28 August 2025

Submissions
Electricity Authority

By email: taskforce@ea.govt.nz

Establishing an Emergency Reserve Scheme

Meridian appreciates the opportunity to provide feedback on the Authority's consultation paper on the establishment of an Emergency Reserve Scheme (ERS).

The proposed design of the scheme is much improved from the earlier iteration in the issues and options paper on rewarding industrial demand flexibility. In principle, Meridian considers it possible for an ERS to efficiently support security of supply during peak demand times where there is a shortage of generation capacity. Such events are extremely rare and in the history of the market the System Operator has only instructed load shedding once, during the evening peak of 9 August 2021 (and subsequent reviews found that load shedding was unnecessary). The success of an ERS will depend on the detailed design specifications.

Market price signals must be preserved. Therefore, Meridian strongly supports the Authority's proposal that any demand response activated under the ERS be "added back" when calculating nodal prices so that scarcity pricing signals remain intact. This is critical to avoid missing money problems, preserve short-term resource allocation incentives, and to maintain the long-term investment signals on which the electricity market relies.

Meridian also supports strict procurement criteria requiring additionality of resources bid into any ERS tender. Without additionality requirements there would be no net increase in

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resource availability and security of supply, with the only outcome being increased costs to consumers.

Despite improvements to the design, in Meridian's opinion there remain unresolved matters that the Authority should address prior to implementation, including:

- defining the system need for an ERS and continuing to assess peak capacity risks and the costs and benefits to consumers of an ERS over time;
- further analysis of how to minimise the costs of an ERS;
- design features that will increase the reliability of an ERS and mitigate the risk of gaming by service providers; and
- further specifying how the System Operator's tools will be used under the ERS.

Further commentary on these matters is set out below.

Meridian's responses to the consultation questions are also appended to this submission.

Defining the system need for an ERS

The system need for an ERS has not been well defined. Real-time pricing is intended to deliver peak price signals to incentivise investment in, and participation by, flexible capacity (generation and demand response). There is limited evidence that the market has or will fail to deliver investment into peak resources in response to existing peak price signals. The consultation paper simply points to:

- 9 August 2021 (the only event in the history of the market where load shedding was instructed by the System Operator and that was subsequently shown to be unnecessary); and
- The System Operator's 2025 SOSA which includes a worst case 'constrained operational capacity' sensitivity that breaches the North Island Winter Capacity Margin from 2026, while the main reference case scenario shows the margin exceeded out to 2029.

The Authority should clearly state that the driver of increased peak capacity risks in the near term is an unforeseen shortage of gas for flexible thermal generation. An ERS may help to fill this gap in the near term. However, the long-term expectation should be that the market design incentivises investment in response to spot price signals. As we stated in our

submission on the May issues and options paper, Meridian has strong incentives to invest in intra-day flexibility (as well as longer-term and seasonal flexibility).

Meridian agrees with the System Operator's submission in response to the May issues and options paper recommending that an ERS should be an interim time-bound tool ahead of new flexible capacity coming to market.[1] The CEO forum has previously recommended a similar ancillary service be trialled for one winter only under an urgent Code change.[2] A post-implementation review after Winter 2027 should be planned and resourced by the Authority to enable an updated assessment of peak capacity risks and the costs and benefits of the ERS to consumers.

Minimising the costs of an ERS

The costs of an ERS are potentially high. In a peak capacity shortfall event, wholesale purchasers could face both scarcity prices and costs to procure and activate the proposed ERS. This is necessary to maintain spot price signals but will result in increased costs to consumers. These costs should be minimised where possible.

Meridian agrees with the Robinson Bowmaker Paul advice that off-market generation should be included in the scheme to maximise participation and hence competition among potential providers. Excluding last resort generation technologies means lower-cost potential providers for the ERS could not be considered, limiting procurement to potentially higher-priced demand response. In the absence of technology agnostic competition, it is not clear to Meridian how the Authority could be satisfied that the ERS was efficient. The Authority acknowledges these potential competition benefits, which could ultimately lower the cost of the scheme. However, its preliminary view is that when an ERS is activated, network demand would also be very high and off-market generation (such as diesel gensets), and any network-connected batteries would already be used to manage local network congestion or support any outages on the network. While that may be the case at times, network constraints are not always aligned with nation-wide peak generation capacity shortfall and constraints will differ by network. Generation capacity challenges can also arise in shoulder seasons when asset owners take outages to complete required maintenance. It is therefore entirely conceivable that networks could by unconstrained and there may be off-market resources in those networks that can contribute peak capacity for

[1] https://www.ea.govt.nz/documents/7899/Transpower_-_TF2D_submission.pdf
[2] https://www.ea.govt.nz/documents/1655/CEO-Forum-Submission-161222-1383294.pdf

an ERS. In Meridian's opinion, strict additionality tests should be applied rather than excluding technology types at the outset in designing an ERS.

