24 March 2025

System Operator
By email: system.operator@transpower.co.nz

Security of Supply Forecasting and Information Policy Review: Issues Paper

Meridian welcomes the System Operator's (SO) consultation on the proposed scope of a future review of the Security of Supply Forecasting and Information Policy (SOSFIP) to be completed before Winter 2026. While Meridian still believes that such a review could be completed prior to Winter 2025 (see Meridian's letter of 29 January 2025 to the Electricity Authority which was copied to Transpower and is attached to this submission as **Appendix C**) we are grateful for the SO's stated willingness to consider options that should be urgently implemented before Winter 2025.

In the category of options that could and should be urgently implemented before Winter 2025, we consider the key one is amendments to the default Contingent Storage Release Boundary (CSRB) buffers, as per Meridian's letter of 27 November 2024.[1] 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.

Meridian's letter of 27 November 2024 outlines our underlying rationale for requesting a change to the CSRB buffers. After our request was declined on the basis that Transpower could not complete the necessary work ahead of Winter 2025, we wrote to the Electricity Authority on 29 January 2025 asking them to help by reprioritising Transpower's work programme. That letter further explains Meridian's rationale for the requested changes. We have also undertaken additional analysis on the potential security of supply and market implications of enabling access to contingent storage; this analysis is attached as **Appendix B** and we refer to it as appropriate below.

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. However, if that is not supported by Transpower or the Electricity Authority, we request that the changes are made on a temporary basis for 2025, 2026 and 2027. If Transpower or

[1] https://static.transpower.co.nz/public/bulk-upload/documents/Letter%20to%20Transpower%20on%20Contingent%20Storage_Public.pdf?VersionId=XtWjUrcvTpPRgVZLuhPJlJToozyFrQmW

the Electricity Authority do not support changes to both the Alert CSRB buffer and the buffer used for an OCC then Meridian requests the change is made to the Alert CSRB buffer.

New Zealand's energy security challenge requires contingent storage to be accessible

The apparent demise of much of New Zealand's gas sector has meant New Zealand can no longer rely on gas to provide dry year support. This was evident in Winter 2024 when fuel shortages in the form of a sharp decline in gas available for electricity generation coupled with an extreme dry which limited hydro generation saw a period of significantly elevated wholesale prices. Meridian expects there will continue to be a significant security of supply risk for the next few years until the addition of new generation and battery capacity along with demand response closes the potential supply-demand gap. Meridian and others will also, over that timeframe, be able to present consent adjustments to facilitate access to this 'contingent storage' via relevant authorities but, as we know, this takes time to bring about. In this context, it is critical that all available sources of energy are brought to bear to support supply security.

Of the options available, contingent hydro storage represents fuel that is currently available to the system and is lower cost than the alternatives. Removing blocks to accessing that storage is the most efficient, straightforward and cost-effective way to boost New Zealand's energy reserves. It does not rely on external supply chains or on upstream production performance. It simply requires the removal of poorly-framed restrictions which currently prevent its use, even in situations of shortage – an issue that the SO has the opportunity to address by simply increasing the relevant buffers per the discretion afforded to the SO under clauses 6.1A and 6.1B of the current SOSFIP. Those clauses allow the SO to increase the buffers at any time by simply publishing a different figure than the current 50GWh included in the SOSFIP.

The current CSRB buffer is not fit for purpose

As acknowledged by the SO when making its change to the buffer in August 2024, the existing 50 GWh buffer fails to take account of the current constraints in the low operating ranges of Lakes Manapouri and Te Anau (150 GWh) and the 'shadow constraint' caused by the increase in the minimum permitted lake level in Lake Tekapo between 1 October and 31 March (220 GWh) each year (which means Genesis appears reluctant to reduce Lake Tekapo below 220 GWh of remaining storage). The effect of these constraints is to bar access to contingent storage in a manner that was not seemingly contemplated when drafting the current SOSFIP and specifying the current buffers. This is because it is not practically possible in most scenarios for the Alert CSRB to be triggered while 370 GWh remains in Lake Manapouri, Te Anau and Tekapo.

This is the case even if 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 implications for security of supply. When making a temporary change to the buffer last winter, the SO determined a 420 GWh buffer was a more appropriate one to overcome the constraints noted above. We agree. We are proposing that the SO permanently adopt a buffer of at least 420 GWh[2] to ensure that access to contingent storage is feasible and there is certainty and predictability with regard to this access.

