Security of Supply Forecasting and Information Policy Review

Draft amendment proposal consultation: Summary and Response Document

22 December 2025

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1 Purpose

1. In October 2025 we invited feedback on the System Operator's Security of Supply Forecasting and Information Policy (**SOSFIP**) Review draft amendment proposal.[1] The purpose of this Summary and Response document is to summarise the submissions and cross-submissions we received on our draft amendment proposal and present our responses to those submissions and cross-submissions, including the changes we have made to our proposal as a result. This document is the part of our proposal referred to in clause 7.21(1)(b) of the Electricity Industry Participation Code 2010 (**Code**).
2. All references to Transpower in this document are made in relation to our role as the System Operator.

1.1 Background

3. The SOSFIP is a system operation document approved by the Electricity Authority (**Authority**) and incorporated by reference into the Code.[2] The SOSFIP describes how the System Operator prepares and publishes information to assist participants to manage security of supply risks.
4. It is the role of Transpower as System Operator to implement and comply with the SOSFIP, and the role of the Authority to approve it. The System Operator must comply with the SOSFIP that is current at the time.[3]
5. The SOSFIP should not, and cannot, cross into regulating matters that are the focus of other regulatory regimes, including the regulatory regime for environmental consenting. Some submissions received relate to matters outside the ambit of the SOSFIP, and we consider some proposed SOSFIP changes would be more appropriately considered as part of a wider review of contingent storage access policy.

1.2 Why we have consulted

6. In March 2025 we sought feedback on an Issues Paper to inform the scope of the 2025 SOSFIP Review. In April 2025 we published a Summary and Decision document presenting our decisions following review of submissions and cross-submissions, and communicating next steps in relation to the review. Our Summary and Decision document confirmed our decision to proceed with the SOSFIP Review and the topics we had decided to include within the scope of the Review. We also signalled that we would complete our analysis and

1 The consultation materials and the submissions and cross-submissions we received are available on our webpage: Invitation To Comment: SOSFIP Consultation 2025 - Draft amendment proposal (Closed) | Transpower

2 The current SOSFIP is available on the Electricity Authority's website: CERTIFIED__SOSFIP_DOCUMENT-_Effective_1_June_2023.pdf

3 The Electricity Industry Act 2010 (section 8(2)(a)) requires the System Operator to provide information, and short-to medium-term forecasting on all aspects of security of supply. The Code (clause 7.3(1)) requires that the System Operator explain how it will do this through the SOSFIP and stipulates the System Operator is responsible for implementing and complying with the SOSFIP. The System Operator may also propose changes to the SOSFIP (clause 7.13(1)) which may ultimately be approved by the Authority (clauses 7.21(2)).

consultation, and submit a final SOSFIP amendment proposal by the end of 2025 to ensure there is sufficient time for the Authority to have any changes in place for Winter 2026.[4]

1.3 Summary of proposal

7. Having considered the feedback we received we have decided to propose a SOSFIP amendment to the Authority, and propose making some changes to the draft amendment proposal on which we consulted. We have also decided to implement changes on which we consulted that do not require amendment to the SOSFIP.

8. Our final SOSFIP amendment proposal includes the following amendments that are unchanged from the draft amendment proposal on which we consulted:

   - Introduce to our Energy Security Outlook an additional Electricity Risk Curves (**ERCs**) and Simulated Storage Trajectories (**SSTs**) scenario reflecting contracted fuel that can be used for electricity generation, to better support understanding about forward energy risks, and mitigating actions by participants.
   - Amend the method we use to calculate the Watch curve so that, for each simulation month, we apply an adder above the Alert curve (the Watch adder). We have decided to propose that the Watch adder is set using Option 1 (the preferred option for our consultation): apply a 200 GWh Watch adder above the Alert curve, with this default Watch adder increased (not decreased) if necessary to match the simulated future storage projection with the biggest drop across its first month.
   - Introduce a minimum time under Alert status of 4 weeks to reduce uncertainty, unless hydro storage either lifts above the Watch curve (restoring Normal status) or declines so that an Official Conservation Campaign and Emergency status commence.
   - Expand the system risks we consider by requiring that we consider scenarios related to supply disruptions generally, not just related to fuel supply. At current levels of funding, tools and resources, our capacity to produce additional scenarios will be constrained to one per quarter.

9. Our final SOSFIP amendment proposal includes the following amendments that have been modified from our draft amendment proposal in response to submitter feedback:

   - Update the default contingent storage release boundary (**CSRB**) buffer for the Alert CSRBto incorporate a seasonal profile that better accounts for operating restrictions at the different hydro catchments. In response to Meridian's feedback, we have increased the Waiau portion of the proposed default Alert CSRB buffer[5] by 13 GWh (to 103 GWh).
   - Retain the default Emergency CSRB buffer at 50 GWh. This was our intent communicated in our consultation paper, but the proposed SOSFIP amendment we consulted on did not achieve this.

