

**Before a panel appointed under the
Fast-Track Approvals Act 2024**

FTAA-2510-1120

UNDER: the Fast-track Approvals Act 2024 (**Act**)

IN THE MATTER: an application for approvals for the Lake Pūkaki Hydro Storage
and Dam Resilience Works

BY: **MERIDIAN ENERGY LIMITED**
Applicant

**STATEMENT OF EVIDENCE OF GRANT TELFAR ON BEHALF OF MERIDIAN
ENERGY LIMITED**

Modelling and Economic Benefits

Dated: 15 April 2026

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INTRODUCTION

1. My name is Grant John Barnard Telfar.
2. I am a Principal Advisor at Meridian Energy.
3. I have been advising on and practising power system analysis, economics, strategy, and modelling for 30 years in New Zealand, Australia, and in the United Kingdom. I have a Masters in Science from Victoria University of Wellington.
4. It was my analysis and modelling that formed the bulk of quantitative assessment of market impacts, as part of the Substantive Application, via assessing restricted and eased scenarios for Lake Pūkaki storage over the next few years. I have been asked by Meridian Energy Limited to provide a response to specific matters within my area of expertise contained in the written comments on the application from persons invited by the Panel to comment under section 53 of the Act. These are:
 - a. Electricity Authority
 - b. Transpower NZ
 - c. Parliamentary Commissioner for the Environment
 - d. Genesis Energy.
5. I have prepared this statement within the limited time available to me. Consequently, it is necessarily at a high level. I am able to provide a more fulsome response of the issues covered in this statement if the Panel requires further assistance from me.

CODE OF CONDUCT

6. I confirm that I have read the Code of Conduct for Expert Witnesses as contained in section 9 of the Environment Court Practice Note (2023), and while I am an employee of Meridian and therefore not independent in that sense, I have complied with it in preparing this evidence. I confirm the issues addressed in this evidence are within my area of expertise, and I have not

omitted material facts known to me that might alter or detract from my evidence. The opinions I express in this evidence are my own opinions, and not necessarily Meridian's corporate position. I have been careful in my evidence to clearly differentiate between my personal opinions and the corporate view or position of Meridian, where appropriate. I have also considered the evidence of Dr Brent Layton and my Meridian colleague Rory Blundell and have endeavoured not to duplicate matters they address.

PRELIMINARY BACKGROUND COMMENTS & GENERAL RESPONSE

7. A brief coverage of some history behind the contingent storage access regime is useful. Additionally, a number of commenting parties have raised common concerns about Meridian's application. I briefly address some of these shared concerns here, before responses are provided in relation to matters raised by the individual commenters listed above.
8. The energy risk curves that underpin the current SOSFIP mechanism emerged from an old ECNZ 'Min Zone' concept, which gained currency post the 1992 hydro power shortage event. The Min Zone was an expression of general energy balance, focusing only on physical national hydro storage, as a simple way of communicating how tight the total supply situation was at any point in time. It was a simplistic communication tool, rather than an expression of national economics or of policy. The same idea went through several modern iterations and was given new life, post the introduction of the Electricity Industry Act 2010, as a mechanism by which the Electricity Authority might call an official conservation campaign. The initial idea being a simple line on a chart below which a nationally co-ordinated energy conservation response might begin in earnest, and below which retail consumers were to be paid \$12 per week as a way of financially disciplining gentailers to encourage prudent storage management. Dr Layton discusses this in his evidence, given his role Chairing the Brownlee review and as inaugural Chair of the Authority.
 - a. When amending the Waitaki Catchment Water Allocation Regional Plan (Plan Change 1 (WAP PC1)) at Lake Pūkaki Meridian suggested using the risk curve mechanism as a simple and available trigger for access to water below 518.0masl. The Substantive Application section describes the sequencing of plan permitted activity and resource

consent mechanisms by which use of Lake Pūkaki below 518masl were enabled. With the benefit of hindsight, if Meridian was able to redo the changes that were made to the way lake levels are regulated in WAP PC1, knowing what we know now, I expect Meridian would not have suggested the risk curves as a trigger mechanism. They have evolved so as to prevent rather than enable efficient use of an important low-cost clean energy source. In a perfectly competitive market and with consumer benefits the focus, there would be no trigger mechanism at all to enable access to stored water, with the bottom few metres of the operational lake range being simply a part of the overall consented range of Lake Pūkaki.

- b. There is nothing special or unique about 518.0masl as a minimum normal storage level in Lake Pūkaki, either physically or in terms of the power system. Lake Pūkaki is a remarkably modified lake, with 518.0masl being well above the original unaltered lake level. Implicit in several responses to Meridian's potential use of water below 518.0masl is a suggestion that this water is somehow different, or is the last drop of water, or is reserved in some sense. It is none of these. It is simply water in a lake below the current minimum normal operating range. There is similar energy stored as water below the normal operating ranges in almost every hydro reservoir in New Zealand. Putting consents to one side, *if* there is a valid concern about taking Lake Pūkaki storage down towards 518masl or below, then why not a concern below 520.0masl? Or below 525.0masl? The issues are much the same. Furthermore, from the power system's point of view there is also no difference between the last unit of energy stored as water in Lake Pūkaki, the last unit of water stored in Lake Taupō, the last unit of water stored in Lake Cobb, the last lump of coal in the Huntly stockpile, the last unit of gas in the Ahuroa gas storage facility, or the last available reduction in output from reduced production at the Tiwai Pt Aluminium smelter. Functionally, these are all the same. Water in Lake Pūkaki is not special to the electricity system, and the constraints imposed by the current consent conditions are simply an accident of the historical planning and consenting process.