[2] Adjusted as required from October to March to reflect the seasonal change in controlled storage at Lake Tekapo.

Note: we have called for a buffer of *at least* 420 GWh as, at the time the buffer was temporarily set by the SO to 420 GWh last winter, the industry assumed it would also be able to access gas and thus rely on both the financial contracts that had been entered into by market participants and, more generally, reasonably priced gas-fired generation. When we look at the sector today, that is no longer the case. Gas can no longer be relied on as a 'dry year' fuel. In this context, there may be a case for lifting the buffer beyond 420 GWh to ensure that, in the absence of gas, more hydro energy is generally available. This may be something for a wider SOSFIP review to consider. For now, we see a 420 GWh buffer as the minimum near-term change required.

The current approach is affecting market outcomes to the detriment of New Zealand consumers

Prior to Winter 2024, Meridian – and in our opinion the market more broadly – believed that contingent storage would be accessible in a shortage situation. Meridian's work in Winter 2024 improved our understanding of the CSRB buffer and highlighted the likelihood that under the default settings contingent storage cannot be accessed. Transpower's decision in August 2024 to only adjust the buffer on a temporary basis means that there remains significant uncertainty regarding access to contingent storage as Winter 2025 approaches. Transpower may or may not make a similar decision if a dry Winter 2025 eventuates.

This uncertainty will necessarily drive a more cautious approach amongst electricity market participants, requiring hydro generators to conserve storage against the possibility that access does not become available and leading to a greater reliance on thermal generation and 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 priced into the market prior to Winter 2024.

Meridian has undertaken further analysis of the impacts of the current 'restricted' contingent storage access scenario versus one of 'eased access' over the next three years. This analysis is attached as **Appendix B**. In summary, our analysis has found that, during normal market conditions (P50), easing access to contingent storage will result in:

- Lower wholesale prices (-$11/MWh or 7% on average) and lower price volatility
- Lower overall costs to electricity consumers (-$527 million per annum or -$1.58 billion over 2025-27)
- Lower hydro spill (-321 GWh per annum on average) meaning this energy can be used to generate electricity and displace higher cost thermal fuels that also release carbon emissions
- Lower emissions (-224 kT CO2 equivalent per annum)

On this basis, the current SOSFIP settings can be seen as having a significant adverse impact on New Zealand electricity consumers. In the context of continued tight market conditions and other upwards pressures on electricity prices, enabling access to contingent storage is a simple step that can be taken now to support better consumer outcomes.

Strong incentives will remain to manage system security

The SO's paper suggests that Meridian's proposal to permanently change the buffer "could increase the potential for OCCs [Official Conservation Campaigns] and rolling outages" or have other security of supply impacts. We disagree. Meridian and other hydro generators will continue to have strong incentives to prudently manage hydro storage (while the aggregate amount of hydro energy available will remain unchanged). This is because:

- As Meridian is vertically integrated, it has considerable financial exposure during a dry year when hydro lakes run low. As communicated during our recent financial results announcement, the cost of cover so that Meridian could deliver on its commitments to customers in Winter 2024 (following a record dry spell) amounted to $200 million.[3]

- As a retailer, Meridian would be required to pay each of our mass market customers $12 per week in the event that an OCC is called in recognition of their energy-saving efforts. This would create an additional liability of ~$4 million per week for Meridian.

- Meridian takes our responsibility to support the management of security of supply on behalf of our customers and New Zealand seriously. We will always do everything we can to avoid a situation where New Zealanders are left without power.

These incentives mean that Meridian is sharply focussed on managing storage wisely and planning cautiously to avoid shortages during potential low-inflow periods.[4] This includes managing risk for subsequent winters – our financial and operational models extend out several years. In addition, all market participants are well incentivised to contract ahead for cover from thermal generators as a form of insurance should a dry period emerge. None of this will change by enabling more certain access to contingent storage.

Meridian's analysis in **Appendix B** models the potential impact on Lake Pūkaki storage levels over the next three years should access to contingent storage be enabled. In summary, enabling access to contingent storage is expected to result in a wider lake operating range i.e. Lake Pūkaki is able to be operated more flexibly in providing support to New Zealand's electricity system. While lake levels are held lower on average, they are only expected to fall below the current controlled storage minimum (518m amsl) around 3% of the time. In Meridian's view, this is in line with what we would expect for a resource termed 'contingent storage' i.e. occasional usage during extreme periods to support system security. In contrast, under current settings, contingent storage has never been used.

