

31 March 2025

System Operator By email: <u>system.operator@transpower.co.nz</u>

Security of Supply Forecasting and Information Policy Review: Issues Paper – Cross-submission

Meridian appreciates the opportunity to provide a cross-submission on the System Operator's (SO) issues paper regarding the proposed scope of a future review of the Security of Supply Forecasting and Information Policy (SOSFIP) to be completed before Winter 2026.

We have reviewed the submissions received by the SO. The submissions do not change Meridian's opinion that, prior to Winter 2025, should urgently implement amendments to the default Contingent Storage Release Boundary (CSRB) buffers. Correcting the infeasibility created by the current 50 GWh buffer is critical to ensuring all available hydro resources can contribute to reducing security of supply risks. It is vital this change is made as soon as possible and certainly ahead of Winter 2025. We would hope that the SO could restore the buffer to at least 420 GWh by no later than 30 April 2025 so that all market participants are clear on the resources collectively available to the market well ahead of this winter and for the foreseeable future.

This cross-submission notes key points made by submitters in support of Meridian's position and challenges some misconceptions of Meridian's proposal by other submitters.

Broad support for an urgent change to the buffer

Contact, Mercury, Genesis, and Energy Resources Aotearoa agree that urgent changes should be made to ensure that contingent storage is accessible this winter.

Genesis helpfully explains that resource consent conditions do impose a 'shadow constraint' on its ability to operate Tekapo at its full generation capacity, i.e. the increase in the minimum permitted lake level in Lake Tekapo between 1 October and 31 March (220 GWh) each year means Genesis is unwilling to reduce Lake Tekapo below 220 GWh of remaining storage. Genesis encourages the SO to consider how these 'shadow constraints' are factored into the electricity risk curves.¹ While Genesis offers some alternative approaches, the most obvious way to overcome this 'shadow constraint' is to increase the CSRB buffer. As Meridian has noted, similar buffer increases are necessary to account for environmental limitations in the low operating ranges of Lakes Manapōuri and Te Anau (150 GWh).

¹ Genesis submission, page 2.

In aggregate this means at certain times of the year it is not possible for the Alert CSRB to be triggered while 370 GWh remains in Lake Manapōuri, Te Anau and Tekapo.

Contact states that "an immediate increase in the size of the contingent storage buffer to raise the Contingent Storage Release Boundary is needed".² Contact also seeks an even larger buffer than that proposed by Meridian. Contact considers certainty is required up to the end of 2026 at a minimum.

Mercury supports Meridian's request to, starting winter 2025:

- adjust the buffer in the Alert CSRB from 50GWh to 420GWh as-soon-as practicable to 30 September; and
- adjust the buffer in the Alert CSRB from 50GWh to 200GWh between 1 October and 31 March.³

Energy Resources Aotearoa states "we welcome accessing more hydro this year"⁴, however the submission focuses on the longer-term need for reliable non-weather dependent fuel, like natural gas, and new firming capacity to firm intermittent generation and cover dry year energy deficits. While Meridian agrees that more firm resources would help the power system, such investment will take time and will not help to address the potential for issues over the next few years. Energy Resources Aotearoa also characterises the options presented as only seeking "to reallocate existing energy available".⁵ Meridian respectfully disagrees since the primary problem that we seek to overcome is that energy in contingent storage is for much of each year not currently available due to the inability for operators to draw down 370 GWh in lakes Manapōuri, Te Anau and Tekapo lakes. This leads to a situation where storage lakes are unable to draw down further and the CSRB cannot be hit. Hydro operators would therefore need to reduce generation to avoid draw down and this would involve removing significant capacity from hydro generation offers, likely creating security of supply concerns unnecessarily and prematurely given the availability of unused contingent storage.

The need for ongoing certainty of access to contingent storage via a permanent change

As the consultation paper notes, Meridian has requested (and continues to request) that the changes to the Alert CSRB buffer and to the buffer used for an Official Conservation Campaign (OCC) are made on a permanent basis (see Meridian's request as set out at para 99 of Transpower's paper). That makes most sense to us.