9. As a matter of historical record, Meridian's management of Lake Pūkaki has on average operated the lake higher, reflecting increasingly conservative

management over time. We can see in Figure 1 that when compared to the state-run management of the lake under ECNZ, from 1999 onwards once management moved to Meridian (MEL), Pūkaki lake levels no longer went as low as frequently as they did during the previous decade.

10. Since ownership and operational control of Lake Tekapo (TEK) was given over to Genesis in 2011, Pūkaki lake management rose again with the lake dropping below 521.0masl extremely rarely: 0.3% of the time, compared to 9% of the time under ECNZ management, with the lowest lake level seen under ECNZ management being 518.9masl compared to 520.6masl under Meridian management. This conservatism, with all the trade-off of risks that it implies, comes at a cost to New Zealand. Meridian, via this application, is attempting to mitigate some of this conservatism.

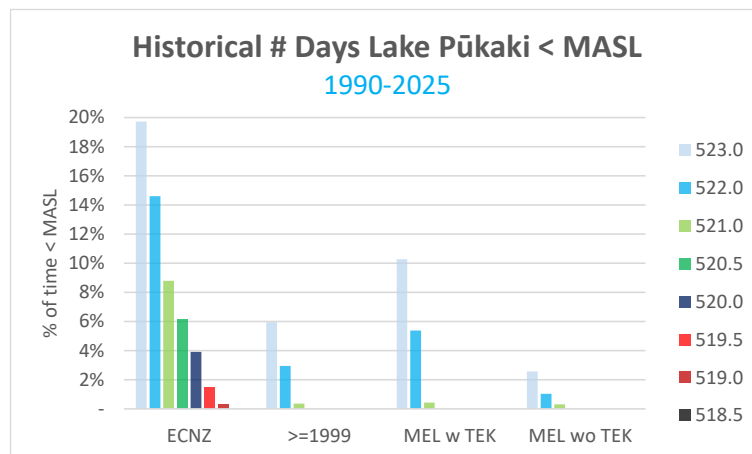


Figure 1. Lake Pūkaki storage levels since 1990

- 11 Constraints on the ability to use the full storage range available create difficulties in efficiently managing the power system. This manifests in two ways:
 - a. Any constraint in the power system will make the total system solution more expensive and will make prices higher. The current rules restricting access to discretionary Lake Pūkaki storage operate as a constraint. Their existence cannot make things cheaper, as a matter of simple mathematical fact; and
 - b. When a hydro operator does not have control or certainty about whether access later will or will not be allowed it results in inevitable conservatism regarding lake management, which in turn increases costs to the system.

- 12 Differences in opinion about the scale, or the timing, or the importance of these two impacts are valid. But the fact that these impacts are both real cannot credibly be disputed.
- 13 Criticisms from several commenters stem from a key assumption that I would characterise as a misapprehension: either that New Zealand has a well-defined 'fuel of last resort' or that it has one by proxy in discretionary storage at the bottom of Lake Pūkaki. Mr Blundell discusses this in more detail in his evidence, but I make the following fundamental observations:
- a. The first assumption is simply not true in terms of the design of the New Zealand electricity market and does not appear anywhere in the Electricity Industry Participation Code.
 - b. As for the second assumption, in the market today, put simply, there is no fuel of last resort, there is merely an accident of consenting history.
 - c. The only reserve energy scheme of any nature in the New Zealand power system was the 2004 Government commissioned and run Whirinaki diesel generator. This was widely criticised as a poorly targeted intervention that created both a regulatory price "demonstration effect" and a "missing money" problem, both of which interfered with normal market operations and price discovery. To remedy this, ownership of Whirinaki was ultimately transferred to the privately owned Contact Energy in 2011.
 - d. New Zealand and South Island winter energy margins are regularly reported on by Transpower as part of their system operation role. This function is undertaken on behalf of the Electricity Authority. But these are reported metrics only. They are not tied to any real-world activity or action. Instead, security of energy supply is left up to the actions of wholesale participants who operate existing stations and invest according to their views of how tight supply and demand is at any point in time. If any party can see a way to commercially recover costs, then they will invest, with system security being managed by this diversity of views, combined with the knowledge that should the market collectively get it wrong, then regulatory intervention will surely follow.

- e. There is an “N-1” requirement defined as part of New Zealand’s Grid Reliability Standards. This acts as a safety net minimum requirement for the core transmission grid, to ensure that the system can withstand the failure of a single component—such as a transmission line, transformer, or generator—without losing supply to customers. This primarily applies to the core grid, to ensure that maintenance can often be performed on one component without restricting supply, and so that unexpected failures don’t cause widespread blackouts. If more than one contingency event occurs (e.g., “N-2”), then load may have to be shed to maintain system stability. This security standard applies to the grid, i.e. transmission, there is no equivalent standard for energy or capacity during normal market operations.
- f. As Dr Layton notes in his evidence the only times that power has been turned off to large parts of the grid in recent years were due to grid failures and not as a result of the system running out of fuel. Similarly, power at the local lines level is interrupted in most areas several times each year, and this has nothing to do with the generators running out of fuel with which to generate electricity. There has never been a single physical energy shortfall event since the market started in 1997, despite a range of extraordinary and unforecastable ‘black swan’ events and extended periods of low supply.
- g. Even if the Electricity Authority were to engage and conclude that a ‘black swan’ reserve energy scheme was needed, via a change to the Code and market, it is far from obvious that Lake Pūkaki storage would feature as part of any such scheme.

14 The reference to and use by several commenters of so-called ‘black swan’ events – either double-contingency extreme events or in some Transpower analysis even *triple*-contingency events – simply asserts that this is a relevant approach. However:

- a. A double contingency “N-2” event as Transpower’s analysis uses it – an extreme dry-year on top of a major thermal failure – is not a defined security standard that appears anywhere in the design of the power market or the Code.