With access to contingent storage enabled, our analysis shows that in no cases – even the most extreme of historical dry sequences – do Lake Pūkaki storage levels reach the bottom of the currently permitted range (513m amsl). This is consistent with the strong incentives on hydro operators to prudently manage storage, as described above. Access to contingent storage simply means that the market is able to adopt the lowest cost approach to achieving reliability and security. In addition, even in the most extreme scenario, the modelling shows the market is able to manage the country's energy requirements from one winter to the next.

Continuing to rely on the SO's discretion to enable access to contingent storage is inconsistent with the Government Policy Statement on Electricity

The recently-issued Government Policy Statement (GPS) on Electricity includes the following instruction:

> *23. In accordance with market rules and arrangements, the System Operator is –*
>
> *a) Not responsible for ensuring the adequacy of offers to meet demand, but rather –*

[3] https://www.meridianenergy.co.nz/public/Investors/Reports-and-presentations/Interim-results-and-reports/2025/Meridian-half-year-results-2025-transcript.pdf

[4] We note also that the Electricity Authority has recently significantly increased scarcity prices which will further increase the incentive to avoid energy shortages, see here.

b) To efficiently coordinate the utilisation of electricity generation and demand-side offers that have been made available in the wholesale market by market participants in response to spot price signals.

24. This decentralised approach to risk management is the best way to deliver the level of reliability that consumers want at the lowest possible cost to consumers.

This statement is very clear: the SO's role is one of efficient coordination and not one of central planning. The New Zealand market has a decentralised approach to risk management; this requires the SO to take an agnostic view on fuel choices and allow the market to determine the lowest cost approach to delivering reliability. This appears to be contrary to the role the SO has given itself in exercising a lever to adjust the buffer and enable access to contingent storage at a time of its choosing. We believe this was never the intent of the buffer and it is not appropriate that the SO continues to utilise it for this purpose.[5] Market participants are the parties that face the financial signals and consequences of managing the risk of shortage. As per the GPS, this is the best way to deliver reliability at the lowest possible cost to consumers.

Environmental impacts of enabling access to contingent storage will be mitigated and are properly managed in environmental legislation

In Section 2.4 of the consultation paper, the SO discusses potential environmental effects of use of stored water. Box 3 discusses events at Lake Hawea during 1977 and 1978 and consequential changes to the Water and Soil Conservation Act. Box 4 is drawn from a 2009 Ministerial Inquiry and references experience from 2008. Meridian makes no comment about the examples the SO provides relating to Lake Hawea.

However, we note that rules regarding the ability to utilise the range of Lake Pūkaki below 518m amsl were inserted to the local RMA plan 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 extant, with the parties who identified themselves and submitted in any of those three processes.

The resource consent contains a condition that, in the event that the consent is being exercised, requires Meridian to update Environment Canterbury weekly on strategies to restore the level back above 518m amsl. Oversight of environmental issues and impact is addressed via the appropriate means. Accordingly, those matters are addressed in the proper regulatory context of environmental legislation. It is not appropriate for the SO or other parties to impose their own considerations here.

Other potential impacts of Meridian's proposal

Finally, under the heading 'Potential impacts of Meridian's proposal' the SO suggests that Meridian's proposal would potentially extend the duration of an OCC. It references in support of this clause 9.23 of the Code and says that clause requires that an OCC must continue until the risk of hydro shortage is less than 8% and above the relevant Emergency CSRB. That is correct as a summary of clauses

[5] Rather, Meridian's understanding is that the buffer was intended to overcome the infeasibility arising from the mismatched drawdown of the relevant hydro lakes. The experience of Winter 2024 shows that, at its current level, the buffer is inadequate for that purpose.

9.23(1)(a) and (b) but incorrect as a summary of the overall effect of clause 9.23 of the Code. Clause 9.23(1)(c) provides that regardless of the two prior paragraphs (a) and (b), an OCC must end on the date agreed by the SO and the Electricity Authority. So, even if the SO approved Meridian's proposal, it would only result in the extension of an OCC if the SO, in conjunction with the Electricity Authority, decided that was appropriate in the particular circumstances.

