/energy-competition-task-force/consultation/rewarding-industrial-demand-flexibility

[9] Transpower New Zealand. Security of Supply Assessment 2025 – Version 2.0. System Operator. 30 June 2025. https://www.transpower.co.nz/system-operator/planning-future/security-supply-assessment

[10] For example, as more distributed assets start to compete with grid-connected assets.

A better focus for the sector would be to work towards integrating distributed assets into the security constrained optimal dispatch process to open the market to broader range of market participants, connected at the distribution level. Part of this includes developing a common load management protocol to address coordination issues between SO, distribution networks and third-party flexibility providers.

We look forward to working with the EA and relevant teams as it develops this work. CEL would be happy to discuss any aspect of this submission further.

Yours sincerely,

Marcus Sin
Senior Regulatory Manager

Annex – Response to questions

Questions	CEL comments
1. Do you agree with our approach of focusing on industrial demand flexibility as an early initiative to enable demand flexibility more broadly? Why/Why not? Do you have any information to indicate that demand response from other consumer types may be more readily accessed?	CEL understands the benefits of industrial demand flexibility but is unsure why the EA's focus is only on industrial load. We consider that other customer types, such as mass-market consumers (through aggregation), also have flexibility value that may be more economically efficient to the system. To promote competition in demand response, we consider that industrial demand flexibility should be considered on equal basis with other types of flexibility, including large-scale battery storage, mass-market aggregator services, etc. As indicated in the EA's paper, it suggests that "given the trade-offs and complexities highlighted above, industrial demand flexibility may be one of the more expensive forms of demand flexibility when considered alongside other consumer segments".[11] We therefore question whether a focus on demand response by industrial customers is appropriate.
2. Do you agree with our estimates of the potential industrial demand flexibility capacity available in New Zealand currently and into the future? Why/why not? Do you have any evidence to support a materially different estimate?	No CEL comment. However, we note that not all potential industrial demand flexibility capacity would be willing and able to provide demand response. There is significant variation between sectors. For example, from experience on our network, cold storage businesses are more likely to be willing and able to contract for demand response given the limited impacts it has on normal business operations. Alternatively, irrigation loads are unlikely to be able to provide significant flexibility value to the system as their loads generally coincide with dry periods during the

[11] The Electricity Authority, Rewarding industrial demand flexibility – Issues and options paper. 28 May 2025. p 15, para 3.3. https://www.ea.govt.nz/projects/all/energy-competition-task-force/consultation/rewarding-industrial-demand-flexibility

	year, when available hydro generation capacity may also be low.
3. Do you agree with our focus on intra-day demand flexibility for this initiative? Why/why not? What other approach would you suggest?	We agree in principle that longer-term arrangements are generally more bespoke and are more likely to be conducted bilaterally. Given this, CEL considers it reasonable to focus on intra-day demand flexibility.
4. Are there any other ways that currently enable industrial demand flexibility in New Zealand?	We consider the focus should be to reduce barriers to participate in demand response opportunities already available in the market. This includes minimising 'costs' (i.e. economic or financial costs) for parties to participate in demand response, such as reducing information search costs, ready access to price and non-price information (subject to confidentiality concerns), facilitating price discovery, platforms to facilitate trades to reduce transaction costs (especially to support participation by smaller/independent parties). We note some of this work is already underway by distributors and other participants, including the various Innovation and Non-Traditional Solutions Allowance (INTSA) proposals to the Commerce Commission (ComCom) recently.
5. Do you agree with our description of the barriers affecting the provision of industrial demand flexibility? Why/why not? Are any other barriers relevant to the provision of demand flexibility from other consumer types?	As discussed above, we consider there are likely other barriers affecting the provision of demand response by industrials, including education and knowledge of how the market works. Given the traditional approach has been to mostly focus on supply-side technologies, shifting this mindset to focus more on demand-side participation is challenging. The sector and regulators can play a key role in supporting this by alleviating the 'mental barriers' to participate, including informing and educating the sector, reducing the effort required to participate in demand-side programmes, and providing guidance to participants on the benefits of such schemes.
6. Do you agree that existing incentives and contracts for demand flexibility are	We consider it is currently unclear whether existing incentives and contracts for demand flexibility is 'inefficiently low', or just low, as it could be due to a low

resulting in inefficiently low levels of demand flexibility?	willingness to participate in the market for the reasons noted above.
7. Are you aware of any additional barriers to enabling more industrial demand flexibility?	See comments above.
8. Do you agree with our vision for industrial demand flexibility? Why/why not?	CEL agrees in principle with the proposed vision for industrial demand flexibility – however the pathway to get there is less clear. This is because CEL believes a market-led approach is preferable to achieve optimal outcomes for consumers. We consider that, only if there is strong evidence of 'market failure' or inefficient barriers, should regulatory intervention be required. Otherwise, there is a risk that system changes may distort investment and price signals that may result in adverse effects for consumers.
9. Do you believe that this vision is applicable to other forms of demand flexibility, or to flexibility more generally?	Yes. We consider all forms of flexibility should be considered more generally.
10. Do you agree with our view that demand flexibility providers should be able to receive payment for providing flexibility services that exceeds avoided energy costs, provided the demand response is efficient (as defined)? Why/why not?	We consider that under the current system nodal prices are generally effective at signalling investment need, transmission network constraints, and real-time supply/demand conditions. However, nodal prices are not completely efficient. There may be certain 'edge cases' in our market design that may require a more direct intervention to address the social cost of adverse market outcomes. The uneconomic load shedding during emergency events could be one such example where an administrative measure may be net beneficial for consumers.
11. Do you believe that a different level of payment would be appropriate? Why/why not?	No CEL comment.

