

**Written comments by Transpower New Zealand Limited on
Meridian Energy Limited's substantive application for Fast-Track
approval of its proposal to operate Lake Pūkaki between 518.0 m and
513.0 m RL, without restriction between 2026 and 2028**

Overview

- 1 Transpower New Zealand Limited has been invited under section 53 of the Fast-track Approvals Act 2024 (**FTAA**) to provide written comments on the substantive application by Meridian Energy Limited (**Meridian**) for resource consent to lower Lake Pūkaki lake levels from 518.0 m to 513.0 m for a three-year period between 2026 and 2028 (inclusive).
- 2 Transpower's position is that existing contingent hydro storage arrangements embedded in the current planning documents and consents relevant to Lake Pūkaki lake levels provide an important electricity generation fuel of last resort able to be deployed to reduce risk of load curtailment under stressed system conditions.
- 3 The current regional plan and resource consents provide a contingent hydro storage capacity that reflects and is reflected in security of supply policy controlled by the Electricity Authority pursuant to the Electricity Industry Act 2010 (**EIA**).
- 4 These settings enable Meridian to lower lake levels at Lake Pūkaki below 518.0 m in defined emergency situations to support security of supply (put simply, to 'keep the lights on') based on a published process operated by Transpower in its role as the System Operator in accordance with policies approved by the Electricity Authority, as electricity industry regulator.
- 5 Transpower supports Meridian's existing (conditional) access to lower lake levels at Lake Pūkaki to support the electricity system in security of supply emergencies. It has submitted in support of Meridian's application to extend its existing consents, currently on direct referral to the Environment Court.
- 6 Transpower acknowledges that the detailed policy as to when Meridian is entitled to access contingent hydro storage at Lake Pūkaki has, in recent years, been the subject of criticism, in particular from Meridian. There are mechanisms under the electricity industry legislation for these policy settings to be reviewed and modified by the Electricity Authority and at least one process relevant to these policy settings has recently been completed (after Meridian filed this substantive application under the FTAA).
- 7 Independent analysis provided to Transpower indicates that the importance of contingent hydro storage for security of supply reasons will likely reduce over time as more renewable generation comes online and the efficient level of hydro storage is at a higher level. This independent analysis necessarily makes multiple assumptions about

electricity demand and supply mix, but assessed that the current restrictions are likely unnecessary by around 2035. The market is dynamic and any change in assumed fuel stock, plant availability, or in demand elicits a response. In Transpower's view it is plausible that the value of the regime is materially diminished sooner than that as the physical system evolves, but that the regime remains important in the near term.

- 8 The analysis contained in these written comments is informed by an independent report from John Culy of JC2 Consulting. It looks at various risk scenarios and includes the effect of the "Huntly firming deal" (discussed at paragraph 64.7, below) and LNG. There are a number of uncertainties in the near term such as (on the supply side) how much gas supply will be available for electricity generation, the availability (or otherwise) of LNG, and the rate at which renewable electricity comes online and (on the demand side) the extent of transport and industrial electrification and any significant new loads, such as data centres. In Transpower's view, a prudent approach would be to reassess the current mechanisms for access to contingent hydro storage in the next three to five years, once more is known about these near-term uncertainties. Transpower is in active discussions with Meridian in relation to potential access to what is currently contingent storage in the long term.
- 9 Any changes to the current approach to allowing generators to access the contingent hydro storage currently available would need careful thought, modelling, analysis and full consultation with industry participants. The complexities involved could give rise to unintended consequences and would change risk management arrangements that have financial impacts for all market participants in the electricity sector.
- 10 Transpower provides these written comments to outline the risks of allowing Meridian to access, without restrictions, the contingent hydro storage at Lake Pūkaki. Those implications include adverse impacts in the form of:
 - 10.1 a negative effect on security of electricity supply for New Zealand consumers relative to the status quo; and
 - 10.2 effectively bypassing the views of various participants in the electricity industry, as well as the established mechanisms under the electricity industry legislation for regulating access to, and the use of, contingent hydro storage at Lake Pūkaki (and other hydro lakes).
- 11 In summary, Transpower's grounds for concern are as follows:
 - 11.1 The present application seeks to remove, for a 3-year period, the constraints in planning documents and consents that set out the current contingent hydro storage policy without any change to that policy being authorised by the Electricity Authority.

Indeed, Meridian's application now falls to be considered *after* the Electricity Authority has recently approved changes to the relevant regulatory regime. Those changes do *not* include the unfettered access to contingent hydro storage that Meridian now seeks but *do* include changes that will shortly have the effect of enabling Meridian (along with the other generators with contingent hydro storage) to access that contingent hydro storage more readily than was previously the case.

- 11.2 The FTAA processes do not allow broader consultation within the electricity industry, despite access to contingent hydro storage being a contentious issue, on which electricity industry participants and other groups, including consumer representatives, have different perspectives. By contrast, the existing processes by which amendments to the Electricity Code and other regulatory documents are consulted on and approved by the Electricity Authority allow (and have allowed) this broader consultation in the electricity industry.
- 11.3 The trade-off between the public welfare benefits of making contingent hydro storage available for use on the wholesale electricity market and the reduction in power system resilience is a policy judgement; it is not a matter that can be properly assessed solely by attempting to quantify and compare, as a matter of economic analysis, the average annual costs and the average annual benefits of granting Meridian's application.
- 11.4 The removal of the Lake Pūkaki contingent hydro storage will eliminate significant contingent storage from the electricity system and therefore increase the risk that, in potential short supply contingencies assessed under the Electricity Authority's risk tests, the adverse consequences for the power system and New Zealand economy would be very significant.
- 11.5 The costs of an outage are particularly acute over the next three years, before expected additional generation becomes available. In this period, the independent modelling commissioned by Transpower shows the costs to the electricity system of *one* low probability but realistic double-contingency scenario – low flows combined with a major long-term plant outage of the kind experienced in 2023 – as in the order of **\$440 million** (on the assumption that 3 Rankine units remain operational and fuelled at Huntly Power Station). The modelled impact is only the increased costs of supply of electricity and does not take into account the wider economic costs to New Zealand of such an outage, which would be very much greater.
- 11.6 By contrast, the independent modelling that Transpower has commissioned of the potential benefits to the electricity system of permitting Meridian to lower Lake Pūkaki below 518.0 m shows that those benefits are limited. In summary:

- (a) on a public welfare basis there are potential annual benefits in terms of reduced fuel and direct costs to electricity market participants of *up to \$38 million* per annum over the 2026–2028 period (on the assumption that 3 Rankine units remain operational at Huntly Power Station, and plus or minus a modelling error of \$12 million). This modelling compares a scenario where (1) there is completely restricted access to contingent hydro storage (i.e., the current access regime is not operating, so more stringent than the status quo), and (2) there is completely unrestricted access to contingent hydro storage (the access that Meridian seeks in this application). In the unrestricted access scenario, water is used ahead of thermal fuels, reducing costs to electricity market participants, but reducing available fuel if extreme conditions emerge;
- (b) on more realistic assumptions of use (i.e., using the current access regime), the potential annual benefits are likely to be only 50% of the maximum modelled benefits (plus or minus a modelling error of \$6 million);
- (c) the above modelled benefits do not take into account wealth transfers between market participants. Modelling potential wealth transfers between market participants in terms of different spot wholesale prices and hedge costs is highly complex and assumption reliant, sensitive to modelling inputs (including market participant behaviour, which is dynamic) and unlikely to be reliable; and
- (d) in Transpower’s view, it is unlikely that the modelled benefit, should it be realised, would necessarily result in lower electricity costs for end consumers, beyond those end consumers who purchase electricity at spot wholesale prices and who do not also hedge that exposure to spot prices through other arrangements (whether physical or financial). This reflects that fixed prices for electricity, whether for wholesale hedge products or retail tariffs, are risk-adjusted and are typically set taking, or contracting for, a longer-term perspective that may be longer than the three-year period covered by Meridian’s application.

11.7 It is neither feasible nor instructive to identify and precisely model *all* potential scenarios in which a serious security of supply emergency may arise as a result of loss of access to the Lake Pūkaki contingent hydro storage, and to accurately quantify all these potential scenarios probabilistically.

11.8 Accordingly, an element of qualitative judgement is required to assess the adverse impacts of departing from current security of supply settings for a three-year period, and it is appropriate to take a careful approach when doing so. Transpower’s

perspective is the contingent storage regime remains an important security of supply tool at this time, noting that it can and should evolve as the system evolves. At this time, it offers a form of insurance protecting New Zealand against a catastrophic security of supply event – for a potential limited annual benefit in reduced energy fuel costs.

- 12 Transpower understands that there may also be concerns about the effect of the proposal on the operation of the Tekapo scheme. Transpower is not an expert in dam engineering and accordingly makes no comment on the technical information in the Damwatch report. However, we do observe that in the event the electricity system lost access to water stored in Lake Tekapo this would materially increase energy adequacy risk,¹ and if the Tekapo generators were unable to operate at peak demand times this would increase capacity adequacy risk.²
- 13 In the balance of its written comments, Transpower provides the following information to the Panel:
 - 13.1 The relevance of electricity system benefits and adverse impacts to FTAA decision-making (at paragraphs 18 to 35, below);
 - 13.2 Previous and recent reviews of contingent hydro storage regulation at Lake Pūkaki (at paragraphs 36 to 64, below);
 - 13.3 Transpower’s assessment of the economic benefits of the (time-limited) removal of contingent hydro storage at Lake Pūkaki (at paragraphs 65 to 88, below); and
 - 13.4 Transpower’s assessment of the potential costs and risks of removal of contingent hydro storage at Lake Pūkaki, which are adverse impacts in terms of the FTAA (at paragraphs 89 to 105, below).
- 14 In addition to this information, Transpower has engaged John Culy of JC2 Consulting to provide an independent expert report responding to the report prepared by Dr Brent Layton in support of Meridian’s application, which makes a number of comments on recent Transpower analysis on this issue.
- 15 Mr Culy is a specialist in energy and utility economics with over 40 years’ experience in energy for both the public and private sectors. He is widely recognised as a leading adviser to the electricity industry in New Zealand, has specific expertise in the analytic techniques of

¹ The risk to energy adequacy is the risk of running out of energy in a dry year, which is highest across the winter months when hydro inflows tend to be lower and demand is higher.

² The risk to capacity adequacy is the risk of having insufficient generation available to meet demand peaks, which are typically highest on cold, still, dark winter morning and evenings.

hydro-thermal power system modelling and system security analysis, and also has an extensive background in the theory and practice of electricity and transmission spot pricing and the economics of energy companies.

- 16 Transpower records that Ramu Naidoo, its Market Operations Manager, and Rebecca Osborne, its Head of Market Services, have been involved in preparing these comments.
- 17 Finally, the **Schedule** sets out the history of contingent hydro storage at Lake Pūkaki.

Relevance of electricity system benefits and adverse impacts to FTAA decision-making

- 18 This section of Transpower's comments:
 - 18.1 sets out the relevance of the benefits and adverse impacts of Meridian's proposed project in relation to the electricity system; and
 - 18.2 explains how the Expert Panel should take those benefits and adverse impacts into account when exercising its FTAA decision-making functions.
- 19 The purpose of the FTAA as prescribed in section 3 of the Act is to "*facilitate the delivery of infrastructure and development projects with significant regional or national benefits*".
- 20 Section 81(2) of the FTAA provides that, for the purposes of making the decision, the Panel must apply the applicable clauses set out in section 81(3). For a resource consent, section 81(3) provides that clauses 17 to 22 of Schedule 5 must be applied. Relevantly:
 - 20.1 clause 17(1) requires the Panel to take into account, giving greatest weight to paragraph (a):
 - (a) the purpose of the FTAA;
 - (b) the provisions of Parts 2, 3, 6 and 7 to 10 of the Resource Management Act 1991 (**RMA**) that direct decision-making on an application for a resource consent; and
 - (c) the relevant provisions of any other legislation that directs decision-making under the RMA; and
 - 20.2 clause 17(4) provides that, for the purposes of clause 17(1), the Panel must take into account a provision of the RMA that would require a decision-maker to decline an application for a resource consent, but must not treat the provision as requiring the Panel to decline the application the panel is considering.

- 21 Section 81(4) provides that, when taking the purpose of the FTAA into account under a clause referred to in subsection (3), the Panel must consider the extent of the project’s regional or national benefits.
- 22 Section 85(3) provides that the Panel may decline approval if “there are 1 or more adverse impacts in relation to the approval sought” and “those adverse impacts are sufficiently significant to be out of proportion to the project’s regional or national benefits”. “Adverse impact” is a broad concept. The term was considered by the Expert Panel in the *Maitahi Village* decision, with the panel noting that:³

The term “adverse impacts” is defined in very broad terms as essentially any matter properly before the Panel which weighs against the granting of the approval. This is by way of contrast with the term “adverse effects” used in the RMA context.

The Panel assumes that the decision by Parliament to adopt the word “impacts” rather than “effects” was presumably deliberate, although it is by no means clear whether the two expressions are significantly different in the context of this Application. The Panel will therefore make a forensic assessment of any applicable adverse impacts of the Application on the available facts.

- 23 In that context, the implications of Meridian’s substantive application under the FTAA on the electricity system and security of supply have the following relevance:

23.1 *Relevance of proposed consent relating to an activity that is prohibited.* The Panel must take account of the fact that the application concerns an activity – accessing the contingent hydro storage at Lake Pūkaki outside the existing defined emergency situations where that use is currently permissible – that is currently prohibited under the relevant plan, although this factor is not of itself determinative. This point requires the Panel to assess the reasons for the existing status of the activity. Transpower considers that, in the present case, the existing status of the activity should be taken to reflect the following considerations:

- (a) the lake levels required to mitigate adverse environmental consequences (Transpower defers to the relevant administering authorities to determine this);
- (b) that temporary access to lower lake levels can be justified in the national interest on the grounds of an electricity system emergency, with the existence of such an emergency determined by independent third parties

³ *Maitahi Village*, FTAA Expert Panel Decision, 18 September 2025, at [90]–[91] (noting the decision is not a legal precedent).