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4 The 2025 SOSFIP Review Issues Paper, the submissions and cross-submissions we received in response to it, and our Summary and Decision document are available on our webpage: Invitation to Comment: Security of Supply Forecasting and Information Policy (SOSFIP) Review Issues Paper 2025 (Closed) | Transpower.

5 Our proposed SOSFIP amendment applies the proposed seasonal profile to all CSRBs other than the Emergency CSRB. This allows the SOSFIP to adapt to any future risk level to which the release of contingent storage is attached. As there are only two CSRBs currently, Alert and Emergency, the proposed seasonal profile would only apply to the Alert CSRB initially.

- Retain the discretion to alter the CSRB buffer if the operational circumstances at the time require an alteration to mitigate an immediate risk to security of supply, and add a requirement for us to use our published CSRB buffer discretion process when deciding whether to determine a different CRSB buffer. In response to Meridian's feedback, we have proposed that the System Operator may only use the CSRB buffer discretion process to increase (not decrease) the CRSB buffer.

10. We have also decided to implement the following operational changes that do not need a SOSFIP amendment:
    - Replace the worst-case SST with a time-to SST that is progressively less pessimistic into the future. We will update our Energy Security Outlook 101,[6] and incorporate the change into our processes and tools, ahead of Winter 2026. The time-to SST will then be used to determine the estimated time-to for Alert, Official Conservation Campaign (**OCC**) and as part of our CSRB buffer discretion process.
    - Amend our ERC and SST tools and analysis to a 3-hourly model (rather than the current day-night model), to improve linkage between energy and capacity risk assessments. We will complete the work to make this change ahead of Winter 2026 and advise participants when it has taken effect in our Energy Security Outlook reporting.
11. We also highlight to the Authority the opportunity, and submitter support, for us to better align our New Zealand Generation Balance (**NZGB**) and Energy Security Outlook reporting by extending the NZGB time horizon, adding additional capacity scenarios to NZGB and including capacity risk assessment (using NZGB) to Energy Security Outlooks. Our ability to do this is contingent on receiving the funding to do so. As we noted in our consultation paper, we currently estimate the investment required to be of order $50k - $100k.

[6] See Energy Security Outlook 101.pdf, section 9.4.

2 Feedback received

12. Our consultation process provided for a consultation period of 4 weeks from 7 October to 4 November 2025, followed by a one-week period for cross-submissions to 11 November 2025.

13. We received feedback from 7 stakeholder organisations (6 submissions and 2 cross-submissions). The submissions are available on our website.[7] We appreciate all the feedback we received.

Submitters	Cross-submissions
Contact Fonterra Genesis Meridian MEUG Yeji Choe – Independent Consultant	Energy Resources Aotearoa Genesis

2.1 Support for our proposal to amend the SOSFIP

14. There was universal support for our proposal to amend the SOSFIP:

- MEUG commented that changes are necessary to the SOSFIP to reflect the considerable changes in market conditions in recent years and this work will support the Government's decisions following the 2025 review of the electricity market performance, and that Transpower has set out a list of well-justified amendments.
- Contact recognised the care and attention that Transpower has brought to this important issue and broadly agree with the proposed changes.
- ERA considered updates are timely given the increasing role of intermittent renewables, the evolving gas supply landscape, and Government direction to ensure Transpower's security-of-supply assessments are fit for purpose.
- Yeji Choe commented that the 2025 SOSFIP reforms are technically sound, proportionate, and internationally aligned. Embedding probabilistic, climate-linked forecasting and transparent governance will transform SOSFIP into a living risk-forecasting framework. These improvements will enhance system resilience, strengthen market confidence, and better safeguard consumers.
- Meridian submitted that the proposed charges are welcome and noted its view they would not make access to contingent storage more feasible.

Transpower response

15. We appreciate submitters taking the time to respond to our consultation, and support for SOSFIP amendments that can better support security of supply. SOSFIP amendments were last made in 2019 and 2022. Since then, the electricity system has accelerated its transition

7 Invitation To Comment: SOSFIP Consultation 2025 - Draft amendment proposal (Closed) | Transpower

towards increasing dependence on intermittent renewable generation, and risks to the availability of natural gas supplies to substitute for hydro generation during extended dry periods have increased. While the new agreements that will support the retention of one of the Huntly Rankine units and associated coal stockpile are a step in the right direction, long-term arrangements for the necessary back-up to support renewables have not yet emerged.