Reliability of an ERS and gaming risks

The consultation paper seems to suggest that if total costs to activate the ERS are less than VoLL then the scheme will be efficient as it will avoid loss of load. However, this ignores procurement and availability costs for the service when it is not used (which should be expected more often than activation). The broad discretion that would be left to the System Operator to negotiate pricing for scheme providers means there is uncertainty regarding how much cost will be front-loaded as procurement, availability, and pre-activation costs, rather than costs only incurred if the scheme is ever activated.

In Meridian's opinion the Authority should encourage the System Operator to primarily or exclusively use activation payments to reward scheme providers. Availability and pre-activation payments should be limited and used only when absolutely necessary to develop a response capability for first-time participants or address actual pre-activation costs (e.g. loss of production in preparation for activation).

For schemes of this sort, ensuring performance in real-time is a common issue. The Authority proposes only loss of payments in the case of non-performance. This means there would be no downside for a service provider that fails to deliver in real time and strong commercial incentives to seek availability payments, hope the scheme is never activated, and put minimal effort into delivery of the response. If the scheme is not reliable then its value may be limited with additional costs incurred by consumers for little or no increase in security of supply. To address this risk, similar schemes globally have imposed high penalties for non-delivery. Meridian understands why the Authority is reluctant to include penalties and agrees they would likely deter participation. Rather than penalties, use of activation payments rather than availability payments would help to mitigate the risk of gaming and ensure commercial incentives remain strong for real-time delivery.

Ensuring the suitability of the System Operator's tools for the uses proposed

The Authority proposes that the trigger for procurement should occur when the N-1 balance falls below zero in the NZGB with the System Operator having discretion to identify both the likely quantities and locations of ERS required. NZGB shows New Zealand-wide capacity balances and so it is not clear how the System Operator would identify the locations of ERS

required. We assume an ERS would only be intended to address national capacity challenges since that is all the NZGB identifies and is the focus of forecast residuals calculated for the pre-dispatch schedules including the NRSS. However, the NRSS may show regional capacity shortfalls and scarcity pricing, particularly around network outages and constraints. These would not have been forecast by NZGB and in Meridian's opinion, an ERS would struggle to manage such regional capacity challenges.

Forecast residuals less than zero may also occur in the NRSS without being signalled in the NZGB N-1 balance. This could occur where multiple risk setters become unavailable unexpectedly (as signalled by the N-1-G NZGB scenario). This means it would be possible for a situation to occur in which an ERS would have been triggered but there was no opportunity to procure the service in advance. It will not be possible to overcome this risk without considerable additional costs (e.g. if the N-1-G NZGB was used as the procurement trigger). Meridian would not support that approach but suggests that greater clarity would be useful regarding what an ERS will and will not achieve.

Next steps

Meridian looks forward to further constructive engagement should the Authority proceed to consult on a Code change later this year.

Please contact me if you have any queries regarding this submission.

Nāku noa, nā

Sam Fleming
Manager Regulatory and Government Relations

Appendix: Responses to consultation questions

	Question	Comment
1.	Do you agree with our rationale for establishing an ERS? Why/why not?	In principle, spot price signals should be sufficient to incentivise investment in and coordination of flexible resources that can meet peak demand. However, we acknowledge that there may be short-term challenges associated with the unexpectedly rapid decline in availability of gas as a fuel for flexible generation. While Meridian understands the rationale for establishing an ERS, the Authority should consider implementation on a temporary basis and continue to assess peak capacity risks over time and the costs and benefits to consumers associate with an ERS. Longer term, the market should address peak capacity risks without needing to incur the additional costs associated with an ERS. It will be important to plan for a return to market-based investment rather than lock in the additional costs of an ERS in perpetuity. See Meridian's comments in the body of this submission on the benefits of a post-implementation review.
2.	Are there other factors or risks you consider relevant to our decision to implement an ERS?	See Meridian's comments in the body of this submission on: • the system need for an ERS and continuing to assess peak capacity risks; • further analysis of how to minimise the costs of an ERS; • design features that will increase the reliability of an ERS and mitigate the risk of gaming by service providers; and • further specifying how the System Operator's tools will be used under the ERS.
3.	Do you agree with our proposal that only demand-side flexibility, including by industrials and aggregations of smaller consumers, should be eligible to provide ERS?	In Meridian's opinion, off-market generation should be included in the scheme to maximise competition among potential providers and ensure a least cost ERS. Strict additionality tests should be applied rather than excluding technology types at the outset in designing an ERS.
4.	Are you aware of any off-market generation or batteries that may not be activated in an emergency if they are not included in an ERS? Please provide details of the type and scale of these resources.	Behind the meter generation primarily installed for site resilience or network support.