Mercury states that it does not support Meridan's request that the buffer increase be permanent because "the SO should maintain its discretion to set the CSRB buffer as there may be unforeseen or exceptional situations when it may be desirable for it to exercise this discretion."

In Meridian's opinion, the default CSRB buffer in the SOSFIP can be permanently changed while still retaining the ability of the SO to adjust that default if circumstances require, for example if additional information on operational restrictions at low lake levels becomes apparent. This approach would reconcile the views of Meridian and Mercury and increase certainty by introducing a feasible buffer value while retaining flexibility.

Contact submission, page 3.

³ Mercury submission, pages 1 and 3.

⁴ Energy Resources Aotearoa submission, paragraph 9.

⁵ Energy Resources Aotearoa submission, paragraph 6.

As we said in our initial submission, if a permanent change to the default buffer is not supported then we request that the changes are made on a temporary basis for 2025, 2026 and 2027.

Misconceptions regarding earlier or increased access to contingent storage

The submissions by MEUG and Octopus Energy express concern that:

- Meridian's proposal "...would fundamentally alter how contingent storage is accessed and utilised. Allowing earlier access to contingent storage would deplete this emergency resource before all market alternatives have been exhausted"⁶; and
- "Contingent storage is intended to be the "last line of defence", and this proposal could be seen as changing its hierarchy in the options that the System Operator has available to it at times of stress."⁷

Meridian considers these concerns to be based on a misunderstanding of the issues at hand. The SOSFIP and resource consents relating to contingent storage are together supposed to enable access to contingent storage at the 4 percent electricity risk curve. However, currently they do not do that. This is simply an error.

Prior to 2024 Meridian (and presumably other market participants) expected that contingent storage was available to be used when controlled hydro storage dropped below the 4 percent electricity risk curve. The assumption was that lakes could physically lower to the extent necessary to reach that level. However, Meridian's work ahead of Winter 2024 revealed that for much of each year the CSRB in the SOSFIP prevents access to contingent storage entirely because it fails to recognise that 370GWh of water in the lower ranges of Lakes Manapōuri, Te Anau and Tekapo is subject to environmental and operating restrictions that significantly limit its use. As a result, it is not possible to draw lakes down to the point that contingent storage becomes accessible. This means Transpower's modelled risk curves permanently and inaccurately understate the actual risk of electricity shortage because they treat that 370GWh as available for generation when it is not.

There is also a risk that without access to contingent storage due to this infeasibility, hydro capacity would be withdrawn from the market, for example when Lake Pūkaki is reduced to a level of 518 metres above mean sea level (amsl), meaning downstream stations on the Waitaki chain would be required to reduce generation to the level of any residual inflows to Lake Pūkaki at that time. This would result in the majority of the Waitaki chain's capacity being withdrawn from and unavailable to the market with significant, and unnecessary implications for security of supply in spite there being energy still available in contingent storage.

Meridian is simply asking for access to contingent storage to be restored, to reflect what the market always assumed was the case. In our view wit would have been preferrable to have fixed this issue some time ago. Instead, we now have a situation where access to contingent storage is a matter for Transpower discretion rather than something that is predictable, triggered by lake levels, and known with certainty to the market in advance. Electricity consumers are ultimately disadvantaged by the uncertainty associated with this ad hoc discretion through higher wholesale prices.

This uncertainty will necessarily drive a more cautious approach amongst electricity market participants, requiring hydro generators to conserve storage against the possibility that Transpower does not make contingent storage available leading to a greater reliance on thermal generation and

⁶ Octopus Energy submission, page 1.
⁷ MEUG submission, page 2.

higher wholesale market prices. We believe that market participants are already pricing this risk of infeasible contingent storage access and Transpower inaction into ASX forward prices. This risk was likely not understood and therefore not priced into the market prior to Winter 2024.