2.2 Our Energy Security Outlook and Quarterly Security of Supply Outlook communications

16. Yeji Choe commented that our Energy Security Outlook and quarterly Security of Supply Outlook are comprehensive but difficult to act on and suggested we introduce a summary dashboard.
17. ERA considered our security of supply communications are valuable and suggested some potential improvements to support better accessibility and transparency.

Transpower response

18. We welcome this feedback, which we will consider as we continue to evolve the information and messaging in our Energy Security Outlook and quarterly Security of Supply Outlook to better support participants' coordination of security of supply for consumers into the future.

2.3 Review of key ERC and SST assumptions

2.3.1 Thermal fuel assumptions: physical capability vs contract quantities

19. All submitters supported our proposal to introduce an additional ERC and SST scenario using contracted fuel information to our Energy Security Outlook, to better support understanding about forward energy risks, and mitigating actions by participants.
20. Fonterra expressed concern that use of the physical ERC curves has been shown to hide thermal fuel supply risks. Meridian submitted that publishing a contracted thermal fuel scenario as part of our Energy Security Outlook can provide useful information to the market about the current horizon and quantity of thermal fuel contracts. Yeji Choe submitted publishing both physical and contracted-fuel ERC scenarios would reflect deliverability risk and align with ISO-NE and PJM approaches, encouraging early mitigation.
21. Generally, submitters considered 12 months to be an appropriate default forecast horizon for the proposed contracted fuels scenario.
22. Contact submitted it supports the introduction of a second ERC and SST scenario based on contracted thermal fuel quantities, and that thermal fuel assumptions should apply for the period covered by the lead time of fuel delivery or re-contracting.
23. ERA considered a 12-month horizon balances usefulness with data reliability, and suggested a phased implementation approach focussing initially on a 3-month horizon pilot to validate data quality and processes, extending to 6-months after any adjustments, and 12-months once data and processes have been proven.
24. Genesis submitted that it believes 12 months would be the appropriate timeframe because coal contracting occurs a maximum of 12 months out and some gas contracting has recently also been moving to shorter terms of 12 months or less. Operational visibility of gas contracting is therefore more refined over 12 months, and less so beyond 12 months.

25. Meridian submitted it makes sense to align the timeframes of the scenarios, while acknowledging that there may be limited fuel contracting over more distant time horizons.
26. Yeji Choe submitted in favour of 12 months as the default horizon and up to 24 months where data permits, and noted this mirrors typical maintenance and gas contracting horizons and AEMO's two-year outlook.

Transpower response

27. We welcome the support for our proposal to introduce to our Energy Security Outlook an additional ERC and SST scenario that takes into account reliable information known to us about contract limits on the supply of thermal fuel, and the useful commentary on the appropriate time horizon to use for it.
28. The proposed additional scenario will reflect reliable information we receive about contract limits on the supply of thermal fuels and may relate to a specific scenario affecting thermal fuel supply. Investment in our tools and resources would be required to provide more than two scenarios (the base case and the proposed additional scenario) in an Energy Security Outlook and we will consider the need for such investment as we prepare our funding proposal for the next System Operator Service Provider Agreement (SOSPA) term that will commence in July 2028.
29. After we commenced the draft amendment proposal consultation, the Authority decided to make permanent the temporary amendment to our information gathering powers in the Code, on which this aspect of our proposal is dependent. The permanent Code amendment took effect on 1 December 2025. We are in the process of completing tooling and process modifications and expect to begin publishing the additional scenario once we having completed assurance.
30. We agree with the observations made by submitters that there is increasingly more limited value in a contracted fuel scenario across longer time horizons as fuels contracting activity tends to happen with more certainty in the 12 months ahead. We have decided to adopt a 12-month ahead time horizon for the additional contracted fuels ERCs and SSTs scenario.
31. The current SOSFIP does not limit our ability to introduce the proposed additional scenario, however, we think incorporating it into the SOSFIP will promote certainty for participants.
32. We have decided to propose the SOSFIP amendment on which we consulted and not make any changes to it. The proposal is to:
    - Introduce a requirement to publish ERCs and SSTs reflecting contracted thermal fuel that can be used for electricity generation (in addition to the ERCs and SSTs we publish currently which reflect physical capability).
    - Continue to set the Electricity Risk Meter status and any of the actions triggered by the ERCs from the physical capability ERCs (only).
    - Remove the Type 1 and Type 2 gas demand response assumptions and related definitions.