- b. An N-2 security standard (or N-3 as is used in some parts of Transpower's and Mr Weaver's analysis for Genesis) simply has no currency in the New Zealand power market. This simply reflects Transpower's aversion to the prospect of unconstrained access to water in Lake Pūkaki below 518masl for 2.5 years. One could equally use an N-12 measurement for all that it is relevant.
- c. To be able to make sensible decisions about any asserted scenario or any black swan event, it must involve an assessment of likelihood. How else can comparisons and evaluations be made? In the absence of an assessment of likelihood, the mere consideration of an extremely unlikely event becomes a reason not to take action that might otherwise have demonstrable benefits.
- d. It has never been standard practice in the history of New Zealand power planning to focus on black swan events, either at all, or as being especially relevant to policy decision making or national cost-benefit assessment. Whether a suitably defined black-swan event is a reasonable expression of risk or not or whether it should be considered by the responsible regulatory authorities for future market design, are questions the Electricity Authority or the government may wish to consider for the future, but they are not questions that are relevant to Meridian's application.
- e. The irreducible fact remains, that under our current market rules and design, risks and return for any decision and how 'wide' a decision maker goes when considering risks is entirely up to each participant. This is not a market design question, since there is no subsidy here and no reserve energy scheme in the New Zealand market. I am aware of no examples in recent NZ power planning history of decisions that place any great weight (if any) on black swan events for a national cost-benefit assessment or otherwise.

15 Some similar criticisms have been made by a number of commenters as to whether the scenarios I modelled and which are included in Meridian's substantive application are realistic and whether the "restricted" scenario, in particular, is modelled too strictly. The suggestion is that some *better* scenario

would more properly reflect those times when contingent storage access is granted and trigger thresholds are met.

- a. I note that the two bracketing scenarios presented in the Meridian application are very similar to those used by Mr Culy for Transpower and that the two sets of analyses produce very similar modelled results. A visual inspection of the two storage outcomes, assessed changes to power system generation results (less coal, carbon, and spill), and the change in system generation cost savings themselves are all very similar between the Meridian analysis and the Culy analysis. In terms of editorial focus, the main difference between the two views is that Transpower have focused on *generation* system costs (circa \$40m), while Meridian has emphasised higher costs to *consumers* (circa \$400m). These are different metrics but are still entirely consistent. Indeed, I would have been largely happy to recommend to Meridian that it adopt the Transpower analysis to support its application had it been undertaken on Meridian's behalf.
- b. Meridian has presented bespoke analysis that I prepared for this application to assess likely market impacts of eased lake access and to inform any regulatory reassessment of consent conditions. Figure 2 shows a small part of the underlying complex reality of what is being managed (for the restricted scenario). Storage outcomes can dramatically differ even when starting from the same initial storage point. The nature of New Zealand hydrology means that operators do not know what storage track they are on, they only know what has happened in the past. The nosiness of the forecast storage outcomes is a perfect illustration that this is not a problem that is well suited to small "just so" tweaks towards an outcome that an analyst finds preferable.
- c. Meridian's operational lake management demonstrates that lowering lake levels towards 518masl and assuming that all the other storage lakes in NZ will line up 'just so' to activate the trigger is naïve. This would leave the company exposed to enormous financial risk and would leave New Zealand exposed to significant power system disruption. Conservatism in lake management is a real and observable consequence of a range of issue including the current Lake Pūkaki contingent storage triggers. Analytically it is observable that there is little

practical difference between the water below 518.0masl being entirely unavailable and the current operational practise.

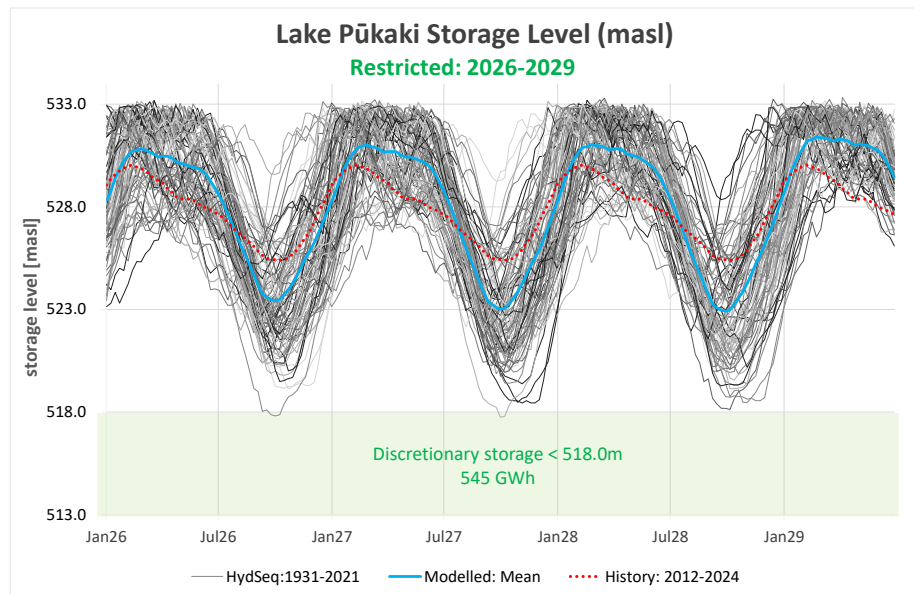


Figure 2. All restricted scenario storage ‘spaghetti’ traces.