(Transpower in its role as System Operator, applying policies determined by the Electricity Authority); and

- (c) That, at least in the near term, there is a benefit to New Zealand's electricity system of maintaining a contingent storage of fuel able to be deployed only on the application of policies determined by the electricity market regulator.

23.2 *Assessment of national benefits.* The application's assessment of the national benefits of the project rests almost entirely on the claimed economic benefits to electricity system participants of a three-year de-regulation of Meridian's access to the contingent hydro storage at Lake Pūkaki. Accordingly:

- (a) the Panel will need to assess the likelihood of Transpower and/or Electricity Authority changing the policy settings within the three-year period. Meridian's assessment of benefits appears to assume that the Authority will maintain the status quo, despite recent changes to those settings following a review process; and
- (b) the Panel will also need to determine how to assess the economic benefits of the project, given its expected impacts on the electricity system. In that regard, Transpower observes that:
 - (i) the FTAA purpose statement refers to "*significant regional or national benefits*", suggesting that, where those benefits are primarily economic, a public welfare test is appropriate that ignores wealth transfers between system participants;⁴ and
 - (ii) this test is not necessarily the same test as would be applied by the Electricity Authority under the EIA in considering an amendment to the Electricity Industry Participation Code, which entitles the Authority to consider the long-term interests of consumers.⁵

⁴ Changes in the distribution of wealth – in other words, wealth transfers – do not usually involve a change in overall public benefit. See, for example, *Telecom Corporation of New Zealand Ltd v Commerce Commission* (1991) 4 TCLR 473 (HC) at 530 – 531, described by the Court of Appeal in *NZME Ltd v Commerce Commission* [2018] NZCA 389 at [55] as "still the leading New Zealand discussion of public benefit". And in *Powerco Ltd v Commerce Commission* [2008] NZCA 289, the Court of Appeal accepted at [27] that there was an accepted approach to regulation under the Commerce Act that, in the main, excluded valuation of wealth transfers.

⁵ See, *Manawa Energy Ltd v Electricity Authority* [2022] NZHC 1444 and, on appeal, *Nova Energy Ltd v Electricity Authority* [2023] NZCA 275. These cases are discussed below at paragraphs 29 to 31.

- (c) In summary, and as explained in more detail later in these written comments, Transpower’s assessment of the economic benefits of the (time-limited) removal of contingent hydro storage at Lake Pūkaki is that – on a public welfare basis – the potential benefits over the 2026–2028 period in terms of reduced fuel and direct costs would be:
 - (i) no more than \$38 million or \$43 million annually as an upper bound; and
 - (ii) likely no more than half that amount.

23.3 *Assessment of adverse impacts.* The Panel will need to determine whether the following are adverse impacts in relation to the approval sought and, if so, whether they are sufficiently significant to be out of proportion to the project’s benefits:

- (a) the inconsistency of the application with existing plans, resource consents and policies; and
- (b) the potential costs and increased risk of a security of supply incident resulting from the unavailability of Lake Pūkaki contingent hydro storage.

24 A feature of the present application is that, while brought under environmental planning legislation, the principal benefits and adverse impacts of the application are economic. Accordingly, in support of its substantive application, Meridian has included economic evidence that seeks to identify (and quantify) the claimed national benefits of the project.

25 Given the nature of the benefits and adverse impacts that the Panel will be required to consider, Transpower considers that the Panel is likely to obtain assistance from how similar economic benefits and impacts have been considered by regulators and courts in considering similar issues relating to the analysis of economic benefits and costs, including under the EIA. In the regulatory sphere, it is now settled that, in weighing benefits and costs, a qualitative assessment of public benefits is appropriate. Identifiable and quantified benefits can be outweighed by significant adverse impacts, including where those adverse impacts involve high-impact, low-probability (or “HILP”) events that are not readily capable of precise quantification.

26 The relevant authorities are described below.

27 ***A decision-maker is entitled to take a cautious approach when weighing the likelihood of a HILP event:*** In *Major Electricity Users’ Group Inc v Electricity Commission*,⁶ the Court of Appeal dismissed a

⁶ *Major Electricity Users’ Group v Electricity Commission* [2008] NZCA 536.

challenge to an Electricity Commission decision that had adopted a cautious approach to quantifying the likely cost of a potential failure through a HILP event at a substation, in the context of assessing an investment case by Transpower to address the risk of a HILP event. The following key points emerge from the Court of Appeal's judgment:

- 27.1 To approve a particular upgrade of the Ōtāhuhu substation, the Electricity Commission had to assess the costs and benefits of the investment proposal and of the alternative projects that the Commission was considering. One input into this process was an estimate of the probability of a HILP event, of a kind that would be avoided by implementing the upgrade proposal in question or one of the alternative projects.⁷
- 27.2 Electricity Commission staff had estimated the probability of occurrence of a HILP event at a substation as being approximately 1 in 1,500 years. However, a majority of the Electricity Commissioners was not satisfied that this quantitative approach was a reliable basis for estimating HILP risk, given the limited data available, the theoretical conclusion reached through this exercise and "recent experience and common sense". The majority considered that the fact that HILP events have a low (but not zero) probability of occurring means that it is very difficult to reliably calculate what the probability is. However, given the high impact of these events, the majority was left to exercise its judgement as to whether it was prudent to (as was the issue in that case) have Auckland exposed to the prospect of a single major substation being affected by a low probability event, or whether two substations offered the required degree of reliability, and to adopt a notional probability that reflected that judgement.⁸
- 27.3 In its final decision, a majority of the Electricity Commission adopted a notional probability of 1 in 100 years (compared to the 1 in 1,500 years probability estimated by Commission staff), given the difficulty of reliably quantifying infrequent events and the resultant need to exercise judgement about whether it was prudent to expose Auckland to the prospect of a single major substation being affected by a low probability but high impact event.⁹
- 27.4 The Court of Appeal upheld this approach, confirming that the Electricity Commission was entitled to take a cautious approach, that HILP events are – by their very nature – difficult to quantify, and that the Commission was right in the circumstances to be cautious about the risk of numerical

⁷ *Major Electricity Users' Group v Electricity Commission* [2008] NZCA 536 at [90].

⁸ *Major Electricity Users' Group v Electricity Commission* [2008] NZCA 536 at [93]–[94].

⁹ *Major Electricity Users' Group v Electricity Commission* [2008] NZCA 536 at [95].

estimates taking on a spurious certainty without the exercise of judgement.¹⁰

28 ***A decision-maker may exercise a qualitative judgement and is not required to assign a value to the variables of cost and benefit:*** In *Godfrey Hirst NZ Ltd v Commerce Commission*,¹¹ the Court of Appeal dismissed a challenge to a Commerce Commission decision authorising an acquisition that would create a domestic monopoly for wool scouring services. One ground of appeal argued that the Commerce Commission had erred by failing to attempt to quantify certain benefits from the merger. In dismissing this ground of appeal, the Court of Appeal made the following points:

28.1 The Commerce Commission's primary function was to exercise a qualitative judgement in reaching its final determination. While efficiencies, long-term benefits to consumers and any economic and non-economic public benefits at stake should be quantified where possible, the Commission and the courts cannot be compelled to perform a quantitative analysis of qualitative variables.¹²

28.2 Qualitative factors can be given independent and, where appropriate, decisive weight; it follows that non-quantifiable factors need not assume a merely supplementary function in a largely arithmetical exercise.¹³

29 A similar approach can be found in the High Court's decision in *Manawa Energy Ltd v Electricity Authority*, which contains a discussion of the limits of qualitative analysis.¹⁴ In that case, Manawa Energy applied unsuccessfully for judicial review of a decision by the Electricity Authority to issue guidelines under the EIA for Transpower to develop a transmission pricing methodology. As part of its challenge, Manawa Energy claimed that the Authority erred in law in its approach to a required cost-benefit analysis because it did not quantify certain elements of the Guidelines.

30 The parties and the Court proceeded on the basis that, in developing the Guidelines, the Electricity Authority had to prepare, publicise and consult on the proposal and on a "regulatory statement" that had to include "an evaluation of the costs and benefits of the proposed amendment". The High Court held that the statutory text did not explicitly require quantitative analysis of costs and benefits or

¹⁰ *Major Electricity Users' Group v Electricity Commission* [2008] NZCA 536 at [100].

¹¹ *Godfrey Hirst NZ Ltd v Commerce Commission* [2016] NZCA 560, [2017] 2 NZLR 729 (HC).

¹² *Godfrey Hirst NZ Ltd v Commerce Commission* [2016] NZCA 560, [2017] 2 NZLR 729 (HC) at [35]–[36].

¹³ *Godfrey Hirst NZ Ltd v Commerce Commission* [2016] NZCA 560, [2017] 2 NZLR 729 (HC) at [38].

¹⁴ *Manawa Energy Ltd v Electricity Authority* [2022] NZHC 1444.

alternatives.¹⁵ While accepting that a cost-benefit analysis or “CBA” was a useful tool that could bring quantitative discipline to policy choices and require assumptions to be made explicit, Palmer J also observed that a CBA “is also only as good as the assumptions by which the quantification is undertaken” and that it is “inherently difficult to quantify some sorts of intangible benefits”.¹⁶ The Authority’s decision on the Guidelines involved its members using the expertise for which they were appointed to exercise a qualitative evaluative judgement.

- 31 An appeal to the Court of Appeal against Palmer J’s decision was dismissed. On this point, the Court of Appeal agreed with Palmer J that a cost-benefit analysis can be a useful tool, bringing quantitative discipline to policy choices, but not all benefits can be quantified. Ultimately, what was required of the Electricity Authority was a qualitative judgment.¹⁷
- 32 ***Unquantified (and unquantifiable) detriment can outweigh quantified economic benefits:*** In *NZME Limited v Commerce Commission*,¹⁸ the Court of Appeal dismissed a challenge to a Commerce Commission decision not to authorise the merger of New Zealand’s two main print media outlets, NZME and Stuff. This was the first case in which a public good, such as media plurality, had tipped the scales in an authorisation application under the Commerce Act 1986.
- 33 While accepting that the merger would deliver substantial (and quantifiable) public benefits, the Commerce Commission had found that these benefits were outweighed by substantial (but unquantifiable) detriments in the form of losses of media quality and “plurality”, by which the Commission meant the number and diversity of views offered to the public. These detriments were “of such significance” that they outweighed the quantified net benefits of the transaction and the conclusion was “not finely balanced”.¹⁹
- 34 The Court of Appeal’s decision in *NZME* is important because it recognises that, when assessing the net public benefit, unquantified (and unquantifiable) detriment can outweigh quantified public benefits:
- 34.1 A “benefit to the public”, the relevant term in the Commerce Act, could include anything of importance to the community as a whole, and the Commerce Commission could lawfully take into

¹⁵ *Manawa Energy Ltd v Electricity Authority* [2022] NZHC 1444 at [117].

¹⁶ *Manawa Energy Ltd v Electricity Authority* [2022] NZHC 1444 at [120].

¹⁷ *Nova Energy Ltd v Electricity Authority* [2023] NZCA 275 at [54].

¹⁸ *NZME Ltd v Commerce Commission* [2018] NZCA 389, [2018] 3 NZLR 715.

¹⁹ *NZME Ltd v Commerce Commission* [2018] NZCA 389, [2018] 3 NZLR 715 (summarised in the headnote at 716).

account non-economic or out of market detriments when deciding whether to authorise a transaction.²⁰

34.2 The Commerce Commission ought to measure gains and losses where it is sufficiently feasible and instructive to do so and otherwise ought to ensure that the value judgement required of it is informed by practical evidence and analysis. But quantification can convey an impression of precision that is quite misleading. It is an error to reason that the authorisation process is concerned only with, or values most, those things that can be measured.²¹

34.3 In the result, the Court of Appeal found that quality and plurality detriments were “very likely and substantial” and were sufficient in themselves to outweigh the merger transaction’s benefit “and not by a small margin”.²²

35 In summary, and applying these principles to Meridian’s substantive application and the adverse impacts in relation to the approval sought that Transpower has identified, the Expert Panel should take into account the following matters when considering whether those adverse impacts are sufficiently significant to be out of proportion to any national or regional benefits of Meridian’s project:

35.1 By their nature, it is difficult to quantify the probability of HILP events, such as the concurrent breakdown of a major thermal generation unit and a shortage of hydro storage. Given the importance of the existing contingent hydro storage to New Zealand’s security of electricity supply, it is appropriate for the Panel to adopt a cautious approach and to exercise a qualitative judgement about whether it would be prudent to expose the New Zealand electricity industry and the wider New Zealand economy to this risk.

35.2 Qualitative factors can be given independent and, where appropriate, decisive weight; it follows that non-quantifiable factors need not assume a merely supplementary function in a largely arithmetical exercise. Indeed, quantification can convey an impression of precision that is misleading.

35.3 Since a “benefit to the public” can include anything of importance to the community as a whole, an “adverse impact” should similarly be taken to include anything that would cause an important detriment to the community as a whole. Non-economic or out of market detriments can properly be taken into

²⁰ *NZME Ltd v Commerce Commission* [2018] NZCA 389, [2018] 3 NZLR 715 at [69] and [73].

²¹ *NZME Ltd v Commerce Commission* [2018] NZCA 389, [2018] 3 NZLR 715 at [98].

²² *NZME Ltd v Commerce Commission* [2018] NZCA 389, [2018] 3 NZLR 715 at [134] and [137].

account and can be of sufficient significance – even if not quantified or quantifiable – to outweigh identified benefits.