2.3.2 Time-to SST

33. ERA, Fonterra, Genesis, Meridian and Yeji Choe explicitly supported the proposal to replace the worst-case SST with a time-to SST that is progressively less pessimistic into the future.
34. Meridian commented that the proposed adjustments to the worst-case SST are likely to result in a more realistic (but still conservative) timeframe for reaching Alert or Emergency

levels, and historical inflows data might need to be adjusted to account for climate change effects. Yeji Choe commented that using a time-to SST method prevents premature Alerts and improves predictive reliability and recommended a 12-month post-implementation review. ERA submitted that there should be transparency and conservative safeguards.

Transpower response

35. Transpower welcomes the support for and feedback on our proposal to replace the worst-case SST with a time-to SST that is progressively less pessimistic into the future. This proposal does not require an amendment to the SOSFIP.
36. We have decided to implement the approach on which we consulted unmodified. We will update our Energy Security Outlook 101,[8] and incorporate the change into our processes and tools, ahead of Winter 2026. The time-to SST will then be used to determine the estimated time-to for Alert, Official Conservation Campaign (OCC) and as part of our CSRB buffer discretion process.
37. We will continue to consider ways to better reflect the effects of climate change in the ERCs as part of ongoing development of our security of supply information and forecasting function. Any adjustment of historical inflows data would need thorough evaluation and assessment, including because adopting synthesised inflow data, or a selection of historic years, (say) could impact electricity system and consumer outcomes.

2.3.3 Triggering Watch before Alert

38. The consultation paper set out our proposal to amend the method we use to calculate the Watch curve so that, for each simulation month, we apply an adder above the Alert curve (the Watch adder). We presented two options for the Watch adder:
    - Option 1 (our preferred option): Apply a 200 GWh Watch adder above the Alert curve, with this default Watch adder increased (not decreased) if necessary to match the simulated future storage projections (used to determine the ERCs) with the biggest drop across its first month.
    - Option 2: Apply a fixed 200 GWh Watch adder above the Alert curve.
39. ERA, Fonterra, Genesis, Meridian and Yeji Choe explicitly supported the proposal to update the definition of the Watch curve to ensure Watch is always above the Alert curve. ERA, Fonterra, Genesis and Yeji Choe supported Option 1 and Meridian did not express a preference between the two options.
40. Yeji Choe commented that ensuring the Watch curve always remains above the Alert curve improves communication consistency and mirrors EirGrid and CAISO. ERA noted that having Watch precede Alert consistently gives participants early warning and time to prepare, and recommended the following safeguards:
    - ensure the adder (e.g., the proposed 200 GWh) is routinely reviewed against empirical model results and adjusted if necessary; and
    - provide clarity on how the Watch curve adder will change when simulated storage trajectories shift materially.

Transpower response

[8] See Energy Security Outlook 101.pdf, section 9.4.

41. We have decided to propose our preferred Option 1 and the changes to the SOSFIP we consulted on unmodified. This would ensure Watch status is always triggered before Alert and provide for alignment of Watch status with observed risks at the time.

2.3.4 Minimum time under Alert status

42. ERA, Genesis, Meridian and Yeji Choe explicitly supported the introduction of a minimum time under Alert of 4-weeks to reduce uncertainty.
43. Genesis submitted this is sensible and will provide greater certainty to participants, thereby enabling a more effective industry response and avoid flip-flopping between Watch and Alert statuses (with flow on impacts to contingent storage access).
44. ERA supported a minimum duration but recommended we:
    - include an escape clause permitting exit from Alert earlier where objective recovery criteria are met
    - allow exceptional rapid escalation/removal where a rapid change in conditions or clear new information justifies it, and
    - monitor and review the minimum duration after Winter 2026 to ensure it does not delay necessary actions or cause unnecessary economic cost.

Transpower response

45. We have decided to propose the approach and changes to the SOSFIP we consulted on unmodified. This would ensure there is a minimum time under Alert status of 4 weeks unless either hydro storage improves above the Watch curve (in which case the risk status improves to "Normal") or hydro storage declines further and the system operator commences an OCC, at which point the risk status goes to "Emergency". We consider these changes in risk status cater for the flexibility to shift out of Alert status where the hydro situation either improves or declines more rapidly (as raised by ERA).

2.4 Linkage between energy and capacity risks

2.4.1 Improving capacity risk assessment in the ERCs and SSTs

46. ERA, Genesis, Meridian and Yeji Choe explicitly supported the change in the ERC and SST tools and analysis to a 3-hour model (rather than the current day-night model).
47. Genesis submitted the proposed approach would seem to enable more granular modelling of ERCs and SSTs, better reflecting hourly variances than the current day-night model. Meridian suggested the difference is marginal but that this should provide a better assessment of risk overall. ERA gave qualified support subject to a careful cost/benefit assessment and staged implementation.