- d. Finally, this “too strict” suggestion fails to acknowledge the second problem that affects the current access regime: that the trigger used to access the bottom of the lake changes regularly – sometimes significantly, unpredictably, with little warning, and certainly in ways that can be quite different to a priori expectations earlier in the year at the height of summer when setting the lake up for the coming winter. This is well illustrated in Figure 3 with the many changes in the SOSFIP curves evident by the sharp steps up or down in the lines and the 58 times at which the curves have been revised over the last 5 years as indicated via the numerous black triangles.

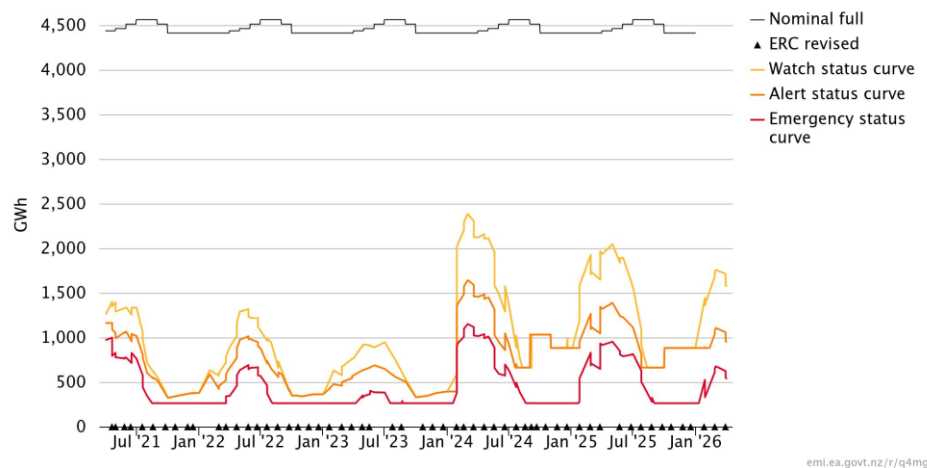


Figure 3. Historical electricity risk curves, Electricity Authority

- 16 Some commenters have focused on the risks to the country of an extreme double-contingency event, a 'black swan'. Much has been repeatedly made of the estimate of \$440m as a cost to the country should energy stored in lakes run dry. The suggestion is that Meridian has little real incentive to commercially avoid these outcomes and that the company is incentivised to create shortage to its own commercial benefit.
- a. Firstly, \$440m, even if valid, would no longer appear to be a relevant number, since this potential impact was calculated with respect to 2026 and there is no forecast 2026 storage supply issue according to Transpower's own Energy Security Outlook report dated March 2026.
 - b. Secondly, if as my analysis suggests, easing access to contingent storage leads to a measurable fall in prevailing spot prices, then all else being equal, Meridian's market generation revenues will drop. Revenues will fall further to the extent that retail tariffs need to be adjusted downwards to match wholesale prices. As a generator with more generation than load, lower prices generally translate into lower earnings for Meridian. The realities of pricing long-term contracts and retail tariffs are more complicated than this makes it sound, but Meridian's own assessment is that the company is unlikely to directly profit from this proposal, while consumers and the overall power system will benefit.
 - c. Meridian is fully aware, indeed more aware than any other party in the industry, of the dangers of taking lakes down to low levels unless necessary. This is evidenced by the 2001 dry-year failure of OnEnergy, by a \$300 million loss in forecast Meridian earnings during the recent 2024 supply event, and by the forced sale in 2011 of the Tekapo generation assets and ceding operational control of Lake Tekapo to Genesis as a corrective regulatory response to the assertion of poor lake management during the 2008 hydro shortage. To suggest that Meridian is not aware of these storage risks is disingenuous.
 - d. Finally, the scenarios I modelled for the application (both eased and restricted), and the scenarios Meridian models operationally, necessarily take account of a large range of physical, economic, and policy areas of supply and demand focus. This is the nature of the

reservoir and power system management challenge. Extended thermal outages are directly considered when setting up forecast guidelines for appropriate reservoir use but are restricted to shorter duration (weekly) outages in the simulation analysis itself. A wide range of other outages and prolonged low supply and/or high demand outcomes are considered and implicit in the analysis: thermal outages, lines outages, other generation outages, prolonged periods of low inflows, prolonged periods of low wind, prolonged periods of cloudy skies, and/or cold winters and hot summers. I am quite comfortable that an appropriately wide range of future risk possibilities has been considered.

- e. As shown in Figure 4, despite this inclusion of wide-ranging market uncertainties and risks, Meridian’s assessment of national hydro storage does not run storage dry in the eased scenario. Even in the most extreme outcome, 500GWh of national storage hydro energy remains. Should the country find itself in this unfortunate (and unlikely) position, remaining hydro storage can be combined with additional commercial demand response, similar to the existing 800GWh of response available from one potline at the Tiwai Pt aluminium smelter, or additional gas from Methanex operations, or similar initiatives, to keep the lights on. Such demand response arrangements have repeated historical precedence and are not ‘de-industrialisation’, but rather are the result of commercial negotiations that benefit all affected parties.