This covering letter has focused on the urgent matter of addressing the infeasibility in the current rules related to access to contingent storage. Our responses on other matters per the SO's specific consultation questions are attached as **Appendix A**.

Please contact me if you have any queries regarding this submission. This submission and its appendices can be published in full.

Best regards,

Matt Hall
Manager Regulatory and Government Relations

Appendix A: Meridian responses to consultation questions

	Question	Response
1	Do you support our proposal to focus the scope of the review to: i. section 6 (Determining the electricity risk curves) and ii. section 12 (Simulated storage trajectories) of the SOSFIP?	Yes. However, we consider the immediate priority which should be addressed prior to the review is the restoration of the Alert CSRB buffer to at least 420 GWh to enable access to contingent storage for Winter 2025.
2	Do you support the review considering the following matters: a) physical vs contracted thermal fuel capability in the ERCs b) the criteria the System Operator applies to its existing CSRB buffer discretion in the SOSFIP c) determination and use of worst-case SSTs.	Yes.
3	Are there other matters that should be included in the SOSFIP review?	Yes. It is currently an anomaly that the processes for dealing with what Transpower calls 'low residual situations' (i.e. short-term risks of energy shortage over a morning or evening peak) are not addressed in the SOSFIP and are not addressed in the Code. Paragraph 49 of the consultation paper says that the risk of being unable to supply peak demand has now emerged in New Zealand as a key security of supply risk. Meridian suggests that the SOSFIP and the Code should cover such situations in the same way they address longer term risks of energy shortage and as part of this the scope of the SOSFIP review should be expanded accordingly. It is not appropriate for the coordination processes around such situations to be left to be negotiated between the SO and market participants with each party free to decide if or how they will ultimately comply with any such processes. As such, Meridian recommends the SO consider whether the SOSFIP could include more clearly defined processes for managing low residual situations.[6]

[6] We have previously supported the SO considering incorporation of processes for managing low residual situations in the SO Policy Statement.[6] However, the SOSFIP may be a more appropriate place to include this

		Per our comments on Transpower's recent low residual situation consultation we suggest a customer compensation scheme for such situations should also be considered but this is more a matter for the Authority. Related to this, we also believe there is considerable scope for simplifying and putting in one place all arrangements relating to security of supply. The diagram under paragraph 44 illustrates the complexity of the current documentation of the arrangements. And this is even before the arrangements relating to low residual situations are included. It would make a lot of sense for the SO, in conjunction with the Authority, to try to consolidate the various different documents and arrangements in one place – we suggest the Code is the appropriate place. We are referring here to the policy documents which are referenced 'above the line' in the diagram at paragraph 44 and which, the diagram states, are reviewed only 'every few years'. The documents below the line are reviewed more frequently. More broadly we suggest the SOSFIP review needs to consider the extent to which current security of supply arrangements are consistent with the October 2024 GPS. We refer in particular to paragraph 22 of the GPS and the implicit comment there that information relating to the supply and demand outlook (including risks) may not currently be as clear as it could be, that spot price signals may not as accurately reflect the supply and demand balance as they should, that forward price discovery 'particularly in relation to flexible supply to cover periods of low…hydro inflows' could potentially be improved, and that the country could potentially do better in ensuring that 'clear and comprehensive guiding principles and impartial procedures are in place for the System Operator to follow in power system emergencies, including any public calls for electricity conservation or reduced consumption.' All of these points are in Meridian's view directly relevant to the SOSFIP review. We also note the clear statement in the GPS that it "…is not the Electricity Authority's role to prefer one form of supply over any other." Compare this with the statements at:

detail. We remain of the view that there is a need to more clearly define the approach, triggers and processes for managing low residual situations and encourage the SO to consider this as part of any wider SOSFIP review.