Transpower response

48. Transpower welcomes the support and feedback. We have decided to implement the proposal on which we consulted unmodified by amending our ERC and SST tools and analysis to a 3-hourly model. This change does not require a SOSFIP amendment. We will complete the work to make this change ahead of Winter 2026 and advise participants when it has taken effect in our Energy Security Outlook reporting.

2.4.2 Using supplementary information to enhance capacity risk indications

49. ERA, Contact, Genesis, Meridian and Yeji Choe supported our proposal to enhance our NZGB and Energy Security Outlook reporting for greater alignment by extending the NZGB time horizon, adding additional capacity scenarios to NZGB and including capacity risk assessment (using NZGB) in Energy Security Outlooks.

50. Contact submitted that current assumptions based on nameplate generation ratings materially overestimate generation availability and suggested a revised approach should reflect realistic operational capability. Meridian submitted providing additional NZGB scenarios to reflect capacity constraints on hydro schemes as they approach their lower operating ranges is likely to provide additional insights on the risks of blocking access to contingent storage.

Transpower response

51. While this proposal does not require any amendment to the SOSFIP, it would require an investment to be made in our NZGB tools, which we currently consider to be of order $50k - $100k. Our ability to implement this proposal is contingent on receiving the additional funding necessary to do so.

2.5 Consideration of geopolitical and asset risks

52. ERA Genesis, Meridian and Yeji Choe supported our proposal to expand the system risks for consideration as part of the quarterly scenario assessments.

Transpower response

53. We have decided to propose the SOSFIP amendment on which we consulted unmodified, which is to require us to consider scenarios related to supply disruptions generally, not just those related to fuel supply.

54. We will commence our work to develop these scenarios early in 2026, and expect to publish them ahead of Winter 2026. At current levels of System Operator funding, tools and resources, our capacity to produce additional scenarios will be constrained to one per quarter.

2.6 Contingent storage buffer access arrangements

2.6.1 Update to the default Alert CSRB buffer

55. Contact, Genesis, Meridian, MEUG and Yeji Choe explicitly supported the update of the default Alert CSRB buffer for access to contingent hydro storage, to better account for operating restrictions at the different hydro catchments. Meridian considered that in setting the default CRSB buffers the System Operator should aim to fully address any potential infeasibility, avoiding the need for ad hoc System Operator discretion to enable access to contingent storage. To the extent any ability to use discretion remains, Meridian submitted it should be limited to bringing forward access to contingent storage.

56. The proposal on which we consulted would result in a default Alert CSRB buffer profile across the year as follows:

	Base	Waiau	Tekapo	Total
Jan	50	90	0	140
Feb	50	90	0	140

	Base	Waiau	Tekapo	Total
Mar	50	90	0	140
Apr	50	90	0	140
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

Table 1: Adjusted Alert CSRB buffer (proposed in consultation)

57. Genesis suggested that the proposal is consistent with the intent of contingent storage to be the fuel of last resort, and that enabling contingent storage to be utilised ahead of other market resources could reduce incentives on thermal or other non-hydro resources, with potentially negative long-term impacts on security of supply. Yeji Choe submitted that a transparent, seasonal CSRB profile would provide consistency and reduce ad-hoc adjustments and should reflect actual consented hydro storage.
58. Genesis cautioned that the experience of Winter 2024 demonstrated the need to update contingent storage settings to ensure these remain fit for purpose. Genesis considered our proposal, combined with the changes to Genesis's replacement resource consent to address the 'shadow constraint', will provide improved access to contingent storage, consistent with its role as the fuel of last resort.
59. Genesis also agreed with our view that any changes to Emergency status settings should be considered alongside broader consideration by the Authority of Official Conservation Campaign (**OCC**) and Customer Compensation Scheme (**CCS**) settings. Genesis noted our comments that a review of CCS is needed to ensure the incentives (and risks) of using contingent storage are adequately considered. Genesis also noted the Emergency buffer is linked to this and should be considered together with the CCS review, and any permanent changes that increase the likelihood of an OCC (by permanently raising the Emergency buffer) should be considered in conjunction with a review of the CCS settings.
60. While Contact welcomed the proposed change to the contingent storage buffer, it also submitted that the proposed thresholds remain very high and will continue to result in greater use of thermal fuels at a higher price and greater emissions than is necessary. Contact recommended we consider setting a buffer for each individual catchment, rather than .
61. Meridian submitted that while it welcomes the System Operator's proposal to increase the default Alert CSRB buffer, it does not consider the changes proposed will be sufficient to give the market certainty that contingent storage will be accessible. Meridian recommended that, at a minimum, we should increase the proposed default Alert CSRB buffer by an additional 13 GWh to allow for Waiau operating constraints (relative to 90 GWh in our draft proposal), and also similarly amend the default Emergency CSRB buffer.