12. Do you agree with our proposed guiding principles? Why/why not? Are other specific considerations which you believe should be included in the evaluation framework?	CEL agrees with the general direction of the proposed principles.
13. Do you agree with our view that there is currently insufficient potential industrial demand flexibility to justify the establishment of new market mechanisms or platforms other than the proposed ERS and standardised demand flexibility product?	No CEL comment
14. Do you consider there are other cost-effective measures that can be implemented urgently to enable industrial demand flexibility to support reliability and efficient in the wholesale market?	CEL considers a market-led approach is required for an efficient demand response market to develop. The key to enabling this is greater transparency and readily available information as the mechanisms already exist (e.g. through ancillary service markets, bilateral contracting) for demand-side participation to occur. This enables price discovery and product innovation – both necessary components during the infancy stages of any market development. More importantly, we encourage the EA to focus on measures that enable our electricity system to better utilise the value of all distributed assets as part of the wider system optimisation. A better focus would be to work towards integrating distributed assets into the security constrained optimal dispatch process to open the market to broader range of market participants, connected at the distribution level. Part of this includes developing a common load management protocol to address coordination issues between SO, distribution networks and third-party flexibility providers.

15. Do you agree with our proposal to establish an ERS? Why/why not?	While we agree with the principle of the ERS, which we understand is to prioritise (administrated) voluntary load shedding before involuntary load shedding occurs, it is not clear whether industrial demand response would be the most 'optimal' form of flexibility available to meet these capacity shortfall events. If only targeted to one customer type, such a scheme can potentially distort existing market incentives and price signals. We consider that, if pursued, the design features of the ERS should be explored further, including whether it should be open to a wider pool of flexibility participants.
16. For demand flexibility providers – do you consider it likely that you could make demand flexibility capacity available for an ERS in time for Winter 2026?	No CEL comment.
17. Do you agree with our proposal to investigate a standardised demand flexibility product? Why/why not?	Yes – CEL agrees in principle with the development of a standardised demand flexibility product as it would provide greater transparency and understanding for prospective parties seeking or considering participation in demand response.
18. Do you support our other proposed roadmap actions? Why/why not?	We provide our comments on the proposed actions for the roadmap below. Monitoring & reporting: • Publishing information about the use of demand response (**Action 5**). Importantly, we consider this information should signal the amount of all flexibility (supply- and demand-side, transmission and distribution connected) available in the system; • Develop new clause 2.16 notice for demand response, but extend this to all participants, including retailers (**Action 3**). We agree in principle with greater transparency in this

	market, but it shouldn't be limited to only distributors and Transpower as other parties (such as retailers, flexibility providers, aggregators) are already, or will be involved, in demand response. Facilitating market discovery: • Develop a standardised demand flexibility hedging product (**Action 2**). CEL agrees in principle to standardise demand flexibility for a wider pool of customers. We consider broadening the demand flexibility market to allow for, and onboard, a wider pool of customers would provide net benefits to the system through increased competition. • Develop and publish guidance for pilots and trials (**Action 4**). CEL agrees in principle for more active support on pilots and trials being undertaken by the sector but consider that it should include all forms of flexibility, including trials involving price-based signals. • Consider options for flexibility services from demand response in the future, including new markets or platforms (**Action 11**). We consider that this should be worked on alongside the proposed standardised demand flexibility hedging product. This is so the market assessment involved in developing the standardised hedge product could also input into designing more simpler and more effective ways for parties to transact. Currently, demand response markets are available through the SO's ancillary reserves markets. We consider a key hurdle for active participation in demand response markets, especially by distributed consumers, is the perceived complexity in engaging in these markets. It also requires a shift in thinking to focus on 'demand-side', instead of the traditional 'supply-side' way of thinking, in terms of the wider system. For these reasons,

	any efforts to simplify the current process would help to improve the level of activity in demand response markets. Regulatory and operating framework: • Consider potential options for an Emergency Reserve Scheme (**Action 1**). See our comments on the proposed ERC above. • Enabling Code or other changes to enable third-party providers to participate in the provision of demand flexibility across all market and contractual mechanisms (**Action 6**). We consider this should not be limited to only industrial load customers for the reasons discussed above; • Exploring Code or other changes to enable new or upgraded connections to be 'demand response ready' (**Action 7**). We consider that this should be worked on alongside the wider sector's work on enabling flexible connections, including ENA's Streamlining Connections workstream; • Monitor the use of demand response for non-network solutions and evaluate need for enhanced regulatory requirements (**Action 8**). CEL regularly considers opportunities to more efficiently manage and build our electricity distribution network by exploring non-network solutions, including demand response by industrial and commercial customers, and aggregation of mass market load alongside traditional network capex. We are also considering the value of investing in network flexibility in certain parts of our network now (e.g. dense, high growth areas), to be available for use by a Distribution System Operator (DSO) in the future. While the market for flexibility and other non-network solutions is still in the early stages, and use cases are being tested, we consider that the economics of non-network

	solutions need to be better understood before stricter regulatory measures are explored. • Monitor the use of demand response, including in pilots and trials, in NZ and internationally, and explore opportunities to enhance existing mechanisms (**Action 9**). CEL agrees in principle that there is value in this action, especially from experiences in overseas jurisdictions. • Undertake post-implementation reviews of the ERS and standardised demand flexibility product, if implemented (**Action 10**). CEL agrees that a post-implementation review is important for any significant regulatory change.
19. Do you believe there are other actions that we should consider in the roadmap? If so, please outline the actions and rationale.	CEL has no further actions to add – outside of those discussed above.
20. Do you support the proposed sequence and timing of actions in our proposed roadmap? Why/why not?	Refer to comments on proposed actions above.
21. Is there anything else relevant to this issue that the Authority should consider? If so, please provide any relevant information to support the Authority's consideration.	No CEL comment