		- paragraph 47 of Transpower's paper which says that the current security of supply framework is "designed to ensure other fuel sources are being utilised to the extent practicable before contingent storage is accessed." - Box 1 of Transpower's paper which says that the current security of supply framework has been designed to conserve hydro storage when dry conditions emerge. - The heading to section 2.3 of Transpower's paper which states that 'The ERCs assume the power system's primary objective is to conserve water.' Transpower assert, at paragraph 58 of their paper that the 2024 GPS 'broadly' reconfirms the Government's support for an approach that minimises hydro generation in times of or in anticipation of dry periods. Transpower cite in support of this paragraph 8 of the GPS which says nothing of the sort and as noted above there are other parts of the GPS which suggest the opposite. We suggest this issue should be a focus of any future SOSFIP review.
4	Which of the potential matters for inclusion in the SOSFIP review do you think would be most important for helping better ensure security of supply?	As above, we consider Meridian's proposed amendments to the default CSRB buffers will have the greatest impact on security of supply ahead of this winter and that issue should be addressed ahead of any SOSFIP review.
5	Do any of the potential matters in the review have other potential impacts that should be taken into consideration? These might be impacts within the electricity market (on participant contracting and trading arrangements perhaps) or impacts on stakeholders other than market participants.	Our view on the impacts of our proposed amendments to the default CSRB buffers are included in our cover letter. We consider that shifting from physical capability to contracted thermal fuel capability in the ERCs could have a positive impact on Transpower's assessment of security of supply. This assumption may better reflect the real-world market situation and therefore result in a more accurate overall risk rating which will help market participants to better assess and manage security of supply risk. We also note that impacts of an environmental nature and on local stakeholders and communities are properly a matter for environmental legislation. In the case of Lake Pūkaki, these have been addressed.
6	What are your initial views on the merits of Meridian Energy's proposed amendments to contingent storage access? What do you consider the effect of the proposed amendments would be on	Our view on the merits of our proposed amendments to the default CSRB buffers are included in our cover letter and in the attachments to this submission.

	security of supply and other outcomes? Please explain your rationale and provide any evidence to support it.	
7	One of the impacts of Meridian Energy's proposals could be to permanently remove the System Operator's CSRB buffer discretion in the SOSFIP. Is there merit in making changes to the System Operator's CSRB buffer discretion in the SOSFIP and/or making changes to the criteria the System Operator uses to exercise this discretion?	We are not at this stage proposing that the SO's discretion be removed. We are proposing that the SOSFIP is updated to reflect a default buffer of at least 420 GWh (reducing to 200 GWh from October until March to reflect the seasonal change in controlled storage at Lake Tekapo). The SOSFIP could retain the ability for the SO to determine and publish a different buffer. However, we recommend that the full SOSFIP review consider whether it is appropriate for the SO to retain discretion in this area and if discretion is retained include clear and specific criteria for any future adjustment to the buffer to ensure there is certainty and predictability on when this would occur. The list of 'current criteria' that Transpower says it intends to use, as specified at para 76 of Transpower's paper, are highly subjective and do not give market participants sufficient certainty or predictability. They can also be changed by Transpower at any time and / or Transpower can apply different criteria.
8	Are there alternative options and/or variations to Meridian Energy's proposed amendments we should consider? If so, please describe the alternative and why it would be preferable.	As noted above, as a short-term variation to our original proposal, Meridian would also support adjusting the Alert CSRB buffer to 420 GWh 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. Alternatively, the Emergency CSRB buffer could be increased to 420 GWh but decoupled from the trigger for an OCC. Regardless, we note that under 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, meaning there does not necessarily need to be any impact on the commencement of an OCC under Meridian's originally proposed changes.
9	Are there any potential matters for inclusion in the SOSFIP review that, if practicable, should be prioritised and fast-tracked for completion prior to Winter 2025?	As noted in our cover letter, Meridian considers it is critical that a change to the CSRB buffer is enacted before Winter 2025 so the sector can approach the period with certainty, plan ahead and make appropriate decisions. Given the market stress that was evident during Winter 2024, and the fact that the sector now knows it cannot rely on gas as a fuel source, it would not be appropriate to continue to rely on ad hoc changes to the buffer to enable access to contingent storage as occurred last year.

10	Are there other shorter-term changes that could be made to lower the risk of energy shortages during Winter 2025? What are the pros and cons of making these potential changes and which agency would be best placed to consider them?	Market participants are exploring all options to manage security of supply risks in Winter 2025. Enabling access to contingent storage through a change to the CSRB buffer remains the lowest cost option available and is something that can be implemented quickly – it should be prioritised and addressed now.

Appendix B: Meridian analysis of market and storage impacts of enabling access to contingent storage for 2025-2027

Appendix C: Meridian's letter to the Electricity Authority of 29 January 2025