Previous and recent reviews of contingent hydro storage regulation at Lake Pūkaki

36 This section of Transpower’s comments sets out relevant detail relating to previous and recent regulatory reviews within the New Zealand electricity industry of contingent hydro storage and the circumstances in which it is appropriate for generators to access it.

37 In summary:

37.1 The contingent hydro storage in New Zealand’s electricity system is regulated by the Electricity Authority and Transpower, including through the Security of Supply Forecasting and Information Policy (**SOSFIP**).

37.2 Any proposal to amend or replace the SOSFIP is subject to industry consultation and Electricity Authority approval.

37.3 During 2024, Transpower temporarily adjusted the Alert CSRB to address potential difficulties with generators accessing contingent hydro storage and declined a request by Meridian for a permanent lift in the level at which contingent hydro storage could be accessed.

37.4 During 2025, Transpower reviewed and consulted with electricity industry participants on the SOSFIP, including on Meridian’s proposed permanent amendments to the default buffer in the CSRB. In response to submissions, including feedback from Meridian, Transpower increased the proposed Alert CSRB default buffer in the amendments to the SOSFIP.

37.5 In February 2026, the Electricity Authority approved the amended SOSFIP, with effect from 1 May 2026, which will now result in readier and sooner access – where appropriate – to contingent hydro storage than was previously the case, while preserving contingent hydro storage as an important tool for dry year management.

—Development of the SOSFIP and its approval by the Electricity Authority

38 As described above, the contingent hydro storage in New Zealand’s electricity system is regulated by the Electricity Authority and implemented by Transpower, including through the SOSFIP.

39 The Electricity Industry Participation Code requires Transpower to prepare and publish a SOSFIP.²³ However, any proposal to amend or

²³ Electricity Industry Participation Code, clause 7.3(1). The SOSFIP is incorporated by reference into the Code: clause 7.4(1).

replace a "system operation document" (which includes the SOSFIP) is subject to industry consultation and Electricity Authority approval:

- 39.1 Before providing a proposal to the Electricity Authority to amend or replace a system operation document, Transpower must consult on the proposal.²⁴
 - 39.2 Transpower must generally obtain the Electricity Authority's consent before consulting on a proposal to amend or replace a system operation document.²⁵
 - 39.3 Transpower must generally consult on any proposed amendment of a system operation document with affected participants or persons that represent the interests of those persons likely to be affected by the proposed amendment. In particular, Transpower must provide a reasonable period to the persons it is consulting with to make submissions and must consider any submissions as well as provide a copy of each submission received to the Electricity Authority.²⁶
 - 39.4 Following consultation, Transpower must provide the Electricity Authority with a report setting out (among other things) a summary of submissions received and Transpower's response to each, any changes made to the proposed amendments after consultation and a final draft of the proposed amendments to the system operation document.²⁷
 - 39.5 After receiving the report, the Electricity Authority may approve the proposed amendments to the system operation document, require Transpower to conduct further consultation or decline to approve the proposed amendments.²⁸
- 40 The provisions of the SOSFIP that bear upon when and how generators may access contingent hydro storage have been the subject of review, including industry consultation, over the last few years, including very recently. The existing regulatory processes by which amendments to the SOSFIP are consulted on and approved by the Electricity Authority allow for broad consultation within the electricity industry on contentious issues such as access to contingent hydro storage.
- 41 Access to contingent hydro storage is a contentious issue, on which industry participants and other groups, including consumer representatives, have (and have expressed during consultation) different perspectives. That is reflected in the consultation submissions

²⁴ Electricity Industry Participation Code, clause 7.13.

²⁵ Electricity Industry Participation Code, clause 7.16.

²⁶ Electricity Industry Participation Code, clause 7.20.

²⁷ Electricity Industry Participation Code, clause 7.21(1).

²⁸ Electricity Industry Participation Code, clause 7.21(2).

that Transpower and the Electricity Authority have received on various proposals and papers over the last few years.

—Transpower temporarily adjusts the Alert CSRB (August 2024)

42 In August 2024, Transpower exercised its discretion under the SOSFIP to increase the 50 GWh default buffer in the Alert CSRB for the months of September and October 2024, to address potential difficulties with generators accessing contingent hydro storage. Transpower’s proposal, consultation and final decision may be summarised as follows:

- 42.1 On 8 August 2024, Transpower released, for consultation purposes, a draft decision document entitled *Adjustment to Alert Contingent Storage Release Boundary*.²⁹ Transpower draft decision proposed using its discretion under the SOSFIP to increase the buffer applied in calculating the CSRB – defined in the SOSFIP approved by the Electricity Authority – from 50 GWh to 320 GWh from 1 September 2024 until 1 October 2024.
- 42.2 The situation leading to this draft decision was that a combination of physical events and resource consent risks had resulted in a mismatch in storage drawdown across different hydro storage reservoirs. This mismatch had increased the operational risk that one or more reservoirs would reach its contingent storage boundary (or absolute minimum level) while aggregate storage remained above the default Alert status trigger. If Alert status was not triggered, resource consents would not permit access to contingent storage in Lake Pūkaki, Lake Hāwea and (and from 1 October) Lake Tekapo.
- 42.3 The default 50 GWh buffer in the Alert CSRB – which had been in effect from 2019 – allowed for operational uncertainties. The effect of Transpower’s draft decision to increase the buffer to 320 GWh would be to allow generators – while the buffer was increased – to access contingent hydro storage in Lakes Pūkaki, Hāwea and Tekapo earlier, once Alert status was triggered as required by the relevant resource consents.
- 42.4 Transpower decided on a tight timeframe (one week) for consultation because it considered the risk of electricity shortage and/or shortfall near term was sufficient that bringing forward access to contingent storage was necessary. Because the final decision would have an impact on the market and energy prices, Transpower decided to consult widely to ensure all participants

²⁹ Transpower New Zealand Limited *Adjustment to Alert Contingent Storage Release Boundary: Draft Decision* (8 August 2024): https://static.transpower.co.nz/public/bulk-upload/documents/August2024_ERCBufferDraftDecision.pdf?VersionId=91I9Nis5bl8syLw4I9dZppoKCZ1mhsbp. The detail of the System Operator’s draft decision appears at Section 2 of this document.

and stakeholders could provide feedback and information to inform Transpower’s final decision.

42.5 Transpower received 11 submissions, from a range of stakeholders including electricity generators, electricity retailers and large electricity users.³⁰ The draft decision was largely supported.

42.6 Meridian had the opportunity to (and did) submit on Transpower’s draft decision.³¹ It strongly supported Transpower’s draft decision to exercise its discretion to publish a different buffer but did not think that the draft decision went far enough. Meridian considered that a total buffer of 420 GWh should be included.

42.7 On 22 August 2024, Transpower released its final decision.³² In response to submissions, Transpower’s final decision increased the buffer applied in calculating the Alert CSRB to 420 GWh for the month of September 2024 (the value Meridian had proposed) and by a smaller amount (200 GWh) for the month of October 2024.

43 As can be seen from this instance of Transpower’s exercise of its discretion to temporarily increase the default buffer in the Alert CSRB, the existing regulatory mechanisms allow Meridian and other generators to more readily access contingent hydro storage where access is appropriate for security of supply purposes.

—Transpower declines a request by Meridian for a permanent lift of the level at which contingent hydro storage could be accessed (November 2024)

44 In late November 2024, Meridian Energy requested Transpower in its role as System Operator to permanently amend the SOSFIP to lift the hydro storage level at which contingent hydro storage would be accessed and at which any Official Conservation Campaign could be triggered.³³ More specifically, Meridian sought to have Transpower permanently:

³⁰ The submissions are available on Transpower’s website: <https://www.transpower.co.nz/consultation-adjustment-alert-contingent-storage-release-boundary-closed>. The submitters were: (1) 2degrees, Electric Kiwi, Flick Electric & Octopus Energy (jointly); (2) Business Energy Council; (3) Contact Energy; (4) Electricity Retailers’ Association of New Zealand; (5) Genesis Energy; (6) Greymouth Gas; (7) Guardians of Lake Hāwea; (8) Major Electricity Users’ Group; (9) Mercury; (10) Meridian Energy; and (11) Pan Pac.

³¹ Letter from Meridian Energy to Transpower dated 16 August 2024: [Meridian submission - 2024 Adjustment to Alert Contingent Storage Release Boundary.pdf](#).

³² Transpower New Zealand Limited *Adjustment to Alert Contingent Storage Release Boundary: Final Decision* (22 August 2024): https://static.transpower.co.nz/public/uncontrolled_docs/ERC_buffer_decision_22Aug2024.pdf?VersionId=dNsbgsS78Pc25HaXBNRgBi9Hgtj1FK6j.

³³ Letter from Meridian Energy to Transpower dated 27 November 2024: <https://static.transpower.co.nz/public/bulk->

- 44.1 adjust the buffer in the Alert CSRB so that it was increased to 420 GWh between 1 April and 30 September and to 200 GWh between 1 October and 31 March (changes which Meridian had previously sought in its August 2024 submission on Transpower’s draft decision to temporarily increase the Alert CSRB); and
- 44.2 make the same adjustments to the buffer for the purposes of the provisions in the Electricity Industry Participation Code referencing the point at which an Official Conservation Campaign must begin.
- 45 Meridian’s request was made under clause 7.14 of the Code, which allows a participant to request an amendment to a system operation document to Transpower in its role as System Operator (such as the SOSFIP). Under clause 7.14, Transpower must advise the Electricity Authority and the participant of its decision, including reasons, within 1 month of receiving the request.
- 46 On 20 December 2024, Transpower advised the Electricity Authority and Meridian of its decision to consider Meridian’s requested amendment as part of the next review under clause 7.15 of the Code.³⁴ Transpower identified that the significant and permanent changes that Meridian sought would have multiple and enduring impacts on stakeholders – including impacts on wholesale electricity market participants other than Meridian across hydro storage management, thermal fuel management, contracting and asset investment and retirement decisions – and would therefore require thorough and transparent consultation with affected parties.
- 47 Transpower also noted that, should circumstances in 2025 mean mitigating security of supply risk near term makes bringing forward access to contingent storage necessary, it would follow a similar process to 2024 to decide what to do and in line with provisions in the SOSFIP.

[upload/documents/Letter%20to%20Transpower%20on%20Contingent%20Storage_Publi
c.pdf?VersionId=XtWjUrcvTpPRqVZLuhPJJTToozyFrQmW.](https://static.transpower.co.nz/public/bulk-upload/documents/241220%20TP-SO%20letter%20to%20Meridian%20-%20enabling%20access%20to%20contingent%20storage%20-%20December%202024.pdf?VersionId=XtWjUrcvTpPRqVZLuhPJJTToozyFrQmW)

³⁴ Letter from Transpower to Meridian Energy dated 20 December 2024: <https://static.transpower.co.nz/public/bulk-upload/documents/241220%20TP-SO%20letter%20to%20Meridian%20-%20enabling%20access%20to%20contingent%20storage%20-%20December%202024.pdf?VersionId=JGV63aZOnV5luTLN.Nar815LckyzbxOD>. For completeness, Transpower records that, in January 2025, Meridian alleged with the Electricity Authority that Transpower had breached clause 7.14 of the Code by deciding to consider Meridian’s requested amendment as part of the next SOSFIP review under clause 7.15. In July 2025, the Electricity Authority advised that the alleged breach was of a technical nature only and that it had decided to take no further action on the alleged breach.

—Transpower reviews and consults on the SOSFIP (March to December 2025)

- 48 In March 2025, Transpower sought views from industry and other stakeholders on issues to consider for a review of the SOSFIP.³⁵ Reviews had last been undertaken in 2019 and 2022. Among the list of topics that Transpower had considered the review should cover were the criteria that Transpower applies to its existing discretion to change the CSRB buffers in the SOSFIP and Meridian’s proposed permanent amendments to the default CSRB buffers in the SOSFIP.
- 49 In its Issues Paper, Transpower noted that it could not complete a full review of the SOSFIP considering all potential impacts and consult with all the affected parties before Winter 2025. Any changes to the SOSFIP could, however, be implemented before Winter 2026. If options emerged that could be implemented before Winter 2025, it would support the Electricity Authority and any other relevant parties in that process with urgency.
- 50 Transpower received 15 submissions on its Issues Paper (including a submission from Meridian) from organisations representing a cross-section of industry participants and other stakeholders outside the electricity industry, as well as four cross-submissions (including a cross-submission from Meridian). In April 2025, Transpower released its summary and decision document following the issues paper consultation.³⁶
- 51 Among other things, Transpower noted that there were competing views about whether Meridian’s proposal to permanently lift the CSRB buffers would improve or be harmful to security of supply and there was also some support for Transpower in its role as System Operator to retain its discretion to change the CSRB buffers. Transpower’s Summary and Decision Document on the SOSFIP Issues Paper Consultation identified that views were divided among submitters on Meridian’s request to amend contingent storage access:³⁷

51.1 Business NZ Energy Council, Contact and Mercury offered at least partial support for Meridian’s proposal.

³⁵ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Issues Paper* (10 March 2025): <https://static.transpower.co.nz/public/bulk-upload/documents/System%20Operator%20-SOSFIP%20review%20Issues%20Paper%20-%20March%202025.pdf?VersionId=40ZOnGYIIOC6EXKbSJqh1ND2CfdX1r0z>.

³⁶ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Issues Paper Consultation: Summary and Decision Document* (23 April 2025): <https://static.transpower.co.nz/public/bulk-upload/documents/System%20Operator%20-SOSFIP%20review%20Issues%20Paper%20Summary%20and%20Decisions%20-%20April%202025.pdf?VersionId=qCfwhwm0gZP0awanj4ihN.QDG3R0Z4ds>.

³⁷ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Issues Paper Consultation: Summary and Decision Document* (23 April 2025) at [31]–[33] and [63]–[93].