5.	Do you agree with our proposed design elements for procurement of ERS by the System Operator, including the procurement process, timing and trigger?	This seems pragmatic and broadly workable.
6.	Do you consider that procurement up to 4 weeks in advance of an identified need, coupled with a pre-approved panel of providers, will be effective and provide adequate time for potential providers and the System Operator?	This seems pragmatic and broadly workable.
7.	Do you agree with our proposed pre-activation and activation processes for use of ERS?	This seems pragmatic and broadly workable.
8.	Do you agree that the System Operator should be required to update relevant planning processes to take account of forecast uncertainty? If so, how do you consider this should be done?	Yes. Demand forecast and wind forecast uncertainty should be considered. We are unsure if this would necessitate changes to NZGB or the NRSS, but prudent uncertainty buffers may need to be considered when making decisions about the volume of ERS to procure.
9.	Do you agree with our proposed compensation and price settings for the ERS, including proposed measures to ensure overall unit costs do not exceed VoLL?	Broadly yes. However, see the comments in the body of this submission on gaming risks and how primarily relying on activation payments could reduce these risks and ensure commercial incentives drive reliability of any ERS.
10.	Do you consider that the System Operator should also be required to ensure overall costs during an ERS activation are less than VoLL? If so, how do you consider this could be practically achieved in the available time?	Where practicable, but this may be challenging during a scarcity event. Meridian supports an assessment of costs against VoLL ahead of activation at the time of procurement as well as transparent review of the costs and benefits of the ERS following any procurement event (not just activation events).
11.	Do you agree with our proposal to 'add back' activated ERS into nodal load schedules to maintain scarcity pricing?	Meridian strongly supports this design feature and sees it as critical to ensure market investment and operational incentives are preserved.
12.	Do you agree with our proposed settings for cost allocation and settlement of ERS costs? Do you consider an alternative cost	Meridian broadly supports allocation of costs to loads, as proposed.

	recovery approach would be preferable and if so why?	
13.	Do you agree with our proposed settings to manage non-performance by ERS providers?	Meridian supports due diligence, testing, pre activation confirmation and forfeiture of all payments where non-performance occurs. Meridian understands that penalties would deter entry. However, in their absence there is a risk of gaming and commercial incentives that do not support reliability of an ERS. See Meridian's comments in the body of this submission suggesting that the System Operator should primarily or exclusively use activation payments to reward scheme providers and ensure commercial incentives promote reliability of the ERS.
14.	Do you agree with our proposed information and publication settings to enable the effective operation and monitoring of the ERS? Is there additional information you consider should be made available to potential providers, the Authority, other industry participants or the public?	Yes, however more may be required to assess actual demand response volumes following activation and identify non-performance. In addition to forfeiture of payments, publication of non-performance may help to provide a non-financial (reputational) incentive to deliver reliably and deter gaming.
15.	Are there other scheme design elements that the Authority should consider?	• A registry of demand response contracts to help the System Operator operationalise additionality testing. Providers could also be asked for declarations regarding any pre-existing demand response commitments. • Methods for assessing demand response baselines. • Distribution communication protocols including notice periods, ramp rates, and restoration coordination (to the extent procured demand response is embedded within distribution networks). • Clarity regarding the targeting of an ERS at nation-wide peak capacity events rather than regional peak capacity events driven by network constraints.
16.	Do you agree with our high-level evaluation of the proposed ERS against our guiding principles?	In part. See the comments in this submission on minimising the costs of an ERS and promoting reliability of an ERS via payment structures that focus on activation payments.

17.	Is there any additional information the Authority should consider in evaluating a proposed ERS design?	See the comments in this submission on minimising the costs of an ERS, promoting reliability of an ERS via payment structures that focus on activation payments, and ongoing assessment of peak capacity risks and costs and benefits of an ESR to consumers over time.
18.	Do you think there are any elements of the proposed scheme design which require more time for implementation and should be delayed beyond Winter 2026? If so, please identify the relevant elements and indicate when you consider they could be implemented.	Implementation ahead of Winter 2026 should be a priority. The Authority and System Operator should work together to identify an achievable minimum viable ERS.
19.	Do you agree with the Authority's proposal to set VoLL at $35,305 per MWh for the purposes of the ERS, and proposal to review VoLL and security standards more broadly?	Yes. However, the Authority should prioritise a review of VoLL in the Code if it does not think it is fit for purpose. It would be preferable if the definition of VoLL was consistent across the Code, rather than the Authority bypassing its own outdated Code drafting and effectively implementing two different VoLL definitions in the Code.
20.	Are you likely to be interested in participating in an ERS, such as the scheme outlined in this paper?	Meridian may consider aggregation opportunities to enable participation by customers.
21.	Are there any other implementation considerations or related issues the Authority should consider in relation to an ERS?	As noted in the body of this submission, Meridian supports a sunset provision or planning and resourcing of a post-implementation review to assess whether there remains a need for an ERS or if costs to consumers exceed any benefits (for example as investments in peak capacity are brought to market).
22.	Are there other matters that the Authority should consider in relation to an ERS?	Communications protocols should be agreed and tested across the full spectrum of CAN/WRN/GEN, the ERS, any calls by the System Operator for voluntary or instructed load shedding, and restoration.