

8 November 2024

Anna Kominik  
Electricity Authority Chair  
Electricity Authority  
PO Box 10041  
Wellington 6143

Dear Anna,

## Advice resulting from the 24 October 2024 meeting of the Security and Reliability Council

The Security and Reliability Council (SRC) is tasked with providing the Electricity Authority Te Mana Hiko (Authority) with independent advice on the performance of the electricity system and the system operator, and reliability of supply issues.

### At the October SRC meeting

The focus of the October SRC meeting was *energy and capacity challenges*. The aim for the meeting was to identify and prioritise key risk areas and pass this on to the Authority to consider in its workstreams ahead of next winter.

As part of the *energy and capacity challenges* theme, the SRC received presentations from:

- The Authority's Policy Operations team on winter 2025 outlook and regulatory responses
- Powerco and Vector on opportunities for greater use of ripple and smart-meter controlled circuits for managing peaks
- The Authority's Policy Operations team on the Security Standards Assumptions Document (SSAD) review
- The Authority's commercial team on proposals for Industry Exercise 2025.

The SRC also considered the system operator on their annual self-review.

### Different approach to advice

We're trialling a different format for our advice in this letter. We welcome any feedback the Authority Board has to this approach, especially regarding utility and effectiveness of advice.

We have also thought about how we can better keep track of our advice and recommendations for the Authority and the Authority's response. We are therefore trialling a new approach of including a list of recommendations with our letter of advice. Recommendations arising from the August meeting are appended to this letter.

## Energy and Capacity challenges for winter 2025 and beyond

- Members noted that the options considered at short notice to get through winter 24 were very reactive
- Members noted we have been 'lucky' in the past from suffering from one issue. If multiple issues were experienced together, we risk being very vulnerable and lacking resilience. We don't appear to plan for multiple adverse events occurring simultaneously.
- The SRC thinks a proactive approach to system security that builds resilience would include:
  - Examination of multiple failures
  - Early provision of information to market to develop actions
- The system needs to have contingency plans in place for unknown risks, public confidence in the power system is supported by proactive planning
- The SRC strongly supports improved visibility of fuels information, in particular contracted thermal fuel for power generation. This involves making sure good information is available from source, appropriate parties are required to provide information, and that appropriate security of supply scenarios are developed
- Demand Response arrangements from gas side are not as transparent as for electricity. Equity of reporting and better visibility of gas information is required
- The SRC supports the Authority's Power innovation pathway (PIP) and sees it as an example of a good proactive initiative

## Member correspondence about contingent storage

An SRC member shared their views on contingent storage at the October meeting. The SRC's comments and advice are:

- Meridian considers it urgent to get 2024 temporary buffers put in place for the next few years while the Authority completes a full review of the current contingent storage requirements.
- Work is needed to make sure a feasible and balanced long-term contingent storage regime is in place. That is, contingent storage triggers enable use of storage in security of supply risk situations. Calendar year 2024 is considered by SRC members to have been the scenario where the triggers would have been enacted, and yet in practice, they were not reached.
- The SRC asks the Authority to consider recommending changes to the contingent storage release buffer both in the short-term for Calendar Year 25 and in the longer term, with appropriate consultation.
- We recommend the Authority invite the system operator to have a conversation about its contingent storage buffer decision with industry. This would provide industry with clarity of the issues the system operator sees:

- The SRC would like to see the system operator have open conversations with Contact, Genesis and Meridian on what the implications are of easier access to contingent storage for 2025/6 acknowledging a tight situation over winter 2025/26.
- The SRC believes it is important to understand what options are available to mitigate additional constraints to access of contingent storage through resource consents e.g. potential consent relief through a consenting authority related to the 1 October contingent storage level change for Lake Tekapo.

### Opportunities for greater use of ripple and smart-meter controlled circuits for managing peaks

This item arose from the SRC's risk radar discussion at its August meeting. The presentations covered the experience Powerco had encouraging retailers to take control of discretionary load on their networks and use opportunities presented by new technologies to enable benefits to be passed on efficiently to consumers. The Vector presentation included suggestions from Vector about managing emergencies on distribution networks.

The SRC has the following commentary and advice:

- Vector and Powerco consider there is a need to ensure safeguards are in place to ensure the operational safety and stability of distribution networks, and ultimately maintain consumers' security of supply, before retailer and aggregator-led control of distributed devices becomes widespread
- In particular, the Authority should take the opportunity of the current review of clause 5 of the Default Distribution Agreement (DDA) to clarify the highest priority for demand management is to maintain network security as well as resolve grid emergencies (schedule 8)
- The Authority should be thinking more broadly about the operational requirements for Distribution System Operation (DSO) on distribution network, for example through a Part 8 equivalent for distribution networks
- Current gaps in the Code need to be filled to ensure non-retailer aggregators are visible to, and coordinate their activity with, their host network operators, and that operation of distributed resources is covered by the trading conduct provisions
- The SRC encourages the Authority to consider where incentives to utilise load control are lacking and what options are available to shore up those incentives
- The Authority should ensure industry participants, and its partners in the Council of Energy Regulators, are aware of the broader opportunities available for load management, the benefits for consumers, and how consumers can be engaged to realise those benefits. This includes ensuring that home wiring and devices enable smart control, as there are concerns about current capacity.