62. ERA submitted that the CSRB default values should be calibrated to operational history and potential dry-year scenarios, and any default increase should be justified by modelling and cost/benefit analysis.

Transpower response

63. We have decided to propose the SOSFIP amendment on which we consulted, with a modification in response to the feedback we received from Meridian about Waiau operational constraints. We propose to increase the Waiau portion of the proposed default Alert CSRB buffer by 13 GWh (to 103 GWh). We do not consider this change would have material adverse impacts on security of supply.

64. For Lake Tekapo, we have decided to maintain the proposed default CSRB buffer. Genesis is responsible for the operation of Lake Tekapo and support the proposed default CSRB buffer. We have also decided to retain an aggregated default CSRB buffer (rather than the disaggregated approach proposed by Contact) to retain alignment with the current requirement under resource consents that contingent storage may only be accessed based on a system-wide risk to security of supply.

65. The proposed default Alert CSRB buffer profile across the year is 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
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

Table 2: Adjusted Alert CSRB buffer (proposed)

66. After our consultation we noticed that the proposed SOSFIP amendment we consulted on did not reflect the intent communicated in our consultation paper, which was to leave the default Emergency CSRB buffer at its current level (50 GWh). Our final proposed SOSFIP amendment corrects this.

67. We agree with Genesis that the Authority should review the OCC and CCS settings, including the linked default Emergency CSRB buffer.

2.6.2 CSRB buffer discretion

68. ERA Genesis, MEUG and Yeji Choe explicitly supported our proposal to retain the CSRB buffer discretion.

69. Genesis supported the System Operator retaining discretion to alter the CSRB buffer where operational circumstances make doing so necessary to mitigate an immediate risk to security

of supply. MEUG similarly supported us maintaining discretion around when access to contingent hydro storage can be triggered.

70. ERA submitted that we should retain CSRB buffer discretion but clarify process and decision-making criteria:
    - publish clear criteria for discretion usage and a decision timeline;
    - where discretion is exercised, publish a redacted, time-bound rationale and an evaluation (to be included in the next Quarterly Outlook) so participants can learn and adapt; and
    - keep accountability via Authority oversight and an obligation to minimise market-distorting effects.
71. The submitters that did not support retaining the discretion were Contact and Meridian.
72. Contact considered that contingent storage settings need to be clear, transparent and predictable so they can be appropriately responded to by the market. Contact welcomed the discretion applied by Transpower in 2024 but did not consider that this sort of discretion should be a feature of the contingent storage regime going forward.
73. Meridian (supported by consultant Dr Brent Layton) opposed the discretion. Meridian considered that the default CRSB buffer should aim to fully address any potential infeasibility, avoiding the need for ad hoc System Operator discretion to enable access to contingent storage. Meridian considers that, to the extent any ability to use discretion remains, it should be limited to bringing forward access to contingent storage. Meridian considered this could be achieved through a simple change to clause 6.1A(c) of the proposed SOSFIP drafting, as indicated in blue below:

> (c) the relevanta buffer in the following tableof 50 GWh unless the **system operator** determines one or morea increaseddifferent buffers and **publishes** themmakes it publicly available.

Transpower response

74. We have decided to propose that our discretion to determine a different CSRB buffer if the operational circumstances require it at the time be retained in the SOSFIP. We will also propose the addition of a requirement for us to use our published CSRB buffer discretion process when deciding whether to determine a different CRSB buffer.
75. The CSRB buffer discretion process is developed to reduce security of supply risks and intended to bring forward access to contingent storage if there are operational restrictions limiting access to contingent storage. Our intent is not to use the buffer discretion process to delay access to contingent storage. Therefore, we propose to adjust the wording of the SOSFIP to make this change more explicit. This is in line with Meridian's proposed change to the SOSFIP drafting to provide better certainty that the System Operator may only use the CSRB buffer discretion to bring forward access to contingent storage.
76. The CSRB buffer, its default value, and the discretion for the System Operator to determine a different CSRB buffer, were introduced by SOSFIP amendments approved by the Authority following the 2018-19 review. This discretion was provided by the Authority to allow flexibility for the System Operator to bring forward access to contingent storage if the operational circumstances make doing so necessary to mitigate an immediate risk to security

of supply. While the System Operator has only had to apply this discretion once, we consider that the experience demonstrates the benefit of the System Operator having this discretion.

