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System Operator
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Security of Supply Review – Winter 2025

Meridian appreciates the opportunity to provide feedback on the System Operator's paper 'Security of Supply Review – Winter 2025'.

We support the System Operator and the wider sector taking the time to look back at recent periods of electricity sector operations with a view to identifying lessons learned and ensure we are best placed to meet future challenges. The System Operator's Winter 2025 Review was welcome in this regard and included useful insights.

We have a few comments on particular matters discussed in the Review, as set out below.

The Review seemed to take an overly negative stance on demand response

The System Operator discussed the contributions of demand response in both Winter 2024 and Winter 2025 in a number of places in the Review. In general, these seemed to take the position that demand response was damaging to individual businesses and the economy:

> *"The longer-term downstream effects of such material industrial demand response arrangements on the sustainability of industrial businesses operating in New Zealand, and the consequences for the wider economy, remain a concern."* [page 4]

> *"Industrial shutdowns also limited demand growth, but these forms of demand destruction and significant industrial demand response are inherently short-term and should not be viewed as sustainable levers for ongoing energy security, nor a positive market outcome."* [page 8]

> *"As we have noted this has raised wider questions for electricity participants about wider short and longer-term economic effects for Aotearoa New Zealand's economy of reliance on industrial demand response to support energy security during extended dry periods."* [page 14]

As the System Operator is aware, tight supply conditions during Winter 2024 saw Meridian call various demand response options under our supply agreement with New Zealand Aluminium Smelters (NZAS), culminating in a 205 MW demand reduction at NZAS's Tiwai

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Point site.[1] The availability of this option and the close coordination between NZAS, Meridian and the System Operator to give effect to the corresponding demand reduction made a significant contribution to the country's security of supply at a time when it was really needed. Similarly, in February 2025, as a further dry spell was emerging, Meridian and NZAS negotiated and agreed to 50 MW of demand response through Winter 2025. While Winter 2025 ultimately proved to be less stressed than the previous one, this was nevertheless an important contribution to preparing the system for worsening supply-demand conditions.

While the Review appears to distinguish in places between voluntary demand response like the above and involuntary industrial curtailment, the System Operator's overall view seems to be that demand response is inherently short-term, should not be viewed as a sustainable lever for ongoing energy security, and is likely to have negative longer-term implications for the wider economy. We disagree with this sentiment. Meridian's view is that demand response can make a vital contribution to the flexibility and security of the energy system and that it can bring benefits to all parties involved. Industrials entering into formalised demand response arrangements do so willingly and with their own commercial interests in mind.[2] Such agreements could even be considered to support local economies where the demand response premiums paid contribute to the overall viability of industrial businesses and help secure their future operations. In a system with a growing need for flexible resources, demand response can play a critical role. It is therefore unfortunate that the System Operator has chosen to present its contribution in such a negative light.

We also question whether it is the System Operator's role to comment on whether relying on demand response represents a 'positive market outcome' or whether it has 'longer-term implications for the wider economy'. These are matters quite clearly outside of the System Operator's remit and more appropriately addressed by the regulator or the Government.

The Review misrepresents the role of contingent storage

The Review states:

> *"Resource consent arrangements specify that hydro contingent storage is only available to be used as a last resort, after other market resources have been exhausted."* [page 8]

This is factually incorrect. Meridian's resource consent for use of water at Lake Pūkaki specifies simply that the lake cannot be operated below 518 metres above mean sea level (AMSL) unless the security of supply situation is expressed as a 'Security of Supply Alert'. The Waitaki Catchment Water Allocation Plan similarly specifies that Lake Pūkaki can only be drawn down to 513 metres AMSL when an official conservation campaign has commenced. These conditions do not imply that contingent storage must be a 'fuel of last resort' or that it can only be used after other market resources have been exhausted. They simply define the conditions under which access to different tranches of storage at that particular lake are triggered. It is entirely plausible that, once access to contingent storage has been triggered, it is utilised ahead of other resources such as gas, coal, diesel or other controlled hydro storage (noting that at the respective access triggers of Alert and Emergency there will still be a 96% and 90% probability that hydro storage will not reach

[1] Meridian negotiated an additional 20 MW reduction beyond the largest 185 MW option originally included in the agreement given the severity of the ongoing drought at the time.
[2] It is worth noting that under the NZAS agreement Meridian pays both an annual premium and a fee for any demand response subsequently called throughout the term of the agreement.

the bottom). The System Operator's description in the Review misrepresents the role of contingent storage in the system.

The Review goes on to say:

> *"Access to contingent storage can be granted ahead of complete usage of controllable storage if either; a) the buffer is raised under the SO's buffer discretion process or b) the current Alert level calculated in the monthly Energy Security Outlook exceeds the level of available hydro storage."*

As Meridian has previously noted, this buffer discretion process referred to above has been invented by the System Operator and is not grounded in any regulatory or policy decision. It misrepresents the original intention of the buffer which was to overcome a potential infeasibility in contingent storage access arrangements arising from the uneven drawn down of different hydro storage lakes.

The System Operator's March 2019 decision paper, which established the current default buffer, noted this decision was in response to a preference from submitters "for making these arrangements up-front and therefore avoiding making changes to the risk assessment framework during a period of elevated risk of shortage".[3] The same paper noted the buffer would be a "fixed number above a reference point". This implies the opposite intention of what the System Operator has set out to do by establishing a buffer discretion process which it can use to make ad hoc changes to contingent storage access when it deems it appropriate. Referring to this buffer discretion process in documents such as this Winter Review seems intended to provide retroactive validity to a process which was not contemplated or agreed at the time that contingent storage access arrangements were first established.

Actions taken during Winter 2025 were driven by the market

The Review states:

> *"Early in the year, the System Operator (SO) communicated to the market the importance of securing adequate thermal fuel supplies in anticipation of potential hydro shortages. In response, generators acted early to secure both gas and coal contracts…"* [page 11]

Such a description seems to underplay the important role of the market. It is ultimately wholesale market prices which signal the need for market participants to respond to emerging supply-demand conditions. This is exactly what happened in Winter 2025, with wholesale prices in the first quarter of the year increasing to signal potential shortage as hydro storage levels fell. It is these market signals that ultimately incentivise market participants to take preparatory actions to resolve any future constraints. This is an important point to appreciate, particularly when many market commentators focus on high wholesale prices as being inherently bad.

[3] *SOSFIP Review 2018 – Decision Paper*, System Operator, May 2019, link.

Various factors may have impacted on the offering of BESS capacity

The Review notes in Winter 2025, BESS often did not offer their full installed capacity into the energy and/or reserve market. It is unclear from Figure 14 of the Review over which specific period the System Operator has assessed BESS offers. It may be that Meridian's Ruakākā BESS was completing commissioning or testing processes during this period. In other cases, wholesale market prices likely impacted our offered quantities. We would welcome the opportunity in the future to provide further details on these potential influencing factors to ensure the System Operator has a clear and accurate picture of participant behaviour.

Thank you again for the opportunity to provide feedback. We'd be happy to discuss any of the matters above, if that would be helpful.

Nāku noa, nā

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