- 51.2 All other submitters either opposed the proposal or considered more work was needed to address the concerns. There were competing views on the efficacy of the proposal both in terms of environmental impacts and security/efficiency impacts.
- 51.3 Environment Canterbury, Otago Regional Council, Guardians of Lake Hāwea and Octopus Energy NZ all raised concerns about contingent storage access having the potential to cause short and/or long-term environmental impacts on local communities, the agricultural sector and tourism. A concern was raised that the operators of the lakes with contingent storage do not give due regard to these matters.
- 51.4 Some submitters identified security of supply concerns with Meridian’s proposal. The Major Electricity Users’ Group noted the value of keeping contingent storage in its present role as the last line of defence. Orion was concerned about the potential greater risks of Official Conservation Campaigns and rolling outages and suggested the economic and social costs of extended Official Conservation Campaigns and rolling outages would be substantial.
- 51.5 Guardians of Lake Hāwea cross-submitted that it agreed with the views of several submitters that the proposed change to contingent storage is an approach to dry year cover that will effectively run the hydro storage tank dry.
- 52 Given the feedback Transpower received, and the potential impacts on dry year management in both the short term and longer term, Transpower decided not to change the CSRFB buffers at that stage, as requested by Meridian for Winter 2025. Instead, Transpower decided to consider Meridian’s proposal in the SOSFIP review, as a potential permanent change, which would provide the time necessary to complete robust analysis including of the costs and benefits of the proposal, allow for further consultation with stakeholders, and support the Electricity Authority’s consideration of any final SOSFIP amendment proposal.³⁸
- 53 However, ahead of the wider SOSFIP review, Transpower did decide to refine its CSRFB buffer discretion process to reduce uncertainty, improve understanding and increase transparency for Winter 2025.³⁹ It also included, as Appendix 1 of its Summary and Decision Document on the SOSFIP Issues Paper Consultation, an initial consideration of the modelling information provided by Meridian. Transpower noted that

³⁸ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Issues Paper Consultation: Summary and Decision Document* (23 April 2025) at [8], [10], [11] and [81]–[93].

³⁹ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Issues Paper Consultation: Summary and Decision Document* (23 April 2025) at [18]. The System Operator’s refined process for determining whether to exercise its CSRFB buffer discretion for Winter 2025 is set out at [20]–[24].

the effect for security of supply would be that less fuel would remain in reserve to mitigate the risk of a system-wide energy or capacity shortage and potentially as a result of coincident material asset failure(s).⁴⁰

- 54 In October 2025, Transpower released its SOSFIP review consultation paper,⁴¹ along with draft amendments to the SOSFIP. As foreshadowed, the SOSFIP review included amendments relating to contingent storage buffer access arrangements, including the role of the CSRB buffer and its default value.
- 55 The Alert CSRB floor is the total contingent storage amount in all catchments at that status plus a buffer to account for operational considerations that could prevent access to contingent storage. The SOSFIP set the default buffer at 50 GWh. The effect of the default CSRB buffer is that the aggregate of all remaining controlled storage must be within 50 GWh of its minimum operating level before access to contingent hydro storage is triggered.⁴²
- 56 Relevantly, Transpower proposed changes to clause 6.1A(c) of the SOSFIP, to update the Alert CSRB buffer for access to contingent hydro storage, to better account for the changes in the operating restrictions at the different hydro catchments.⁴³ The changes proposed to the Alert CSRB buffer were as follows:⁴⁴

| | Base | Waiau | Tekapo | Total |
|------------|-------------|--------------|---------------|--------------|
| Jan | 50 | 90 | 0 | 140 |
| Feb | 50 | 90 | 0 | 140 |
| Mar | 50 | 90 | 0 | 140 |
| Apr | 50 | 90 | 0 | 140 |

⁴⁰ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Issues Paper Consultation: Summary and Decision Document* (23 April 2025) at [137].

⁴¹ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Consultation – Draft amendment proposal* (7 October 2025): <https://static.transpower.co.nz/public/bulk-upload/documents/System%20Operator%20-%20SOSFIP%20review%20consultation%20-%20October%202025.pdf?VersionId=6d0vqfTDneNQfW5OJWd0ApJ.k69hjvmC>. Section 7 (Contingent storage buffer access arrangements) set out in detail the System Operator’s proposals.

⁴² The controlled storage is the hydro storage contained in the large hydro catchments used for electricity generation. These include Lake Taupō in the North Island and (in the South Island) Lakes Tekapo, Pūkaki, Hāwea, Manapōuri and Te Anau.

⁴³ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Consultation – Draft amendment proposal* (7 October 2025) at [199]–[200]. For completeness, Transpower also notes that it proposed including a requirement to publish its discretion process to change the CSRB buffer (where operational circumstances make doing so appropriate). This change is part of the amended SOSFIP that the Electricity Authority approved in February 2026 and will come into force from 1 May 2026.

⁴⁴ Transpower New Zealand *Security of Supply Forecasting and Information Policy Review – Consultation – Draft amendment proposal* (7 October 2025) at [192].

| | | | | |
|------------|----|----|-----|-----|
| May | 50 | 90 | 20 | 160 |
| Jun | 50 | 90 | 110 | 250 |
| Jul | 50 | 90 | 170 | 310 |
| Aug | 50 | 90 | 190 | 330 |
| Sep | 50 | 90 | 210 | 350 |
| Oct | 50 | 90 | 0 | 140 |
| Nov | 50 | 90 | 0 | 140 |
| Dec | 50 | 90 | 0 | 140 |

- 57 Transpower received six submissions and two cross-submissions during the consultation process. Stakeholders broadly supported the changes and there was also support for Transpower in its role as System Operator to retain its discretion to change the CSRB buffer where operational circumstances make doing so appropriate. Genesis, who operate the Lake Tekapo scheme, supported the proposed changes, including the proposal to update the Alert CSRB buffer for access to contingent hydro storage.
- 58 In December 2025, Transpower completed its consultation on reviewing the SOSFIP and released a Summary and Response Document, summarising submissions and cross-submissions received during consultation and presenting Transpower’s responses to those submissions and cross-submissions, including the changes it had made to the proposed amendments to the SOSFIP as a result.⁴⁵
- 59 Transpower’s final SOSFIP amendment proposal included modifications from its draft amendment proposal in response to submitter feedback. In particular, Transpower’s updated the default buffer for the Alert CSRB to incorporate a seasonal profile that better accounts for operating restrictions at the different hydro catchments. In response to feedback from Meridian, Transpower increased the Waiau portion of the proposed default Alert CSRB buffer by 13 GWh (to 103 GWh).⁴⁶ Following this modification, Transpower proposed default CSRB buffer profile across the year was as follows:

| | Base | Waiau | Tekapo | Total |
|------------|-------------|--------------|---------------|--------------|
| Jan | 50 | 103 | 0 | 153 |
| Feb | 50 | 103 | 0 | 153 |
| Mar | 50 | 103 | 0 | 153 |
| Apr | 50 | 103 | 0 | 153 |

⁴⁵ Transpower New Zealand Limited *Security of Supply Forecasting and Information Policy Review – Draft amendment proposal consultation: Summary and Response Document* (22 December 2025): https://static.transpower.co.nz/public/bulk-upload/documents/SOSFIP%20review%20Summary%20and%20Responses%202025-12-22.pdf?VersionId=iABOjCCXLtZc.JsPu7BI_Bn0jFshO4a.

⁴⁶ Transpower New Zealand Limited *Security of Supply Forecasting and Information Policy Review – Draft amendment proposal consultation: Summary and Response Document* (22 December 2025): at [9].

| | | | | |
|------------|----|-----|-----|-----|
| May | 50 | 103 | 20 | 173 |
| Jun | 50 | 103 | 110 | 263 |
| Jul | 50 | 103 | 170 | 323 |
| Aug | 50 | 103 | 190 | 343 |
| Sep | 50 | 103 | 210 | 363 |
| Oct | 50 | 103 | 0 | 153 |
| Nov | 50 | 103 | 0 | 153 |
| Dec | 50 | 103 | 0 | 153 |

60 Also in response to feedback from Meridian, Transpower proposed that it would use its CSRB buffer discretion process only to *increase* (not decrease) the CSRB buffer.⁴⁷

61 In February 2026, the Electricity Authority approved the amended SOSFIP that Transpower proposed, with effect from 1 May 2026.⁴⁸ As set out in the Electricity Authority’s decision document (with footnotes omitted):

4.6 We agree with the System Operator’s assessment that the proposed changes will provide additional clarity and reduced uncertainty around the application of the SOSFIP. The SOSFIP is critical for ensuring that participants are well informed about the likelihood of a dry year occurring, and what actions will be required from them and when. Participants need time to plan and act. In the first instance, this enables market-led activities to happen (such as seasonal demand response), and time for contingency planning and preparation if the worst-case scenario begins to emerge.

4.7 There has been understandable focus on contingent storage since winter 2024. We are comfortable that the amendments to permanently adopt a seasonal profile for the CSRB buffer and clarifications to the CSRB buffer discretion process are material improvements to the status quo. We consider that this will provide benefits to generators about when and if they should access contingent storage during a dry year event.

4.8 The Authority’s decision on the SOSFIP focuses solely on the triggers for how contingent storage may be accessed. While we see contingent storage as an important tool for dry year management, the existing regime determining the volumes available does not reflect a coordinated approach to determine how much is ‘enough’ for covering a dry year risk.

⁴⁷ Transpower New Zealand Limited *Security of Supply Forecasting and Information Policy Review – Draft amendment proposal consultation: Summary and Response Document* (22 December 2025): at [10].

⁴⁸ Electricity Authority *Security of Supply Forecasting and Information Policy amendment 2026: Decision paper* (27 February 2026): [Security of Supply Forecasting and Information Policy amendment 2026](#).

- 4.9 We will continue to engage in discussions with relevant parties, including resource consenting agencies, on this topic – where appropriate. Any changes to the consents that govern contingent storage will necessitate changes to the SOSFIP. If these occur, we will work with the System Operator on the required changes to provide certainty to industry.

Benefits outweigh costs

- 4.10 The System Operator has made an assessment that the benefits of the proposed changes are likely to outweigh the costs. This view was largely supported by submitters. We also agree with the System Operator’s assessment, and see clear benefits from greater clarity, timeliness, and higher quality information for the management of security of supply events.
- 4.11 We also accept the System Operator’s view that these benefits are complex and difficult to quantify numerically. We do not consider that the quantification of benefits would lead to any material changes to the recommended changes, particularly given that the System Operator intends to absorb relevant implementation costs within its existing funding.
- 4.12 We also do not anticipate material compliance costs for participants, given that the required information and data to support these changes is already provided by them.

62 In summary, the changes to the SOSFIP that have recently been approved by the Electricity Authority, after Transpower consulted with industry participants, mean that from 1 May 2026:

- 62.1 there is additional clarity and reduced uncertainty around the SOSFIP and the circumstances in which generators will be able to access the contingent hydro storage;
- 62.2 the permanent adoption of a (higher) seasonal profile for the Alert CSRB buffer provides for readier and sooner access to contingent hydro storage than was previously the case; and
- 62.3 there is greater clarity about how and when Transpower in its role as System Operator will exercise its discretion to increase the Alert CSRB buffer, given Transpower must now publish the process it will use for exercising that discretion.

—Supporting resource adequacy in a highly renewable, islanded power system (December 2025)

63 Finally, Transpower notes that it has also recently published a thought piece – entitled *Supporting resource adequacy in a highly renewable, islanded power system* – which discusses a range of issues that impact

resource adequacy in New Zealand and therefore security of supply.⁴⁹ Contingent storage access arrangements are a key part of the arrangements that are currently used to protect resource adequacy, and this paper sets out Transpower’s assessment of the potential benefits and costs of easing restrictions on access to contingent storage, to inform any decision to do so (noting that those decisions sit with other parties such as government, consenting agencies and the Electricity Authority).

- 64 As relevant to Meridian’s substantive application, the following key points emerge from this paper:
- 64.1 New Zealand’s hydro-dominated system with no overseas interconnections is quite unique globally. Few countries have a power system dominated by hydroelectricity, relatively limited hydro storage capability and no (or limited) interconnectivity with other jurisdictions. Periods of low hydro inflows in New Zealand cannot be firmed through power imports. This places extra emphasis on prudent management of hydro storage and availability of dry year resources, which are currently largely provided by thermal generation. Consequently, a strong focus on energy adequacy is required.⁵⁰
 - 64.2 Contingent hydro lake storage access arrangements are also one of the ways in which the electricity industry can support energy adequacy for dry years. Resource consents, set by local authorities, hold back access to contingent lake storage until there is an electricity supply emergency.⁵¹
 - 64.3 If access to contingent hydro storage were to be eased (perhaps through changes to resource consents or direct legislation), this would impact the extent to which, and how frequently, contingent storage is used. It could result in contingent storage being used ahead of other generation and demand response resources. As a result of any such increased frequency of access, we should expect flow-on effects on generation dispatch and system costs, and on the system’s exposure to uncontrollable, high-impact, low-probability security of supply events. We should also expect changes to incentives to invest/reinvest in any fuel thermal generation assets, which

⁴⁹ Transpower New Zealand Limited *Supporting resource adequacy in a highly renewable, islanded power system* (December 2025): <https://static.transpower.co.nz/public/bulk-upload/documents/System%20Operator%20-%20Resource%20Adequacy%20-%20Dec2025.pdf?VersionId=r70FwzZVsImzO5epVjYNb7uJfsWqrTt2>.

⁵⁰ Transpower New Zealand Limited *Supporting resource adequacy in a highly renewable, islanded power system* (December 2025) at [15]–[16].