2.7 Regulatory Statement for the proposed SOSFIP amendment

2.7.1 Objectives of the proposed SOSFIP amendment

77. ERA, Genesis, Meridian and Yeji Choe explicitly supported the objectives of our proposed SOSFIP amendment. Yeji Choe commented that the objectives - timeliness, clarity, and information quality - are appropriate and support efficient market operation, and recommended annual tracking of ERC forecast accuracy and Alert frequency. ERA submitted that the objectives to improve clarity, reduce uncertainty, and better align capacity and energy risk signals are appropriate and align with the Authority's statutory objective.

Transpower response

78. Transpower welcomes the support and feedback.

2.7.2 Reliance on qualitative evaluation

79. Genesis and Yeji Choe explicitly supported reliance on qualitative evaluation, though Yeji suggested a quantitative assessment could follow after one year of operation.
80. ERA submitted qualitative assessment is acceptable for some items, but where potential costs are material or recurring (e.g., 3-hour intervals, contracted fuel collection), Transpower should attempt a quantitative cost estimate and sensitivity analysis.
81. Meridian considers that the System Operator should seek to quantify the cost and benefits of amending the SOSFIP and emphasised that the SOSFIP is an important part of New Zealand's security framework and decisions on the SOSFIP can have wide-ranging impacts. The principal focus of Meridian's concerns was around establishing the triggers which enable access to contingent storage.

Transpower response

82. Transpower welcomes the feedback we have received. We continue to believe that a qualitative cost-benefit analysis (**CBA**) is appropriate. We note that assessing the effect of implementing the proposal is not easily quantifiable.

2.7.3 Whether the benefits outweigh the costs

83. Genesis and Yeji Choe explicitly commented that the benefits can be expected to outweigh the costs, with Yeji submitting that analytical costs are low and outweighed by avoided reliability events, and similar international models achieved major reliability gains at negligible market cost (<0.1% of turnover).
84. ERA was concerned that the lack of quantified CBA made it difficult to confirm the net benefits would be positive. ERA commented that the potential benefits (improved market signalling, reduced surprise, better contingency planning) are real, however without quantified cost estimates for some proposals (notably 3-hour modelling and extended contracted fuel reporting), it is difficult to fully confirm net benefit.
85. Meridian was concerned that the proposed changes left substantial potential benefits unrealised because the System Operator was not proposing to adopt Meridian's proposed changes to access to contingent storage.

Transpower response

86. We remain of the view that the expected benefits of our SOSFIP amendment proposal can reasonably be expected to outweigh the costs.

87. If there are further benefits that could be realised from adopting Meridian's proposal (which would need to be balanced against the costs) that does not affect our view that the SOSFIP amendment we are proposing has positive net benefits. We consider that the more fundamental changes proposed by Meridian would be more appropriately considered as part of a wider review of contingent storage access policy (see section 2.9.1 below)

88. Our proposed SOSFIP amendment is targeted at addressing matters that participants have told us contribute to uncertainty in relation to security of supply risks, including the circumstances in which contingent storage can be accessed. We consider that our proposed SOSFIP amendment will provide benefits of certainty and clarity around application of the SOSFIP, which will support participants to better determine what to do and when to do it when supply is tightening.

89. The cost for the System Operator to implement our proposed SOSFIP amendment and related changes to our tools and processes (except for the extension of the NZGB, which we have commented on above) is expected to be immaterial and able to be absorbed within the System Operator's fixed fee funding already agreed with the Authority until 30 June 2028.

2.7.4 Compliance with section 32(1) of the Act

90. ERA, Genesis and Yeji Choe explicitly commented that the draft SOSFIP amendment proposal complied with section 32(1) of the Act. ERA submitted the proposed amendment appears consistent with section 32(1) because it seeks to promote long-term benefit to consumers through improved security-of-supply signals and clarity. Yeji submitted transparent and evidence-based forecasting enhances efficient market outcomes and consumer welfare, consistent with section 32(1) of the Act.

91. Meridian was the only submitter to raise questions about whether the proposed amendment met the requirements of section 32(1) of the Act. Meridian highlighted Dr Layton's concerns that retaining System Operator discretion to unilaterally change the CSRB buffer is not consistent with promoting the efficient operation of the futures and forward markets and, as a consequence, the electricity industry. Meridian raised a concern that the proposed amendment left substantial potential benefits unrealised because the System Operator was not proposing to adopt Meridian's proposed changes to access to contingent storage.