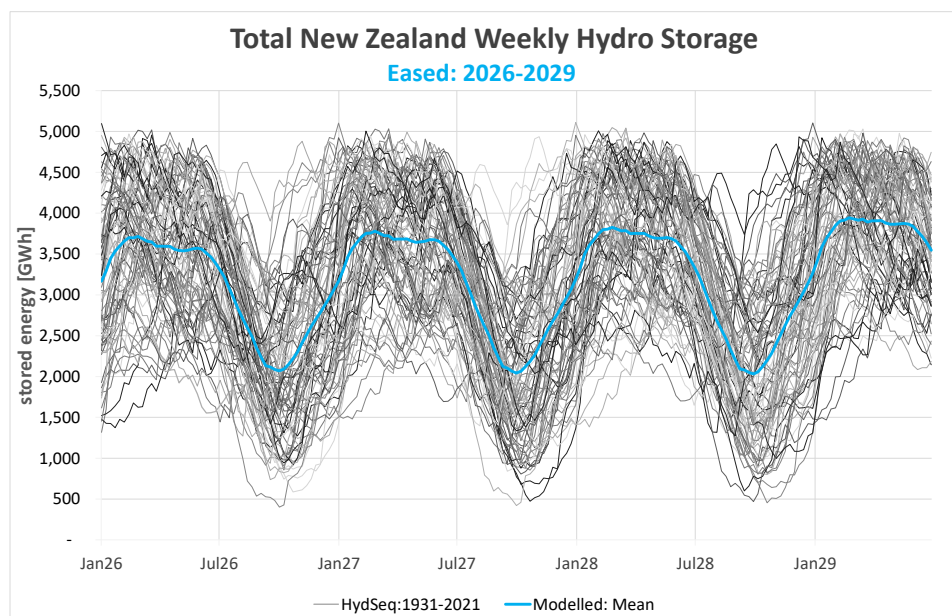


Figure 4. Total forecast NZ storage for the eased scenario.

- 17 A number of commenting parties suggest that dynamic, long-run impacts from freeing up access to Lake Pūkaki discretionary storage are significant, that this might change investment incentives for other generators – especially at peak – and "crowd out" firming/backup investment. However:
- a. This application expires in 2.5 years' time, even if granted. There are no long-term effects.
 - b. Even if this was not a short-term change, the efficient contestability of ideas is precisely why we have a market in the first place. The criticism sails close to a misunderstanding of dynamic efficiency and of competitive market price discovery in my opinion.
 - c. Meridian's application seeks to unlock additional productive efficiency via the unconstrained use of an existing scarce resource: water in storage. This in turn affects the assessment all market investors make when thinking about any investment, including that of dry year flexibility, as to how often it is used and what level of income might be available. This is not "crowding out" alternative investment, as there is no subsidy involved. Rather this is precisely what dynamic efficiency looks like: the least cost delivery of services to consumers over time, assuming a productively efficient use of existing resources. If this were not true, then for example, the mere presence of the entire hydro storage capacity of New Zealand would be problematic for and 'crowd out' a future coal station investor. Similarly, the coal stockpile at Huntly could be seen as 'crowding out' any rational expansion of hydro storage. Nether are sensible conclusions.

RESPONSE TO SPECIFIC COMMENTS

Electricity Authority

- 18 The NZ Electricity Authority (EA) has made a comment to the panel in response to Meridian's application. They present a range of views, some that support aspects of Meridian Energy's analysis and proposal, as well as points that qualify, challenge, or caution against over-reliance on Meridian's analysis,

including where the submission relies on, or contrasts with, System Operator modelling.

- 19 By way of supportive commentary, the EA considers the Meridian proposal likely to have a small positive impact on competition, efficiency, and reliability over the next three years. It argues the proposal should increase competition among contingent resources, helping ensure lower-cost options are used first rather than keeping Pūkaki contingent storage as a last resort. It supports the view that the proposal could improve efficiency by enabling more flexible trade-offs during low inflow periods, e.g. between demand reduction and using Pūkaki contingent storage. It supports the view that the proposal could improve system reliability by providing the system with additional risk-management options. It notes the main quantified benefit is lower system costs, with potential flow-through to consumer costs during scarcity events (noting uncertainty). It characterises as potentially inefficient the outcome where large industrial load reduces output while Pūkaki contingent storage is unavailable, suggesting access to Pūkaki could sometimes be a lower-cost alternative to demand reductions. It records that the System Operator appears less supportive of Meridian's proposal than the Electricity Authority, reflecting different roles and risk perspectives.

a. *Telfar Comment:* I agree.

- 20 By way of caution, the EA notes that it has relied on Meridian's modelling (and System Operator modelling) rather than undertaking independent analysis. It highlights that the quantum of consumer benefit is uncertain, because it depends on how expectations of future spot prices and forward prices change in scarcity events. It identifies the main downside as increased vulnerability to high-impact, low-probability events (e.g., an unexpected long-duration outage of a large thermal plant combined with high demand and low inflows into Lake Pūkaki), which could lead to greater demand reduction when the system is under stress. It notes modelling suggests benefits are short term (about 3-5 years), after which new generation is expected to reduce the value of contingent storage access. It acknowledges that under an extreme stress scenario, System Operator modelling indicates the current arrangements work better (less demand reduction required), although the EA considers the scenario itself very unlikely.

a. *Telfar Comment:* These are all reasonable observations.

Transpower

- 21 Transpower opposes Meridian’s application on a number of grounds. Their engagement on the topic has been fulsome, and this is clearly an issue that they care about. Fundamentally their opposition appears to stem from two observations that I would characterise as misapprehensions on their part: i) that New Zealand has a defined fuel of last resort, or equally an implicit reserve energy scheme; and ii) that Transpower are responsible for security of energy supply.
- a. *Telfar Comment:* Neither of these positioning perspectives are true in terms of electricity market design or the Electricity Industry Participation Code.
- 22 Transpower supports the existing access regime but opposes unrestricted access. They suggest that removing constraints without EA authorisation or full industry consultation risks poor or unintended outcomes for New Zealand.
- a. *Telfar Comment:* This application is being consulted on through the FTAA process, and the Electricity Authority has explicitly supported the application.
- b. *Telfar Comment:* For the current fast-track application the 2026 winter is largely off the table as being relevant, given current storage levels. The Meridian proposal is effectively now only for 2 winters before matters revert back to the current access regime. As noted above, I do not consider there will be any long-term effects from 2.5 years of eased access.
- 23 Transpower characterises the proposal as trading a limited, uncertain annual operating-cost benefit for a materially increased tail risk of a major security-of-supply event.
- a. *Telfar Comment:* Transpower’s use of a double contingency “N-2” event – an extreme dry year on top of a major thermal failure – is not a defined security standard that appears anywhere in market design or the Code. This is discussed above in para 14.