⁵¹ Transpower New Zealand Limited *Supporting resource adequacy in a highly renewable, islanded power system* (December 2025) at [17].

currently are the primary means the electricity system relies on to supplement for low hydro generation during dry sequences.⁵²

64.4 To understand the impacts of easing access to contingent storage, Transpower commissioned independent modelling from John Culy of JC2 Consulting, which analysed a potential future in which consents might allow unrestricted access to contingent storage at the generators' full discretion. The purpose of the analysis was to provide clarity about the cost-security trade-off that is inherent in contingent storage arrangements and by implication New Zealand's current strategic reserves.⁵³

64.5 In the short-term (2026 and 2028), if easier access to contingent hydro storage were granted, the analysis from JC2 Consulting concluded:⁵⁴

- Hydro generation would increase (on average) with storage levels in our major hydro catchments reducing and contingent hydro storage being used more frequently.
- System costs, spill, and emissions would likely reduce with higher cost resources (such as demand response and thermal generation) being used less.
- There would be increased exposure to uncontrollable events such as a dry year and unplanned outage of a major thermal generator/thermal fuel outages, and the system would become less resilient.
- Impacts on spot electricity prices were uncertain and would depend on participant offer behaviour, as well as the balance between high-priced periods to conserve storage and low-priced periods when spill risk increased when compared against a restricted access regime. Under stressed system conditions, prices were expected to be significantly higher with unrestricted access as hydro storage would likely be lower and because last-resort resources hold greater value during extreme events.

64.6 There was an estimated benefit to the electricity system in the short term from unrestricted access to contingent storage of

⁵² Transpower New Zealand Limited *Supporting resource adequacy in a highly renewable, islanded power system* (December 2025) at [49].

⁵³ Transpower New Zealand Limited *Supporting resource adequacy in a highly renewable, islanded power system* (December 2025) at [98]. See also Appendix B to that paper, JC2 Consulting's Final Summary Report "Contingent Storage Management – Understanding the trade-offs from restricting access to contingent hydro storage" (20 September 2025): https://static.transpower.co.nz/public/bulk-upload/documents/Contingent_storage_Final_Summary_Report_20Sep25_V2.pdf?VersionId=0N4nD5Vcu56YDa6ktn0yRA7SS3KDn4G7.

⁵⁴ Transpower New Zealand Limited *Supporting resource adequacy in a highly renewable, islanded power system* (December 2025) at [99].

around \$38 million per annum (versus a conservative alternative case of no access to contingent storage at all). But realising this benefit required a trade-off with consequent reduced resilience and increased load curtailment costs during uncontrollable, high-impact, low-probability events. The estimated load curtailment cost from the modelled Stressed case assuming three thermal generation units ("Rankine" units) at Genesis's Huntly Power Station were retained is significant (around \$440 million), and this cost excluded broader economic and environmental impacts. Decision makers would need to assess whether the potential benefits outweigh the possible costs from such a change.

64.7 The inclusion of a third Rankine generator at Huntly, with sufficient fuel (additional strategic reserves), was vital. It reduced cost impacts as it provided additional energy and capacity to the system to help maintain higher storage levels as well as respond to extreme events. Thermal generation as strategic reserve (in addition to hydro) provided a more diversified form of strategic reserves for the country (both in terms of fuel type and location). This assumed there was sufficient coal available at Huntly when it was most needed for electricity system resilience. The proposed Huntly deal – by which the four large electricity "gentailers" agreed to support the third Rankine generator at Huntly remaining operational until at least 2035 with an initial reserve coal stockpile of at least 600 kT being kept ahead of winter each year – was a step in the right direction.

Transpower's assessment of the economic benefits of the (time-limited) removal of contingent hydro storage at Lake Pūkaki

65 This section of Transpower's comments sets out its assessment of the economic benefits of the (time-limited) removal of contingent hydro storage at Lake Pūkaki. That assessment has been informed by the independent expert report that Transpower has commissioned from John Culy of JC2 Consulting, responding to Dr Layton's 3 October 2025 Economic Costs and Benefits Report in support of Meridian's substantive application.⁵⁵ Mr Culy's report is provided with these comments.

66 In his report, Mr Culy agrees that easing access to contingent hydro storage – as sought in Meridian's application – is likely to provide an ongoing operational benefit. However, Mr Culy considers that this benefit is materially smaller than Meridian's reported load-weighted spot cost effects would imply, and it must also be considered alongside potentially significant costs under adverse contingency scenarios (which is addressed in the next section of Transpower's comments).

⁵⁵ Dr Layton's 3 October 2025 report is Appendix A to Meridian's substantive application. His report draws on modelling set out in Appendix B to Meridian's substantive application.

67 Before turning to Mr Culy’s opinion regarding the ongoing economic benefits of easing access to contingent hydro storage, it is necessary – when comparing Mr Culy’s assessment with that of Dr Layton – to set out Meridian’s scenario and Mr Culy’s own approach.

–Meridian’s scenario, and Mr Culy’s approach

68 Dr Layton’s report draws on modelling set out in Appendix B to Meridian’s substantive application. Appendix B compares outcomes under two scenarios, which Mr Culy describes as follows:

- Meridian restricted scenario – which reflects a risk-averse approach to low lake levels, in case external enabling rules do not align with Meridian’s own forecasts; and
- Meridian eased scenario – which reflects Meridian’s view of prudent commercial operation using the full lake range within engineering limits, without restrictions associated with the Alert CSRB and Official Conservation Campaign triggers (at, respectively, the 4% and 10% risk curves and some buffers).

69 Mr Culy notes that the Meridian restricted scenario models, in practice, a case in which contingent hydro storage at Lake Pūkaki is hardly used at all, whereas the Meridian eased scenario reflects operation with effectively unrestricted access to contingent hydro storage at Lake Pūkaki. Transpower does not consider that the first scenario is an appropriate reflection of the status quo, in particular following the recent SOSFIP changes discussed at paragraphs 48 to 62, above. Accordingly, the difference between the scenarios is not a reliable estimate of the likely benefits associated with the proposal.

70 By contrast, Mr Culy’s approach – which is intended to explore the trade-offs involved in using contingent hydro storage at Lake Pūkaki – has been to assess outcomes under two explicitly bounding scenarios. This exercise has been designed to estimate the *maximum* plausible range of costs and benefits. Mr Culy’s approach compares:

- A restricted scenario – which is a bounding case in which contingent hydro storage at Lake Pūkaki is not used at all under historical inflow sequences; and
- An unrestricted scenario – which reflects the outcome sought by Meridian’s substantive application, with Meridian having access to contingent hydro storage at Lake Pūkaki without trigger-based restrictions.

71 Mr Culy elaborates in his report on each of these scenarios, to explain why – given modelling difficulties – he has adopted these scenarios for his analysis:

71.1 Mr Culy’s restricted scenario is not intended to represent the status quo exactly, because the status quo allows for the use of most contingent hydro storage at Lake Pūkaki when the

Alert CSRB trigger is met and additional contingent storage when the Official Conservation Campaign trigger is met. Mr Culy did not attempt to model the status quo exactly, because doing so would have required modelling the evolving forecasts that determine the Alert CSRB and OCC triggers and there was uncertainty concerning the size of the relevant buffers given that they were likely to be changed under the (now recently completed) SOSFIP review. Instead, Mr Culy adjusted the Lake Pūkaki operating guidelines so that the hydro storage at the lake does not enter the contingent zone at any point over the historical inflow sequences. This approach establishes an *upper bound* on the potential benefit of easing access to the contingent hydro storage at Lake Pūkaki.

71.2 In terms of Mr Culy's unrestricted scenario, it is not possible to predict exactly how Meridian would operate under its own commercial incentives, as doing so would require information about contract positions, exposures, and risk preferences. As a result, Mr Culy therefore modelled unrestricted use by adjusting the Lake Pūkaki operating guidelines so that simulated storage under historical inflows could fall to around 200 GWh, at which point operational constraints would materially limit MW output from the Waitaki scheme. Mr Culy considers it reasonable to suppose that Meridian would be strongly incentivised commercially not to operate below that level.

72 Put another way, Mr Culy's scenarios are stylised *bounding* cases designed to identify the *maximum* plausible difference between restricted and unrestricted access to the contingent hydro storage at Lake Pūkaki.

—Mr Culy's opinion regarding the ongoing economic benefits

73 The ongoing benefits to removing restrictions on Meridian's access to the contingent hydro storage at Lake Pūkaki that Mr Culy identifies arise primarily from operating the lakes less conservatively to avoid breaching the contingent zone. Doing so tends to: shift release from hydro storage earlier; run thermal plant and lower-cost demand response later and less aggressively; hold lake levels lower on average; reduce spill risk and spill in some periods; and lower fuel and variable operating costs.

74 Mr Culy agrees with Dr Layton that removing restrictions on access provides an ongoing benefit, and he also agrees that there are modelling issues that make quantification of this benefit difficult. In Mr Culy's opinion, the relevant measure in identifying and quantifying the ongoing benefits – from a public welfare perspective – is the reduction in costs to the electricity system as a whole. Mr Culy identifies those costs as including:

- fuel costs, including the cost of diverting gas from methanol production;

- short-run variable operating costs;
- carbon costs; and
- the cost of market demand response.

75 Simulation methods based on historical inflows, wind and solar variability and technical assumptions such as lake operating guidelines, thermal capacity, fuel costs, and demand response costs, can be used to assess these ongoing operational benefits. However, quantification of those benefits is difficult.

76 For that reason, Mr Culy's approach has been to use modelling to identify an upper bound of those ongoing benefits: in other words, the *maximum* plausible range of those benefits. Mr Culy's modelling estimates a *maximum* benefit range of **\$38 million** per year (on the assumption that 3 Rankine units remain operational at Huntly Power Station) or **\$43 million** per year (on the assumption that only 2 Rankine units remain operational at Huntly Power Station) over the 2026 to 2028 period – say, therefore, of the order of **\$40 million** per year, with an **error of plus or minus \$12 million**.⁵⁶

77 To repeat: that is the *maximum* plausible amount of those (annual) ongoing operational benefits. However, in Mr Culy's opinion, the true benefit relative to the situation with the current Alert CSRB and Official Conservation Campaign triggers will be *lower* than this maximum, depending on Meridian's commercial operation and risk preference relative to the current contingent storage regime.

78 Mr Culy's assessment is that the true benefit is more likely to be around 50% of the maximum or around **\$20 million per year**. However, the true difference between the status quo (what will happen if Meridian's application is declined) and the counterfactual (what will happen if Meridian's application is granted) will lie somewhere between zero and the maximum bound estimated by Mr Culy's modelling:

78.1 The true difference will be *zero*, if the Alert CSRB and Official Conservation Campaign triggers effectively align with Meridian's own commercial operation of Lake Pūkaki, absent restrictions.

78.2 The true difference will be the *maximum bound* estimated by Mr Culy's modelling, if Meridian's unrestricted commercial operation of Lake Pūkaki would in practice make substantially greater use of the contingent hydro storage at that lake than the current triggers permit.

⁵⁶ Mr Culy explains at footnote 12 of his report how he has calculated this margin of error in the \$40 million per year figure.

79 Put another way, the ongoing economic benefits that Mr Culy identifies will turn heavily on whether Meridian’s unrestricted commercial operation of Lake Pūkaki (if Meridian’s substantive application is granted) will in fact result in Meridian accessing more of the contingent hydro storage in Lake Pūkaki than would be the case if Meridian’s substantive application were declined. In that regard, Meridian states (in Section 2.4 of its substantive application) that operating Lake Pūkaki between 518.0 m RL and 513.0 m RL, and making readily available the additional stored water, provides approximately 545 GWh of realisable energy. However, Meridian also states that:

79.1 “[u]nder most hydrological conditions the additional storage would not be used at all” (in Section 3.1.1 of its substantive application);

79.2 Meridian modelling indicates that there is approximately a 3% probability in 2026 that lake levels in any given week would be below 518.0 m RL and, therefore, on average the lake level would be below 518.0 m RL for only 1.5 weeks in the first year of operation (in Section 3.1); and

79.3 Meridian modelling also indicates that the pattern is broadly the same in 2027 and 2028, although the probability of falling below 518.0 m RL in any given week increases slightly to 3.5% in 2027 and 4% in 2028 (in Section 3.1).

—Mr Culy’s response to Meridian’s focus on spot prices and load-weighted spot costs

80 When modelling the ongoing benefits said to arise from unrestricted access by Meridian to the contingent hydro storage at Lake Pūkaki, Meridian focuses on modelled impacts on spot prices and changes in load-weighted spot cost. Mr Culy considers Meridian’s focus on these matters problematic. That is because these matters do not give rise to national benefits.

81 As explained earlier, the reference in the FTAA purpose statement to “*significant regional or national benefits*” indicates that, where those benefits are primarily economic, a public welfare test is appropriate that ignores wealth transfers between system participants. Mr Culy confirms in his report that the relevant metric for national cost-benefit analysis is the change in system costs, not gross changes in load-weighted spot prices which are by definition a wealth transfer between different market participants.

82 In any event, Mr Culy also explains why the Meridian analysis of changes in spot prices and load-weighted spot costs is not reliable.