Transpower response

92. We remain of the view that by providing additional clarity and reducing uncertainty, our proposed SOSFIP amendment will better support its purpose and better meet the Authority's main statutory objective under section 15 of the Act. The Meridian/Layton submission does not impact our views on the merits of retaining the CSRB buffer discretion.

2.8 Other amendment options

93. ERA considered that the System Operator should explore an option to explicitly link new renewable generation registration or consent pathways to a decentralised firming offset market signal (fuel-neutral). ERA suggest this could be a policy proposal coordinated with the Authority. ***Transpower response:*** We welcome this policy feedback and bring it to the Authority's attention.

94. Meridian submitted that when the System Operator models that a particular inflow sequence will result in shortage this should recognise that not all controlled storage (including contingent storage) is equally accessible at all lake levels. **Transpower response:** We will consider this as we continue to refine the inputs to the risk curves, as part of ongoing development of our security of supply information and forecasting function. If any material updates are made, we will inform industry and update our published Energy Security Outlook 101 document.

95. Yeji Choe submitted that the System Operator should integrate meteorological and fuel-security data directly within SOSFIP. A formal collaboration between the System Operator, MetService, and NIWA could strengthen climate-risk visibility. Publishing ERC percentile bands (P10/P50/P90) and a probability of Alert within eight weeks would improve transparency. ***Transpower response:*** The System Operator uses NIWA and MetService information to inform its risk outlooks. This includes seasonal outlooks and more near-term forecasts. Regarding providing additional risk indicators (e.g. probability of Alert within 8 weeks), we note these would not only depend on weather information but also participant behaviour which will be dynamic, responding to evolving market conditions. These factors are harder to forecast (or assign probabilities to). There is also a trade-off that would need to be considered in providing additional risk indicators. A previous SOSFIP review found that providing multiple risk indicators could also be a source of confusion during times of system stress.[9] We will continue to evolve the risk reporting to make sure it is providing useful information for the industry to act upon.

2.9 Out of scope matters

2.9.1 Contingent storage access policy

96. Meridian detailed its view that contingent storage should be treated the same as any other resource, with market participants determining its use based on commercial market signals. Meridian endorsed the suggestion by Dr Layton that the Authority should undertake a first principles review of contingent storage access conditions with the aim of achieving a fuel agnostic electricity system, as envisioned by the Government Policy Statement on Electricity (**GPS**).[10]

97. This raises a number of potential issues including in relation to resource consenting (the decisions by local authorities to make access to this water contingent on the risk to security of electricity supply), and the efficacy of contingent hydro storage effectively acting as the stored fuel of last resort for Aotearoa's power system. These matters are outside of the appropriate bounds of review of the SOSFIP. If these matters are to be addressed, we agree with Meridian that the Authority is the appropriate agency to do so.

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9 The Authority commissioned MartinJenkins to undertake an operational review of the 2021 dry year. One of the findings from this review was the confusion caused by the different risk indicators. After receiving the findings of the MartinJenkins report the Authority and Transpower initiated a SOSFIP review that resulted in SOSFIP amendments including simplifying reporting by retaining only the percentage risk curves with the risk status curves aligned.

10 Government Policy Statement on Electricity - October 2024.pdf

98. In its cross-submission Genesis provided its view, that contingent storage settings are not inconsistent with the GPS. Genesis considers contingent storage is not treated differently due to fuel type but because it is intended as the fuel of last resort, reflecting the significant and unique role hydro storage plays in New Zealand's energy system. While Genesis is not opposed to the more fundamental, first principles review of contingent storage settings, it noted this is outside the scope of the System Operator's SOSFIP review and would require broader cross-agency work (including the Authority and MBIE), taking into account wider energy system and policy settings.

99. We do not consider that it would be appropriate for the System Operator to effectively pre-empt the decisions of resource consenting processes, or any potential Authority review of its regulatory settings for access to contingent storage. We consider a more material adjustment to the default CSRB buffer than we are proposing would have that effect.

2.9.2 Potential for economic withholding

100. Dr Layton, for Meridian, raised concerns that both Contact and Genesis have the ability and incentives to operate in such a way that contingent storage remains inaccessible to the wider market (known as economic withholding) and the incentives to do so could be influenced by their ownership of thermal plant.

101. The Genesis cross-submission stated that it operates its assets in full compliance with the Commerce Act 1986, the Code, and all other applicable legislation. Genesis confirmed it remains committed to maintaining a Code-aligned, transparent and competitive portfolio, highlighting that any concerns about market conduct can and should be raised with the appropriate regulatory agencies.

102. The System Operator encourages any stakeholders with concerns about market power or conduct to raise these directly with the Authority or the Commerce Commission.