Rather than seeking increased access to contingent storage, Meridian's requested change is better characterised as restoring the access to contingent storage at the 4 percent electricity risk curve that Meridian and the market always assumed was the case prior to Winter 2024.

Some submitters raised concerns that Meridian's proposal could lead to an increased likelihood of official conservation campaigns. That need not be the case. As we said in our submission, Meridian would support adjusting the Alert CSRB buffer while retaining the OCC buffer at current levels. This would enable access to 74% of the available contingent storage while leaving the trigger for an OCC unaffected. Our view is this change would still provide significant security of supply benefits. We also note again that under clauses 9.23(1)(b) and 9.23(2)(b) of the Code, the SO and the Authority have complete discretion to determine a commencement date for an OCC and could exercise this discretion as appropriate.

Environmental concerns are irrelevant to the SO decision

Submissions by regional councils, the Guardians of Lake Hāwea, and MEUG have raised environmental considerations associated with Meridian's proposed change to the CSRB default buffer. These concerns seem founded on the same misunderstanding of the issues discussed above.

The Resource Management Act allows for effects associated with use of contingent storage in Lake Pūkaki. As we noted in our initial submission, rules regarding the ability to utilise the range of Lake Pūkaki below 518m amsl were inserted into local planning via: Plan Change 1 to the Waitaki Catchment Water Allocation Plan by Environment Canterbury in 2012, and Plan Change 3 in 2016. Furthermore, access and environmental impacts and suitable mitigation were addressed when Environment Canterbury granted resource consent for utilisation of Lake Pūkaki below 518m, pursuant to a Security Alert, in 2018. As part of both the plan and resource consent processes, Meridian was required to identify, assess and mitigate potential adverse effects associated with the utilisation of the lake range below 518m amsl. This involved entering into mitigation and monitoring agreements, which remain in place today.

Those plans and consents are not being changed. In granting them Environment Canterbury acknowledged that security settings would change over time rather than be fixed. The decision now in front of the SO is purely a security of supply decision. Environmental issues and impacts have already been addressed through the proper regulatory processes under environmental legislation and are not relevant considerations in this context. The Environment Canterbury submission also fails to account for the existing Plan rules and resource consents applicable to Lake Pukaki and Lake Tekapo; and confusingly raises matters arising from a non-statutory Zone Implementation Plan (ZIP). The ZIP is irrelevant to the role of the SO in this case and to the existing Plan rules and resource consent. It is not appropriate for the SO or other parties to impose the same or similar considerations here. Doing so would duplicate and conflict with the role of regional councils and risk contradicting planning and consenting decision that have already been made.

Meridian's proposal is motivated by security of supply concerns not commercial self-interest

Some submissions seem to imply that Meridian's proposal is motivated by commercial self-interest. That is incorrect. We consider our proposal to be in the best interests of the market and New Zealand consumers. Meridian's modelling indicates that wholesale prices would be approximately \$11/MWh

_ _ _

lower in a normal year. Meridian's modelling also indicates that lower wholesale prices would reduce Meridian's revenue.

Meridian's submission included our modelling of storage and wholesale price outcomes that would result from enabling access to contingent storage for 2025-2027. Meridian commissioned a peer review of that modelling, which has now been completed by Sapere Research Group. Sapere's report is attached. Sapere finds that while there may be factors not fully captured by the modelling, a benefit from enabling access to contingent storage can still be relied upon. They also state that:

"Conceptually the modelling of the two scenarios makes sense. The general conclusion is also logical from a mathematical modelling point of view: easing the constraint results in a more optimised/lower cost solution."

Please contact me if you have any queries regarding this cross-submission. This cross-submission can be published in full.

Nāku noa, nā

Sam Fleming Manager Regulatory and Government Relations

1111

Appendix A: Sapere Research Group – Peer review of modelling outcomes with and without access to contingent storage at Lake Pūkaki

6 af 6

١