83 *Spot prices:* In Mr Culy’s opinion, it is not possible to conclude with confidence that unrestricted access by Meridian to the contingent hydro storage in Lake Pūkaki would reduce spot prices. Mr Culy’s analysis may be summarised as follows:

- 83.1 Any price reductions from deferring high-cost thermal operation may be *offset* by lower prices in periods when lakes are held higher and spill risks increase.
- 83.2 Mr Culy's estimates suggest that the maximum spot price reduction as a result of unrestricted access by Meridian to the contingent hydro storage in Lake Pūkaki is around **\$5/MWh** to **\$7/MWh**. However, once the *offsetting* impacts are included, this becomes an increase of around **\$2/MWh** to **\$3/MWh**.
- 83.3 Both of Mr Culy's estimates are within typical uncertainty margins for spot price impact estimates of more than plus or minus 10% (or about plus or minus \$15/MWh).
- 83.4 Multiple contingency events (fuel supply disruption and/or thermal outages) could produce substantially higher prices, but these are difficult to quantify reliably.
- 84 *Load-weighted spot costs*: Meridian estimates a change in load-weighted spot cost of about \$437 million per year, based on roughly 43 TWh of demand and a \$10/MWh reduction in spot prices. However, Mr Culy observes that this value largely represents a wealth transfer from spot generators to spot customers under an inelastic demand framing, rather than a national net benefit. Put another way, while spot exposed wholesale customers *pay* less (thereby increasing the benefit to them), producers *earn* less (thereby reducing the benefit to them), and the two effects largely offset one another.
- Spot price reductions do not generally flow through to consumers**
- 85 In the event that the Panel decides that, when assessing the national benefits of Meridian's project, it is appropriate to take into account benefits to consumers (rather than net public benefit), Transpower observes that it is not certain that any reduction in spot prices will flow through to end consumers directly, materially, or in a timely fashion.
- 86 By its nature, any reduction in the *spot* price of electricity would have an immediate and direct benefit for end users of electricity who purchased their electricity on the spot market. Any reduction in the spot price of electricity will have no immediate and direct effect on customers to the extent that they have already entered into contracts for (and fixing the price of) the supply of electricity to them over the period covered by Meridian's substantive application (2026 to 2028 inclusive).
- 87 As for retail customers, any benefit to them of any reduction in the spot price of electricity is entirely dependent on whether the electricity retailers from whom those customers acquire their electricity (a) themselves receive any benefit from any reduction in spot electricity prices and (b), if so, the extent to which individual electricity retailers choose to pass that benefit on to its retail customers. Retail customers on fixed-term contracts will see no such benefit at all during the term

of the contract. And retail customers on open-ended contracts will see any such benefit only to the extent that their electricity retailer chooses to reduce their electricity prices to customers on open-ended contracts.

—Changes in the regulatory environment over the last year

88 Finally, and for completeness, Transpower observes that there have been changes in the regulatory environment over the last year or so, which may well have the effect of reducing the extent of the benefits of the project that Meridian claims:

88.1 As set out in these comments, the recent review of the SOSFIP introduces with effect from 1 May 2026 a change to the default buffers in the Alert CSRB. The effect is that Meridian (and other hydro generators) will have readier access to the existing contingent storage than was the case a year ago.

88.2 The recent review of the SOSFIP also introduces with effect from 1 May 2026 a change in Transpower’s exercise of its discretion to temporarily increase the default buffer in the Alert CSRB. This change gives greater clarity to industry participants about when and how access to the existing contingent storage will be permitted, particularly as – under these changes – Transpower can only *increase* (not decrease) the CSRB buffer (providing even readier access to the existing contingent storage where this access is appropriate and prudent).

88.3 In Section 2.3 of its substantive application, Meridian states that one implication of the current system is that uncertainty about when contingent hydro storage can be used “impacted on the use of stored water below *and, importantly, above the consented minimum*” of 518.0 m (emphasis added). In other words, the existence of contingent hydro storage is suggested to impede how readily a generator makes use of hydro storage *beyond* the volumes kept back as a contingency (colloquially referred to as a ‘shadow constraint’). However, Genesis at least no longer appears concerned with this. On 3 November 2025, an Expert Consenting Panel under the FTAA granted Genesis’s application to re-consent the Tekapo Power Scheme. Genesis then confirmed in its submissions to Transpower on the SOSFIP review that the Panel’s decision “has provided the clarity Genesis needs to enable access [to] storage previously restricted by what has been termed the ‘shadow constraint’ that has existed between April – September inclusive”.⁵⁷

88.4 In May 2025, the Minister for Energy gave notice of updated Operating Guidelines for the levels of Lakes Manapōuri and Te Anau, which are the major hydro reservoirs in the Waiau catchment. The effect of the new Operating Guidelines has been

⁵⁷ Genesis Energy *Submission on SOSFIP Review* (4 November 2025) at 3: [GENE MDAG 2023](#).

to increase operational flexibility for Meridian at Lakes Manapōuri and Te Anau when storage drops into the low operating range and to thereby reduce operational restrictions for Meridian at these lakes. In turn, this change has allowed Transpower – during the recent SOSFIP review – to increase the CSRB buffer, which has the effect of allowing readier access to contingent hydro storage than was previously the case.

Transpower’s assessment of the potential costs and risks of removal of contingent hydro storage at Lake Pūkaki

89 This section of Transpower’s comments sets out its assessment of the potential costs and risks of the removal of the contingent hydro storage at Lake Pūkaki. Again, that assessment has been informed by Mr Culy’s report. The potential costs and risks of the removal of the contingent hydro storage at Lake Pūkaki are adverse impacts in terms of the FTAA.

—Potential economic cost of a significant security of supply event in which contingent storage is unavailable

90 In his report, Mr Culy explains that quantification of the full costs of removing the existing limitations on Meridian’s use of contingent hydro storage would require assessment of public risk tolerance and resilience values, as well as considering multiple-contingency outcomes beyond simple weather variation. It would also require judgement about possible longer-term economic and reputational impacts of supply restrictions.

91 Mr Culy therefore did not attempt to quantify those full costs. Instead, he sets out in his report an illustration of the scope of these potential costs, by using one stressed case event as an example: the situation where low inflows into the hydro lakes (put simply, ‘a dry year’) are combined with a major long-term plant outage, of the kind experienced in 2023.

92 The key observations that Mr Culy sets out from this illustrative modelling are as follows:

92.1 The potential impacts, in terms of the difference between the fully restricted and unrestricted scenarios, of unrestricted use of the contingent storage at Lake Pūkaki can be large, with shortage costs of the order of **\$440 million to \$740 million** in 2026 (provided that 3 or 2 Rankine units, respectively, at Huntly are retained).

92.2 These impacts are most significant over the next three years (which is the period covered by Meridian’s substantive application) and then decline as additional renewable generation is built and system resilience improves.

93 These shortage costs include the estimated short-run variable costs of compensating customers for demand reductions but do not include any indirect longer-term flow-on impacts on the wider economy, such as

permanent closure of businesses, or lost economic growth opportunities from new users such as international data centre investors. It is likely that those wider impacts on the economy for a significant contingency event would be very significant: likely of a similar order of magnitude again as the shortage costs.

—Assessment of risks of significant security of supply event occurring

94 Mr Culy’s particular double-contingency example is illustrative only. There are multiple other scenarios in which a significant outage could occur if contingent storage is not available. In Transpower’s view, it is not possible to catalogue all potential permutations of events that could give rise to this or to assign these events specific probabilities.

95 As Mr Culy identifies, many other double-contingency events could plausibly occur over the next few years, including any of the following occurring in combination with low hydro inflows (a ‘dry year’):

- reduced gas availability for electricity generation (for example, failure to negotiate diversion from methanol production, supply outages, or depletion);
- local gas storage constraints;
- long-duration outages in the ageing Huntly Rankine units;
- insufficient coal stockpiles to sustain winter operation; and
- broader fuel supply chain vulnerabilities.

96 These double-contingency possibilities are low probability but plausible. For example, winters 2024 and 2025 were dry years for the power system, and in 2023 there were coincident extended unplanned outages of Huntly’s Unit 5 (6 months), a Stratford Peaker and at the Manapōuri hydro power station. In February 2025, two large thermal generators were on outage. And Huntly’s Rankine Unit 2 had an unplanned outage on or around 24 March 2025 for about two weeks. As a general proposition, thermal generation assets are less reliable than hydro generation assets, particularly in the case of ageing generation assets. While well maintained, the Rankine Units at Huntly are now over 40 years old.

—Impact on Tekapo B power station

97 Transpower has no expertise relating to assessing the current condition of the tailrace weir and chute structure at Tekapo B or the likelihood, nature and extent of any damage that operating Lake Pūkaki below 518.0 m may cause to those structures. It therefore makes no comment on those particular matters or on the report that Meridian has recently provided by Damwatch dated 19 March 2026 presenting the findings of a condition assessment of the Tekapo B power station tailrace weir and chute.

98 However, it would be counterproductive if a change in Pūkaki operations damaged the tailrace weir and chute structure resulting in the Tekapo power stations not being able to operate when needed, whether to meet normal peak demand conditions or in dry year conditions. Should the operations be damaged, the following impacts could result:

98.1 Unavailability of a critical part of the power system – Hydroelectrical generator units are a critical part of the New Zealand power system, because – unlike some less flexible thermal generator units – they can use stored water to rapidly start up and adjust output to meet peak electricity demand when consumption spikes.

98.2 The Tekapo B power station has two hydroelectric generator units with a combined capacity of 160 MW. A loss of that generation capacity would increase capacity risk in the power system if they were not able to run during peak times. The situation would be compounded if the inability to run Tekapo B resulted in Tekapo A (further upstream) also being unable to run (although Tekapo A's capacity is somewhat smaller at 30 MW).

98.3 When Tekapo B runs, it results in water that has been stored in Lake Tekapo (and having made its way to Tekapo B via the Tekapo Canal) then being fed into Lake Pūkaki and, from there, becoming available to the rest of the hydroelectric power stations in the Waitaki Power Scheme (Ōhau A, Ōhau B, Ōhau C, Benmore, Aviemore and Waitaki). If and for so long as Tekapo B is unable to run, the hydro storage available in Lake Tekapo becomes unavailable for use to the rest of the Waitaki Power Scheme except to the extent that any water from Lake Tekapo can be diverted into the Takapō/Tekapo River which flows into Lake Benmore and can only be used by the lower Waitaki scheme (Benmore, Aviemore and Waitaki). This lost access to hydro storage would significantly increase energy risk to the New Zealand electricity system, and at the worst time since there would already be low hydro storage in this situation.

–Are the adverse impacts so sufficiently significant to be out of proportion to the project's benefits?

99 Under section 85(3) of the FTAA, the Expert Panel may decline Meridian's approval if, in complying with section 81(2), the Panel forms the view that there are 1 or more adverse impacts in relation to the approval sought and those adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits, even after taking into account:

99.1 any conditions that the panel may set in relation to those adverse impacts; and

- 99.2 any conditions or modifications that the applicant may agree to or propose avoid, remedy, mitigate, offset, or compensate for those adverse impacts.
- 100 The question, then, for the Panel reduces to whether the adverse impacts identified are sufficiently significant to be out of proportion to the project's benefits.
- 101 **The adverse impacts:** In Transpower's view, there are "adverse impacts" in relation to the approval sought. As set out previously, those adverse impacts take the following forms:
- 101.1 The removal of the Lake Pūkaki contingent hydro storage will eliminate significant contingent hydro storage from the electricity system.
- 101.2 The elimination of this contingent storage increases the risk that, in potential short supply contingencies, the adverse consequences for the power system and for the New Zealand economy as a whole would be significant.
- 101.3 Separately, if Meridian's operation of Lake Pūkaki below 518.0 m results in Genesis's Tekapo B power station ceasing to operate at any time, the New Zealand electricity system would lose access to the power capacity that the Tekapo B (and possibly also the Tekapo A) power stations offer, especially during peak times (increasing capacity risk) and may also lose access to at least some of the hydro storage in Lake Tekapo (increasing energy risk at the worst time of year).
- 102 There is also an adverse impact in the form of the Electricity Authority's role and function being effectively bypassed by Meridian's substantive application without the opportunity for industry consultation. As explained earlier in these comments, there are already established mechanisms under the electricity industry legislation for regulating access to, and the use of, contingent hydro storage at Lake Pūkaki and other hydro lakes. Those mechanisms include review processes – which have recently been completed – by which Transpower has consulted on, and the Electricity Authority has approved, changes to the regime for access to contingent hydro storage, after considering the different perspectives of electricity industry participants and other groups, including consumer representatives. Granting Meridian's substantive application would have the effect of, in essence, overriding that consultation and its regulatory outcome.
- 103 **The trade-off:** The Panel is to assess whether these adverse impacts are sufficiently significant to be out of proportion to the project's benefits.
- 104 In Transpower's respectful submission, this requires the Panel to exercise a *qualitative* judgement. In reaching that judgement, it is

appropriate to take a cautious approach when weighing the likelihood of a high-impact, low-probability or HILP event with very significant effects for the electricity system and New Zealand economy. It will ultimately be a policy judgement for the Panel to assess the trade-off between the public welfare benefits of making contingent hydro storage at Lake Pūkaki available for use on the wholesale electricity market and the reduction in power system resilience that will ensue and any longer-term economic and reputational impacts from extended periods of load curtailment that could occur.

104.1 A qualitative judgement in this regard is realistically necessary in any event, given that it is neither feasible nor instructive to identify and precisely model all potential scenarios in which a serious security of supply emergency may arise as a result of loss of access to the Lake Pūkaki contingent hydro storage, and to accurately quantify all these potential scenarios probabilistically. But what is clear from Mr Culy's modelling is that the *maximum* annual benefits of allowing Meridian unrestricted access over the three years to the contingent hydro storage at Lake Pūkaki are modest, whereas the potential costs of *one* low probability but realistic outage scenario that granting Meridian's application may give rise to is in the order of \$440 million (on the assumption that 3 Rankine units remain operational at Huntly Power Station).

104.2 Mr Culy's report identifies that these trade-offs will likely change over time, as more renewable electricity generation is built and comes on stream. However, the assessment for the Panel is over the three-year period between 2026 and 2028 (inclusive), being the three-year period covered by Meridian's application. Transpower's perspective is that this change in the role of the contingent storage regime should be reviewed again in three to five years as it is not a 'cliff-face' change, rather it is an evolution as the physical circumstances of the system change.

104.3 Granting Meridian's application at this time will result in New Zealand giving up a substantial amount of contingent hydro storage at a time when, drawing on Mr Culy's advice, our assessment of the risk outweighs the potential benefit.

104.4 Ultimately, it will be for the Panel to decide whether to approach the inevitable value judgement in the same or a different way.

—Conditions?