- b. *Telfar Comment:* Focusing on a rare tail event as a reason not to do something that otherwise has benefits is an excuse to never do anything. This is not how commercial or even engineering decision making works. The industry assesses a full distribution of outcomes for all aspects of operations and investment as a matter of course as a necessary part of doing business. In doing so, companies like Meridian apply various approaches to assessing risk and return – weighting rare tail events against more typical events. This is standard practice. Measurement of and balancing risk and different views on how to respond, is one of the key points of the design of New Zealand’s power market.
- c. *Telfar Comment:* As noted in para 16, \$440m is no longer a relevant number as there is no forecast 2026 storage supply issue according to Transpower’s own Energy Security Outlook report dated March 2026. The next worst rare tail event measured by Transpower is 73% lower at \$119m for winter 2027.

24 Benefits of unrestricted access: Transpower's commissioned modelling suggests annual public-welfare benefits in reduced fuel/direct costs of up to ~\$38m annually with more realistic benefits potentially about half that.

- a. *Telfar Comment:* I broadly agree with the Transpower analysis. Meridian modelling shows a similar scale of *generation* cost savings, along with a much larger cost saving to *consumers*. Where I differ is in the interpretation of results. I consider that the average benefits far outweigh the changeable nature, likelihood, and scale of rare tail-event costs. Rare tail-events are hard to estimate well or reliably and at times can be close to arbitrary, subject to more than the usual amount of analyst opinion.
- b. *Telfar Comment:* If we are to accept Transpower’s assertion that a more realistic factual/counterfactual measurement would mean an even smaller average benefit, then a more realistic view of the rare tail losses would logically be much smaller too. Transpower does not appear to have quantified either of these issues.

- 25 Transpower criticises Meridian as using the FTAA to bypass established electricity-sector consultation, variously claiming that the process: removes constraints without regulator authorisation, that the better forum for changes is via approved changes to SOSFIP, that broader industry consultation has been shut down, and that inconsistency in addressing large adverse impacts are in conflict with a need for "proportionality".
- a. *Telfar Comment:* Transpower views changes to SOSFIP as the right mechanism to effect change. In my opinion the SOSFIP changes agreed, even if positive, do not eliminate the lake constraint itself or the lack of operational certainty, so can only ever be a second-best outcome.
- 26 Transpower maintains that Meridian's claimed economic benefits are overstated and/or not "national benefits", with value vs reliance trade-offs more properly being a policy judgment that numbers alone can't capture. National economic benefits should focus on public welfare (costs), rather than redistributions of wealth from producers to consumers. Wealth redistribution analysis also requires assessments of price that are highly complex, assumption-dependent, and unreliable. Finally, any assumed pass through of savings to consumers is questionable.
- a. *Telfar Comment:* Assessed impacts that arise from a less stressed market over the next three years are straight-forward enough directionally to make and are largely uncontroversial. Transpower's analysis and Meridian's analysis say much the same thing.
- b. *Telfar Comment:* Arguing that wealth transfers to consumers are not relevant in the assessment of this application is a narrow and simplistic interpretation. This is better addressed by Dr Layton in his evidence, and tone-deaf in the middle of an ongoing cost-of-living crisis. Consumers do not see GDP, nor do they see generation costs; rather they see price, via their tariff, of which only a portion (around 35%) is the cost of energy.
- c. *Telfar Comment:* As discussed in para 16.b. above, Meridian does not directly profit from this proposal, but consumers and the power system do.

- d. *Telfar Comment:* Prevaillingly lower spot prices driving lower delivered end-use tariffs and costs to consumers is a standard market design assumption. How fast and how much of this gets passed through to different customer classes are all good questions and are addressed by Dr Layton in his discussion of the different contracts for supply in the retail market.
- 27 Transpower says Meridian's modelling scenarios do not provide a reliable estimate of benefits, as the "restricted" scenario may not represent the status quo and assume policy stasis.
- a. *Telfar Comment:* My view is that the benefits from eased access remain, even with recent positive changes to SOSFIP. This is addressed in the evidence of Mr Rory Blundell. I also note that even assuming SOSFIP settings had changed Meridian's behaviour in some way, SOSFIP settings could be changed again at any time. This is part of the storage access problem: there is a lack of certainty as to what the future access settings are going to be, and inevitably that leads to conservative management of the resource, which in turn ends up with spot prices being more than they need to be.
- 28 Transpower claims that Meridian's conclusions about lower spot prices are not robust. They maintain further that any spot-price reductions from deferring high-cost thermal operation can be offset by lower-price periods when higher lake levels increase spill risk and can even envisage a net *increase* (about \$2-\$3/MWh) being possible, along with very large uncertainty in the estimation of price, especially so for extreme-event pricing.
- a. *Telfar Comment:* Transpower appear to be comfortable with and capable of estimating spot prices. Indeed, pp30 of their recently released "Future Direction – Our Energy Scenarios"¹ document includes five different views of average spot prices out to 2050.
- b. *Telfar Comment:* In order to make commercial decisions, Meridian and other industry participants assess a full distribution of price outcomes, including some N-2 events, all the time: for the coming few hours, over the next few days, all the way through to several decades into the future

¹ <https://www.transpower.co.nz/our-work/te-kanapu/our-scenarios>

for new investment commitment. This is the entire point of the market – price discovery reflecting individual participants’ assessments of price. This is not new.

- c. *Telfar Comment:* There is no objective "truth" in assessing price. For example, Transpower has done so in “Future Direction – Our Energy Scenarios” referenced above. Meridian’s application contains its views, which are at a point in time and context specific. Meridian has long maintained a comprehensive, conventional, and well tested approach to analysing the power market and market price outcomes over the week ahead all the way through to 2050 and beyond. I am comfortable that the modelling and analytical framework used are suitable, appropriate, and are close to as good as it gets.
- d. *Telfar Comment:* The argument that removing a constraint in the system might somehow lead to lower generation costs but yet also result in higher spot prices is implausible. Mathematically, price is the marginal expression of the change in system cost for a unit of energy. This argument seems in defiance of optimization theory and mathematics.

29 Transpower maintain that contingent storage is a strategic reserve to be used only when an emergency is independently determined, thereby protecting against load curtailment under stressed supply conditions:

- a. *Telfar Comment:* This is not true and is not written anywhere in the Code or in the Act. As discussed above in para 13, New Zealand does not have a reserve energy scheme.

30 Transpower state that the system is already evolving, and that rather than granting Meridan’s request via the FTAA, they suggest reassessing access mechanisms over the next 3-5 years as uncertainties resolve:

- a. *Telfar Comment:* Transpower’s opposition to Meridian’s application is a perfect example of why the application via the fast-track process is necessary. Transpower are standing between lower costs to consumers and preventing the efficient use of energy resources, to the detriment of consumers. This is not Transpower’s job.

- b. *Telfar Comment:* This approach does little to fix our underlying problem:
 - i) a constraint exists that serves no purpose and shouldn't be there, and
 - ii) a priori uncertainty as to how the constraint is going to be used later in the year creates unnecessary conservative management of lakes.

Parliamentary Commissioner for THE ENVIRONMENT

31 Overall, the PCE argues that Meridian's proposal is primarily a change in control and operating rules for an existing electricity-system resource, rather than a proposal that adds new renewable generation. The PCE's core criticism is that Meridian's framing emphasises short term market optimisation and price benefits, while under-weighting longer-term, low-probability/high-impact risks and system-wide investment effects.

- a. *Telfar Comment:* One PCE observation appears to be predicated on an assumption that there is a shift of decision rights over a nationally significant security-of-supply tool from Transpower to Meridian. Firstly, as discussed above in para 13, there is no security of supply tool in market design or in the Code. Secondly, even if there were such a tool, Transpower are not responsible for security of energy supply.
- b. *Telfar Comment:* All we have to work with is a consent that allows access to water in a lake under certain conditions, hence a change in control application. Any change to anything in the power system can be seen as affecting all market outcomes, so in the limit *everything* is a market design and market governance issue, which is clearly overkill. It is up to the Electricity Authority to decide what set of issues they think need greater scrutiny and consultation and which do not.

32 The PCE criticises Meridian's analysis for not giving suitable weight to tail risks where costs could be much larger and where government may intervene.

- a. *Telfar Comment:* This is similar to Transpower's criticism, and as discussed above in para 13-14, my response is similar: the use of a double-contingency "N-2" event is not a defined security standard that appears anywhere in market design or the Code.

- b. *Telfar Comment:* These extreme risks are not new. They have always been there, and it is up to regulatory authorities to decide whether the market today manages these types of risks well or not. But this is separate and entirely irrelevant to this application.

- 33 The PCE maintains there is an over-reliance on 'markets optimise' logic. The PCE argues this is not sufficient for managing unforeseen ("black swan") events and contends that Meridian's approach is built around normal conditions and predictable dry-year risk, not compound shocks.
 - a. *Telfar Comment:* In my opinion a focus on a rare tail event (in some cases verging on implausible) while ignoring the prevailing benefits to consumers the rest of the time is perverse. The industry makes these types of trade-offs all the time. That's not to say it always gets it right, but these risks are not unknown.

- 34 The PCE asserts that there is inadequate treatment of dynamic, long-run impacts, those that change investment incentives for other generators: By making additional dispatchable hydro available, it could suppress wholesale prices and "crowd out" firming/backup investment, increasing long-run systemic risk without durable affordability benefits.
 - a. *Telfar Comment:* This application is time limited, with no long-term effects, and certainly no negative impacts on dynamic efficiency or "crowding out" of other ideas as in outlined in para 17.

- 35 The PCE contends that system security trade-off is a policy choice and that the key question here is the value placed on resilience versus lower prices, and that it is inappropriate for a Fast-track Panel to set energy policy:
 - a. *Telfar Comment:* There is no reserve energy scheme in the New Zealand power system. There is no fuel of last resort. This is not written anywhere in the Code or in the Act. As noted in the evidence of Rory Blundell, if at some point the Electricity Authority concluded that such a scheme was needed it should then deliberately design a regime that is appropriately sized, fuel agnostic, and transparently procured to ensure the least cost to consumers. It is far from obvious that Lake Pūkaki storage would feature as part of such a scheme.