105 As lodged, Meridian's substantive application does not propose any conditions or modifications to avoid, remedy, mitigate, offset or compensate for adverse impacts. However, for completeness, Transpower briefly makes the following observations on the question of any possible conditions that might be set, if the Panel decided to grant the approval sought by Meridian:

- 105.1 Section 83 of the FTAA provides that, when exercising a discretion to set a condition under the FTAA, the panel must not set a condition that is more onerous than necessary to address the reason for which it is set in accordance with the provision of the FTAA that confers the discretion.
- 105.2 Section 85(3) of the FTAA contemplates that the Expert Panel may decline an approval if, in complying with section 81(2), the panel forms the view that there are 1 or more adverse impacts in relation to the approval sought and those adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits, even after taking into account any conditions that the panel may set in relation to those adverse impacts.
- 105.3 During the course of preparing these written comments, Transpower has considered whether there might be some hydrological or other condition – short of allowing Meridian the full unrestricted access it seeks to contingent hydro storage at Lake Pūkaki over the three-year period – that could avoid, mitigate or offset the adverse impacts Transpower has identified in these written comments. However, Transpower has been unable to readily identify any such condition that would avoid or sufficiently mitigate or offset those adverse impacts.
- 105.4 In any event, fashioning any condition setting out additional circumstances in which Meridian may access what is currently contingent hydro storage at Lake Pūkaki (beyond the existing Security of Supply Alert and Official Conservation Campaign triggers) would require careful thought and analysis, and the complexities involved could give rise to unintended consequences. Given their respective roles under the electricity regulatory regime in, respectively, consulting on and approving amendments to the SOSFIP, Transpower and the Electricity Authority would appropriately be involved.
- 105.5 In this regard, Transpower notes that the most recent review of SOSFIP (which included consultation on amendments relating to contingent storage buffer access arrangements) took many months to complete over the 2025 calendar year, and that some of the industry participants involved in that consultation process are not participants invited under section 53 of the FTAA to provide comments in relation to the present application.

SCHEDULE: THE HISTORY OF CONTINGENT HYDRO STORAGE REGULATION AT LAKE PŪKAKI

- S1 This Schedule sets out the history and operation of the New Zealand electricity industry (of which Lake Pūkaki forms part), including the history of the minimum operating levels for Lake Pūkaki and the role that contingent hydro storage (both at Lake Pūkaki and elsewhere) plays in the New Zealand electricity industry.
- S2 In summary:
- (a) The water stored in Lake Pūkaki below the current normal minimum operating level of 518.0 m RL and down to the level of 513.0 m RL is contingent hydro storage that is strategically important for New Zealand.
 - (b) Meridian is currently permitted to access this contingent hydro storage at Lake Pūkaki only when, under the relevant provisions of the Electricity Industry Participation Code, an Official Conservation Campaign or a Security of Supply Alert is in force.
 - (c) The Electricity Authority and Transpower are the statutory entities that, between them, develop and operate the relevant provisions of the Electricity Industry Participation Code and related regulatory documents.⁵⁸ In substance, they determine when contingent hydro storage may or may not be accessed, not individual participants in the electricity industry (such as Meridian).
 - (d) In substance, Meridian’s substantive application to the Panel – which seeks *unrestricted* access to what is currently only *contingent* hydro storage – is designed to override the operation of this regulatory regime by making *Meridian* the sole arbiter of when it may use this contingent hydro storage, not the statutory entities given the power and duty to make such decisions under the regulatory system for the electricity industry.
- Lake Pūkaki and its operating levels until 1991**
- S3 Section 2.1 of Meridian’s substantive application provides an overview of the Waitaki Power Scheme, of which Lake Pūkaki forms part. Much of the infrastructure that now comprises the Waitaki Power Scheme was constructed in the 1970s, including the main dam at Lake Pūkaki.
- S4 In August 1969, an Order in Council made under section 23 of the Water and Soil Conservation Act 1967 – entitled *Rights Conferred on the Minister of Electricity to Dam, Use, Discharge, and Divert Waters of, or into, Lakes Tekapo, Pukaki, and Ohau* – granted the Minister of Electricity the right to dam, use, discharge, divert and take various

⁵⁸ Section 8(1) of the EIA provides that the System Operator is Transpower.

waters (including the waters of Lake Pūkaki) for 21 years (with certain rights of renewal).⁵⁹ That Order in Council enabled the construction and operation of the infrastructure built in the area during the 1970s and 1980s, including the construction of the main dam at Lake Pūkaki and the operation of the various power stations using the water stored there.

- S5 The rights conferred under the 1969 Order in Council included (relevantly) the right to continue to dam the waters of Lake Pūkaki, by way of a dam in a specified location, at a maximum controlled level of about 1,751 feet (536.7528 m) above sea level and a maximum flood level of about 1,761 feet (533.7048 m) above sea level, with the right to exceed those levels temporarily in exceptional circumstances, and to discharge the waters into a canal in the vicinity of a specified location for use in a powerhouse to be constructed.⁶⁰ The 1969 Order in Council did not include any condition providing for a *minimum* operating level for Lake Pūkaki – presumably because the purpose of the Order in Council was to authorise the Minister of Electricity to *raise* Lake Pūkaki so that it could become a substantial source of hydro storage.
- S6 After the main dam at Lake Pūkaki was constructed, the level of Lake Pūkaki was raised between late 1976 and late 1978. This raising occurred around the time that the Tekapo B power station was commissioned in 1977. As Meridian records in Section 8.5.2 of its substantive application (particularly at Figure 22), the last time that the level of Lake Pūkaki was below 518.0 m RL – the current normal minimum operating level – was on 23 November 1978.
- S7 As far as Transpower has been able to ascertain while preparing these written comments for the Panel, the level of Lake Pūkaki has not fallen below 518.0 m RL since.

—A minimum operating level is set for Lake Pūkaki in 1991

- S8 In early 1991, the Canterbury Regional Council granted the Electricity Corporation of New Zealand Limited⁶¹ the right, under the Water and Soil Conservation Act 1967, to dam Pūkaki River and to control and operate Lake Pūkaki between the levels of 518.00 m and 532.50 m at or about the point of the Lake Pūkaki Control Structure.⁶²

⁵⁹ “Rights Conferred on the Minister of Electricity to Dam, Use, Discharge, and Divert Waters of, or into, Lakes Tekapo, Pukaki, and Ohau” (21 August 1969) 51 *New Zealand Gazette* 1559 at 1560: [1969 ISSUE 051, 19-Aug, pp 1559](#).

⁶⁰ 1969 Order in Council, First Schedule, clause 5.

⁶¹ The State-owned Enterprises Act 1986 provided for the formation, as a state-owned enterprise, of the Electricity Corporation of New Zealand Limited or “ECNZ”. Transpower understands that the Crown sold its electricity transmission and generation assets (including those relating to Lake Pūkaki) to ECNZ, in accordance with the provisions of that Act, in April 1988.

⁶² Water Right Number CRC905321: <https://www.ecan.govt.nz/data/consent-search/consentdetails/CRC905321/electricity%20corporation%20of%20new%20zealand>. The effect of the transitional provisions in the Resource Management Act 1991 was that, when the RMA came into force on 1 October 1991, this grant of a water right under the

The minimum operating level imposed was 518.0 m – the normal minimum operating level that remains in force today.

- S9 The 1991 consent did *not* allow Lake Pūkaki to be operated below 518.0 m, even in times of a water shortage in the South Island’s or New Zealand’s hydroelectric reservoirs. The question whether Lake Pūkaki should be operated below 518.0 m in such circumstances came to the fore the following year, during a very dry winter that resulted in what an Act of Parliament was to describe as “an extremely serious water shortage”.

—Parliament temporarily lowers the minimum level for Lake Pūkaki in 1992

- S10 On 2 July 1992, the Lake Pukaki Water Level Empowering Act 1992 received Royal assent. As set out in its long title, the purpose of the Act was “to authorise the Electricity Corporation of New Zealand Limited to control and operate Lake Pukaki, and to take and use water from Lake Pukaki, below the level of 518.00 metres above mean sea level”.⁶³
- S11 The legal effect of the Act was to temporarily override the 518.0 m minimum operating level for Lake Pūkaki contained in the 1991 water permit granted by the Canterbury Regional Council. The urgent, short-term and exceptional nature of this legislation is apparent from its speedy enactment (just over a week elapsed from when the legislation was introduced into Parliament on 23 June 1992 to when it received Royal assent) and from the sunset clause in the Act providing for its expiry on 31 January 1993 (just under 7 months later) or any earlier date fixed by Order in Council.⁶⁴
- S12 The preamble to the Act confirmed the exceptional nature of any operation of Lake Pūkaki below 518.0 m:

WHEREAS—

- (a) There is an extremely serious water shortage in the Electricity Corporation of New Zealand Limited’s hydro reservoirs:
- (b) The water permit for the control and operation of Lake Pukaki provides for a minimum level in the lake of 518.00 metres above mean sea level:
- (c) The lowering of the minimum level of Lake Pukaki to 513.00 metres above mean sea level will enable some 300 gigawatt hours of

Water and Soil Conservation Act 1967 took effect under the RMA as a water permit issued under section 14 of the RMA.

⁶³ Lake Pukaki Water Level Empowering Act 1992, long title: https://www.nzlii.org/nz/legis/hist_act/lpwlea19921992n72364/. The effect of section 3 of the Act was to set a new minimum operating level of 513.0 m above mean sea level.

⁶⁴ Lake Pukaki Water Level Empowering Act 1992, section 8(1).

electricity to be generated to meet the present extremely serious electricity shortage:

- (d) The Electricity Corporation of New Zealand Limited has applied to the Canterbury Regional Council to change the terms of the water permit to lower the minimum level fixed for Lake Pukaki:
- (e) It cannot be assumed that the Canterbury Regional Council will grant the application:
- (f) Even if the Canterbury Regional Council does grant the application, the time within which appeals may be lodged and the time it would take to determine any appeals may result in any final decision authorising the lowering of the minimum level of Lake Pukaki to be made in insufficient time to meet the present serious electricity shortage:
- (g) It is recognised that Lake Pukaki is an important habitat for the endangered black stilt and other threatened bird species:
- (h) It is desirable in the national interest that the Electricity Corporation of New Zealand Limited be able to lower the minimum level of Lake Pukaki below that fixed in its water permit, subject to stringent conditions, before the application to the Canterbury Regional Council could be finally determined.

S13 The First and Second Schedules to the Lake Pukaki Water Level Empowering Act set out the "stringent conditions" to be met before Lake Pūkaki could be operated below 518.0 m. Those conditions provided that ECNZ could not operate Lake Pūkaki below 518.0 m unless (in summary):

- (a) ECNZ had used up all other hydro storage in the South Island;
- (b) ECNZ had used its best endeavours to achieve and sustain, in co-operation with its customers, all reasonable voluntary reductions in the use of electricity; and
- (c) electricity was being transmitted to the South Island (i.e., from North Island generation assets) through the Cook Strait high-voltage direct current links "to the fullest extent possible consistent with reasonable and prudent system operating practice".⁶⁵

⁶⁵ Lake Pukaki Water Level Empowering Act 1992, Second Schedule, clauses 1, 3 and 4.

- S14 It may be noted from these provisions of the Lake Pukaki Water Level Empowering Act that:
- (a) the legislation was enacted only because of “an extremely serious water shortage” in ECNZ’s hydro reservoirs;
 - (b) despite that shortage, it could not be assumed that the Canterbury Regional Council would grant, under the RMA, an application to change the existing water permit to allow Lake Pūkaki to operate below 518.0 m (presumably because of the environmental and other adverse effects of Lake Pūkaki being operated below 518.0 m);
 - (c) to deal with the shortage, Parliament was prepared to permit – for a short period – Lake Pūkaki to be operated below 518.0 m, but only if the “stringent conditions” set out above were met – in short, only if there was no other option; and
 - (d) even then, Lake Pūkaki could not lawfully be operated below 513.0 m.
- S15 Transpower understands that, in the event, ECNZ did not need to operate Lake Pūkaki below 518.0 m during 1992, and the Lake Pukaki Water Level Empowering Act expired on its terms in January 1993.

–Reserve energy (from 2004 to 2011) and the availability of contingent hydro storage (ongoing) to address security of supply problems

- S16 In December 1992, Parliament enacted the Electricity Act 1992, to (among other things) make better provision for the regulation of the supply of electricity in New Zealand. As originally enacted, the Electricity Act 1992 did not make express provision for any reserve energy scheme or contingent hydro storage to deal with the risk of electricity shortages.
- S17 In October 2004, Parliament enacted the Electricity Amendment Act 2004. The amendment legislation addressed (among other things) security of supply problems; there had been national power shortages in 2001 and 2003 due to low hydro lake levels.
- S18 Section 27 of the 2004 Amendment Act empowered the relevant Minister, no later than 3 months after that section came into force, to direct the Electricity Commission to enter into a contract providing for the power station located at Whirinaki, and the associated assets, rights, and liabilities, to be available for the purposes of “reserve energy”.⁶⁶ “Reserve energy” was defined in the legislation as meaning

⁶⁶ The 2004 Amendment Act also inserted provisions into the Electricity Act 1992 that empowered the Governor-General to make regulations by Order in Council: in respect of securing and use of reserve energy (new section 172CA); or for various purposes including providing for generation of electricity and management of supply and price risks in a competitive market, including for electricity generators to hold or provide for

energy that is secured by contract (including by contracting for demand-side savings) by, or on behalf of, the Commission for the purpose of ensuring security of supply. Pursuant to this provision, the Government commissioned the Whirinaki Power Station in 2004 as a power source of last resort.