Genesis Energy

- 36 Genesis Energy's Technical Advice has been undertaken by Simon Coates of Concept Consulting. Concept's review of the Meridian proposal identifies concerns that claimed benefits are materially overstated and that the proposal would weaken system resilience and introduce non-trivial operational risks—particularly in situations of unexpected supply stress.
- a. *Telfar Comment:* Genesis Energy are not impartial for this application with much self-interest at stake. Genesis owns assets upstream of Lake Pūkaki including Lake Tekapo, and Tekapo B station which flows directly into Lake Pūkaki. They also own hydro assets with storage in the North Island along with the largest portfolio of thermal plant. These would all be expected to operate less frequently should this proposal be granted. Their comments at the Finance and Expenditure Committee ('turning coal ships around') indicate that they think this will materially impact their business.
- 37 Concept claim that Meridian's assessment of benefits is inconsistent with other modelling. With Meridian estimates of price reductions of ~7% contrasted against Transpower's and Concept's own work which align on 1%.
- a. *Telfar Comment:* I recognise that other analysts are free to make their own assumptions and draw their own conclusions, and I accept that modelling in this space is complex. I continue to stand behind the assumptions and conclusions presented in support of the application as being appropriate and fair. Regardless of the detail of the various models and their outputs one point remains - removal of a constraint can't make the system anything other than less expensive.
- b. *Telfar Comment:* The Transpower analysis focuses firmly on generation cost savings, claiming prices are too hard to estimate. It is not clear whether Concept focus on generation costs or on spot prices or both. Meridian considers changes to typical spot prices as being more relevant for what influences the cost to consumers. A 1% (~\$40m) generation costs saving and a 7% (\$400m) consumer cost saving can be entirely consistent, with prices being the marginal expression of how cost changes in response to more/less energy.

- 38 Mr Coates' report asserts that, in any event, pass-through of price savings to consumers is likely limited in the near term and that commercial gains from lower spot prices would largely accrue to gentailers.
- a. *Telfar Comment:* As discussed above in para 16, lower spot prices mean lower generation revenues for Meridian, with lower earnings overall entirely possible. How fast and how much of this gets passed through to different customer classes are all good questions and are addressed by Dr Layton in his discussion of the different contracts for supply in the retail market.
- 39 Concept maintains that Meridian's analysis omits resilience consideration or costs associated with "black swan" events and Meridian's modelling does not quantify this lost resilience and presents an incomplete cost-benefit picture.
- a. *Telfar Comment:* Para 13-14 above point out that it has never been standard practice in the history of New Zealand power planning to focus on black swan events for a national cost-benefit assessment or otherwise. Commercial decision makers will apply their own assessment of risk.
- 40 Concept suggest that the "restricted" counterfactual may be modelled too strictly and refer to similar observations made in the Sapere peer review, questioning whether the scenario properly reflects those times when contingent storage access is granted and trigger thresholds are met.
- a. *Telfar Comment:* Para 15 above, notes that Meridian's modelled scenarios are very similar to those used by Transpower and produce similar results. Other analysts are welcome to produce their own scenarios and draw their own conclusions. The criticism also doesn't resolve the second problem that I identify with the current regime, that the SOSFIP trigger used to access the bottom of the lake changes, sometime unpredictably and with limited warning, certainly in ways that can be quite different to a priori expectations earlier in the year. It is worth noting that the contingent storage triggers have never been met and that contingent storage has never been used in the time that the regime has been in place, despite several periods of extended low hydrology and tight market supply.

- 41 Concept reiterates Transpower's concerns on the adverse impacts on thermal viability and that dry-year effects are underweighted. They suggest that more routine access to contingent storage will reduce thermal generator returns and alter decisions on plant retirement, which risks undermining incentives to maintain or invest in other dry-year management resources.
- a. *Telfar Comment:* Para 17 above points out that this sails perilously close to a misunderstanding of dynamic efficiency. Meridian's application seeks to unlock additional productive efficiency via the unconstrained use of an existing scarce resource: water in storage. There is no subsidy deployed here that risks undermining an existing reserve energy scheme, as neither of these exist in the NZ market.
- 42 Concept emphasis the material physical/operational risk for Tekapo B and the tailrace and weir structures.
- a. *Telfar Comment:* Genesis and Meridian are working towards an indemnity that would leave Genesis financially indifferent should such an event occur.
 - b. *Telfar Comment:* This physical risk exists today, as Lake Pūkaki can be lowered to 513.0masl under the current lake access rules. Being able to drop below 518masl more frequently would be a change yes, but it is a risk that Genesis need to plan for and manage today. 3% of the time below 518.0masl, which is what Meridian's modelling suggests, is not routine use.
 - c. *Telfar Comment:* This is a 2.5-year risk, so is short lived.
 - d. *Telfar Comment:* The structures that were used successfully while Lake Pūkaki was being filled are still present below the water at Tekapo B and are still intact and useable. Worst case, remedial works are anticipated to be relatively straightforward should any scouring effects occur, as happened on one occasion during the historic lake raise.
 - e. *Telfar Comment:* I have considered the engineering evidence of Dr Grant Webby and Viculp Lal that discusses the condition of the Genesis Tekapo B weir and chute, and the extent to which they are likely to be at risk of failure in the event that the lake level is lowered below 518masl

as a result of Meridian's proposal. Based on that evidence, which is that the infrastructure is not likely to fail, I consider that the Concept modelling of costs associated with a consequential 180-day outage of the Tekapo Power Scheme is unrealistic.

43 Concept point out that the “emergency rationale” is weaker given improved 2026–2028 system conditions, and that the proposal was originally motivated by Winter 2024 scarcity. They suggest that improved conditions means that there is limited justification for removing constraints now.

f. *Telfar Comment:* Precisely the same logic – supply-demand looking healthier – can be used to argue that actually *now* is precisely the time to remove constraints and see how unfettered access works under real-world conditions. New Zealand's relatively low hydro storage capacity means it is difficult to predict system risk more than 6 weeks out. It is possible to go from full lakes to an emerging dry rapidly. While lakes appear relatively healthy for the coming winter, it is entirely possible that we will experience dry periods in the next two years. Meridian is seeking to ensure this resource is available should such conditions emerge. This is also a time limited change, and after 2.5 years the consent would end and access to contingent storage would once again be linked to the triggers under the SOSFIP.

g. *Telfar Comment:* This seems to contradict the suggested consideration of black-swan events.

Dated: 15 April 2026



Grant Telfar