- S19 In 2004, the Government – through the Electricity Commission – commissioned Contact Energy to build and operate, on behalf of the Crown, the Whirinaki Power Station. As explained on the Electricity Authority’s website,⁶⁷ the Electricity Commission operated a reserve energy scheme that defined a trigger point for reserve generation capacity. When the Crown owned the Whirinaki power station, the reserve generation capacity trigger point primarily served as the catalyst for ensuring that the Whirinaki Power Station ran to help preserve hydro storage.
- S20 In 2010, Parliament enacted the EIA. Among other things, the 2010 legislation:
- (a) dissolved the Electricity Commission and disestablished the reserve energy scheme involving the Whirinaki Power Station;⁶⁸ and
 - (b) put in place the current framework for the regulation of New Zealand’s electricity industry.
- S21 By the time that the EIA came fully in force (on 1 November 2010), contingent hydro storage for New Zealand was in place in the form of conditions to certain resource consents by which Contact Energy and (now) Genesis Energy could operate Lake Hāwea and Lake Tekapo, respectively, below the normal consented minimum operating level if the Electricity Commission made a determination regarding reserve generation capacity:
- (a) *Lake Hāwea*: A condition in Contact Energy’s resource consent to dam Lake Hāwea for the purpose of storing water in the lake provided that the normal minimum operating level shall not decrease below 338 m at any time except as required to ensure dam safety “or when the Electricity Commission (or any statutory body exercising like powers and functions to the Electricity Commission) determines that reserve generation

reserve fuels (including water) (new section 172D(2)(a)). As far as Transpower can tell, no Orders in Council for these purposes were made under these provisions.

⁶⁷ [Security of supply | Electricity Authority](#).

⁶⁸ In December 2011, Contact Energy bought the Whirinaki Power Station from the Crown, and the reserve generation capacity agreement between the Electricity Commission and the Crown relating to Whirinaki Power Station terminated.

capacity (such as that currently located at Whirinaki) should generate electricity".⁶⁹

- (b) *Lake Tekapo*: A condition in Genesis Energy's resource consent to take water from Lake Tekapo for the purpose of power generation (at Tekapo A Power Station) provided that the minimum operating level for Lake Tekapo shall not, from 1 October to the following 31 March, decrease below 704.1 m except during any period during which "the Electricity Commission (or any statutory body exercising like powers and functions to the Electricity Commission) determines" either "that reserve generation capacity (such as Whirinaki Power Station) is required to generate electricity" or "the National or South Island minzones (or their future equivalents) have been breached".⁷⁰

S22 A transitional provision in the EIA, section 136, preserves the operation of these resource consent conditions, despite the dissolution of the Electricity Commission and the disestablishment of the reserve energy scheme. The effect of section 136 – in respect of any then-existing resource consent condition referring to an Electricity Commission determination that reserve generation capacity is (or is no longer) required – is that the condition should be read as a reference to the Electricity Authority making or rescinding a "reserve supply determination". Section 136(3) goes on to provide that the Electricity Authority may make or rescind a reserve supply determination "only in accordance with criteria that are publicly available".⁷¹

S23 With effect from 1 August 2019, the Electricity Authority has made the following standing reserve supply determination in accordance with s 136(3):⁷²

A reserve supply determination is made when the system operator reports that available hydro storage is less than or equal to the Alert Release

⁶⁹ Resource Consent No 2001.383 granted by the Otago Regional Council to Contact Energy, condition 9(b). Condition 9(c) requires the lake to be returned to its minimum operating level of 338 m when the Electricity Commission or any statutory body exercising like powers determines that operation of reserve energy is no longer required. Condition 9(d) provides that the lake level shall not decrease below 336 m "at any time".

⁷⁰ Resource Consent CRC905302.3 granted by the Canterbury Regional Council to (now) Genesis Energy, condition 14(a). Condition 14(b) requires the Grantee to restore the level of Lake Tekapo to above 704.1 m as soon as practicable and to advise the Water Resources Manager, Canterbury Regional Council, weekly of strategies adopted until the lake level is restored above 704.1 m. This resource consent was replaced on 3 November 2025 by resource consent CRC254907. The Waitaki Catchment Water Allocation Regional Plan contains a minimum lake level for Lake Tekapo of 701.8 m, even where Genesis has been permitted to go below 704.1 m during October to March.

⁷¹ Section 136(4) provides further that the Electricity Authority may delegate to Transpower in its role as System Operator the power to make and rescind reserve supply determinations but not the power to set the criteria published under section 136(3).

⁷² [Security of supply | Electricity Authority](#).

Boundary for New Zealand or the South Island as described in clause 6.1C of the security of supply forecasting and information policy.

A reserve supply determination is rescinded when the system operator reports that available hydro storage is greater than the Alert Release Boundaries for both New Zealand and the South Island as described in clause 6.1C of the security of supply forecasting and information policy.

- S24 The situation leading to the making of a reserve supply determination is commonly referred to as a Security of Supply "Alert". Transpower in its role as System Operator issues a Security of Supply Alert if reported storage falls below the New Zealand or the South Island Alert Contingent Storage Release Boundary (**Alert CSRB**). In each case, the Alert CSRB is the higher of the 4% risk curve and a floor.
- S25 The floor is the sum of contingent hydro storage and the contingent hydro storage buffer. The current default buffer value is 50 GWh, although – as explained in more detail elsewhere in these written comments – a recent change to that buffer value will take effect from 1 May 2026.⁷³
- S26 Floors are used to set minimum hydro storage levels for the Alert and Emergency Curves (and the Alert and Emergency CSRBs), to ensure the contingent hydro storage can be accessed when needed.
- S27 When the EIA came fully in force (on 1 November 2010), the contingent hydro storage in place for New Zealand did *not* include any contingent hydro storage at Lake Pūkaki. The resource consent under which Meridian Energy was authorised to dam the Pūkaki River to control and operate Lake Pūkaki did not allow for Lake Pūkaki to be operated below the level of 518.0 m RL. However, and similar to the conditions in place with Lake Hāwea and Lake Tekapo, contingent hydro storage was subsequently established at Lake Pūkaki by way of regional plan changes and a resource consent condition.
- S28 Meridian set out the relevant history at Section 2.2 of its Substantive Application. In short:
- (a) In 2012, Meridian initiated Plan Change 1 to the Waitaki Catchment Water Allocation Regional Plan, which allows additional water from Lake Pūkaki – down to 513.0 m RL – to be used for generating electricity as a permitted activity when an Official Conservation Campaign has been commenced.
 - (b) In 2018, Meridian was granted a further resource consent following changes made by Plan Change 3 to the Waitaki Catchment Water Allocation Regional Plan. That further resource consent allows Meridian to operate Lake Pūkaki

⁷³ In late February 2026, the Electricity Authority approved – with effect from 1 May 2026 – a change proposed by Transpower to the buffer related to the Alert CSRB as specified in clause 6.1A(c) of the SOSFIP.

between 515.0 m RL and 518.0 m RL at times of a Security of Supply Alert for either New Zealand or South Island issued by Transpower in its role as System Operator.

S29 In summary, the current framework for the regulation of New Zealand's electricity industry includes – for security of supply purposes – the maintenance of contingent hydro storage that is accessible in accordance with resource management instruments (such as resource consents or regional plans) *but access to which is triggered only by the Electricity Authority (or Transpower in its role as System Operator, as the Authority's delegate) and only in accordance with criteria that either or both of them have set under that framework.*

—Current regulation

S30 The Crown no longer has a reserve energy scheme. Accordingly, the only contingent hydro storage currently available in New Zealand is that provided for in Lake Pūkaki, Lake Tekapo and Lake Hāwea.

S31 The EIA, the Electricity Industry Participation Code and various system operator documents provide the regulatory framework that governs (among other things) Transpower's role as System Operator and the security of supply.

S32 Under that regulatory framework, Transpower's role as System Operator involves providing information and forecasting on all aspects of security of supply and managing supply emergencies. However, that framework does not give Transpower any rights or interests in any generator's contingent (or non-contingent) hydro storage or any ability to require a generator to generate electricity from that contingent hydro storage if the generator would breach the RMA in doing so.

S33 The regulatory framework – as it relates to Transpower's role as System Operator in providing information about security of supply and managing supply emergencies – may be summarised as follows:

- (a) Transpower as System Operator provides information and short-to medium-term forecasting on all aspects of security of supply and manages supply emergencies.⁷⁴
- (b) Transpower as System Operator may commence an Official Conservation Campaign for the South Island or for New Zealand as a whole. In general terms, an Official Conservation Campaign may commence, if hydro storage in the South Island (or New Zealand) reduces to a sufficiently low amount or the Electricity Authority otherwise agrees,⁷⁵ and Transpower as System Operator must end the

⁷⁴ Electricity Industry Act 2010, section 8(1) and (2).

⁷⁵ Electricity Industry Participation Code, clause 9.23.

Official Conservation Campaign once the relevant hydro storage has increased in accordance with criteria set out in the Code.⁷⁶

- (c) During an Official Conservation Campaign, a retailer must make certain payments to its qualifying customers, in respect of certain interconnection points, under a customer compensation scheme.⁷⁷ However, the provisions of the Code relating to official conservation campaigns do not give Transpower any ability to direct a generator to generate electricity by using contingent (or other) hydro storage.
- (d) The Code also imposes obligations on Transpower in its role as System Operator and on participants regarding rolling outage plans and supply shortage directions.⁷⁸ In very broad terms, Transpower as System Operator prepares and publishes a rolling outage plan,⁷⁹ other participants (mainly distributors) may also be required to prepare and publish their own rolling outage plans,⁸⁰ and Transpower as System Operator can then make a "supply shortage declaration" in stated situations where there is a shortage of electricity supply and unplanned outages are likely if planned outages are not implemented.⁸¹
- (e) While a supply shortage declaration is in force, Transpower as System Operator may give a direction to specified participants to contribute to achieving reductions in the consumption of electricity by implementing outages or taking any other action specified in the direction.⁸² As is apparent from the nature of such a direction, the management of a shortage of supply situation contemplates Transpower as System Operator requiring a *reduction* of electricity consumption (by implementation of rolling outages) to manage the shortage rather than Transpower compelling an *increase* in electricity generation (whether by requiring generators to access contingent hydro storage or otherwise).

S34 Transpower in its role as System Operator must also prepare and publish a security of supply forecasting and information policy or "SOSFIP".⁸³ In broad terms, and particularly as it relates to hydro storage, the SOSFIP provides as follows:

⁷⁶ Electricity Industry Participation Code, clause 9.23A.

⁷⁷ Electricity Industry Participation Code, clause 9.22.

⁷⁸ Electricity Industry Participation Code, part 9, subparts 1 and 2.

⁷⁹ Electricity Industry Participation Code, clause 9.2(1).

⁸⁰ Electricity Industry Participation Code, clauses 9.6–9.13.

⁸¹ Electricity Industry Participation Code, clause 9.22.

⁸² Electricity Industry Participation Code, clause 9.15.

⁸³ Electricity Industry Participation Code, clause 7.3.

- (a) Transpower as System Operator must determine “available hydro storage”, “contingent hydro storage” and “inflows” for various lakes including Lake Pūkaki.⁸⁴ In this context, “contingent hydro storage” effectively means additional hydro storage that a generator may access under a resource consent once the risk of future shortage reaches a particular level.⁸⁵
- (b) Transpower as System Operator must also determine electricity risk curves for each calendar year.⁸⁶ In particular, the electricity risk curves must show the 1%, 4% and 10% risks of future shortages, the level of storage at which an Official Conservation Campaign would be commenced or ended, and any other risk of future shortage that triggers the availability of contingent hydro storage.⁸⁷
- (c) The Alert and Emergency CSRBs must also be modelled. In broad terms, the Alert CSRB is where there is a 4% risk of future shortage, and the Emergency CSRB is where there is a 10% risk of future shortage.⁸⁸
- (d) Once Transpower as System Operator has determined the electricity risk curves, it must then determine the electricity risk meter status – for both the South Island and New Zealand – by comparing available hydro storage with the electricity risk meter status curves.⁸⁹
- (e) The “Alert” status (at the 4% risk level) has the effect of enabling some generators to use – under the conditions of their resource consents or under a regional plan – water for electricity generation, even though the water level of the lake from which that water is drawn drops below the normal minimum water level of the lake permitted under the resource consent or regional plan.

S35 Together, the resource consent and regional plan relevant to Meridian’s use of water from Lake Pūkaki empower Meridian to use water from the lake to generate electricity, even though the level of the lake falls below its normal permissible minimum level, if (1) Transpower in its role as System Operator has commenced an Official Conservation Campaign, or (2) there is a Security of Supply “Alert” under the

⁸⁴ SOSFIP, clause 5.1.

⁸⁵ SOSFIP, clause 2.1, definitions of “contingent hydro storage” and “contingent storage release boundary”.

⁸⁶ SOSFIP, clause 6.0.

⁸⁷ SOSFIP, clause 6.1.

⁸⁸ SOSFIP, clauses 6.1C and 6.1D.

⁸⁹ SOSFIP, clause 7A.2.

SOSFIP. In each case, the resource consent or regional plan provides for a lower minimum lake level than the normal minimum lake level.

- S36 In the usual course, Meridian’s access to the contingent hydro storage at Lake Pūkaki is unlocked when the “Alert” status (at the 4% risk level) under the SOSFIP is reached. As explained earlier, the Alert CSRB is the higher of the 4% risk curve and a floor. This floor is the sum of contingent hydro storage and the contingent hydro storage buffer – which has a current default value of 50 GWh. However, Transpower in its role as System Operator has discretion under the SOSFIP to *increase* that buffer, the effect of which is to unlock access to the contingent hydro storage earlier than would otherwise be the case.
- S37 In addition, the Electricity Authority has recently approved – with effect from 1 May 2026 – changes proposed by Transpower to the SOSFIP, including increases in the default value of the contingent hydro storage buffer. This change to the buffer:
- (a) was the result of a detailed consultation process described elsewhere in Transpower’s written comments; and
 - (b) has the effect that Meridian (along with the other generators with contingent hydro storage) will be able to access that contingent hydro storage more readily from 1 May 2026 than is currently the case.