The SRC asks the Authority to consider whether there are perceptions of (or real) barriers for other EDBs utilising existing demand management capability to deliver benefits to consumers.

## Security Standards Assumptions Document (SSAD) review

Following a presentation from the Authority's Policy Operations team, the SRC fed ideas for the review through discussion at the meeting and has the following comments and advice:

- Education and communication should be a focus for the Authority's work, making the information clear and understandable for a wider audience
- The review needs to consider the trade-offs between specificity vs flexibility by explicitly considering which assumptions are best developed by the Authority and which should be left to the system operator to determine and justify
- The review should consider what a world without the SSAD would look like. Members questioned whether the system operator has sufficient incentive to use flexibility to deviate from the SSAD assumptions (given this has not occurred to date).

## System Operator annual self-review

The SRC received an annual presentation from the system operator on its self-review for the 2023-24 period. Following the presentation and discussion the SRC has the following comments and advice:

- Overall, we have a high performing system operator
- The Authority should reinforce the need for looking at areas of improvement. The SRC appreciates the level of detail presented but would prefer to see overall direction described by the system operator with clear actions to drive improvement. This could include information on steps to ensure qualified, capable staff and good data analysis.
- The Authority should note some areas of improvement have been highlighted, and continue to encourage system operator to identify areas for further improvement
- The SRC strongly reinforces its previous advice that the Authority should consider an external review or periodic audit for the system operator. The Authority should set terms of reference for such an external review, using the 9 objectives noted in the Authority's SOSPA presentation at the SRC's August meeting
- The SRC encourages the Authority to continue to work with system operator to refine communications issues and responsibilities during events, with overarching thinking on maintaining public confidence in the system
- The SRC commends the system operator for the industry forums it is providing
- The SRC is pleased to see a system operator-centric risk matrix in place
- The system operator relies on good information disclosure from participants for effective management, and should be clear about when and where it needs more information
- The system operator noted the time it takes to assess and model new technology connections. The system operator should work with the Authority to accelerate this process.

## The SRC's next meeting

The SRC's Q1 (February 2025) meeting agenda includes:

- a. Regional resilience
- b. The scope, approach and learnings from the Power Innovation Pathway
- c. An update on the Authority's Section 18 report

Yours sincerely,

A handwritten signature in black ink, appearing to read 'H Roy', is positioned above the typed name.

Hon Heather Roy  
**Chair of the SRC**

cc: SRC members, Chris Otton and James Blake-Palmer (Authority)

2 December 2024

Justine Cannon  
General Manager – Energy and Resource Markets  
Ministry of Business, Innovation and Employment  
Wellington

### **Changes to the Electricity (Hazards from Trees) Regulations 2003**

Tēnā koe Justine,

I am writing to you to encourage MBIE's commitment to progressing changes to the Electricity (Hazards from Trees) Regulations 2003, also known as the tree regulations.

MBIE's recent amendments and planned work to better address risks posed by trees outside of the Growth Limit Zone (GLZ) falling onto lines were discussed at the Security and Reliability Council (SRC) meeting on the 21 August 2024.

The SRC provides the Electricity Authority with independent advice on the electricity system and system operator performance, and advice on reliability of supply issues.

The review and changes to the tree regulations were raised as part of a discussion on the risks impacting the sector over the short, medium and long term.

I would like to extend our thanks for your team's work on getting the Phase 1 changes over the line; it certainly marks an important milestone in how the sector can manage risks from trees.

The SRC consider the additional actions to progress tree regulations to manage the impact of trees outside the current management zones, and the difference between forestry and cosmetic management requirements, should be a high priority.

The SRC has discussed that to achieve the full benefits for electricity security and resilience, MBIE should continue driving progress towards the Phase 2 amendments. This is due to the immediate risks posed by the current regulations.

While I understand from our recent conversations that the Phase 2 amendments are a priority for MBIE, I encourage you to maintain momentum on these changes to support enhanced security and reliability.

Thank you for your work so far, and we look forward to seeing these changes progressed further.

Ngā mihi,

A handwritten signature in blue ink, appearing to read 'Andrew Millar', with a stylized, cursive script.

Andrew Millar  
General Manager – Market Policy  
Electricity Authority Te Mana Hiko

7 January 2025

Hon Heather Roy  
Chair  
Security and Reliability Council (SRC)

By email: [heatherjroy@gmail.com](mailto:heatherjroy@gmail.com)

Dear Heather,

### **Response to your letter of 8 November 2024**

Thank you for your letter of 8 November 2024 giving the SRC's advice from its 24 October 2024 meeting. The Electricity Authority Te Mana Hiko (Authority) Board considered the advice at its 16 December 2024 meeting.

### **Different approach to advice**

The Authority Board finds the advice provided by the SRC extremely valuable for informing our strategic direction, and for contributing independent, expert advice to support our current work programme.

We strongly support the steps the SRC is taking to adapt to the increased pace of change in our sector and look forward to working with the SRC and the secretariat to develop a more sophisticated value-capture process than we have had previously. With this in mind, we have structured our response letter to succinctly reply to the advice provided and enable the SRC to track our progress.

### **Energy and capacity challenges for winter 2025 and beyond**

- We have written to generators to determine their current level of contingency planning and encourage further action where we think it is needed.
- With support from the Authority, the System Operator has improved its capacity reporting through the New Zealand Generation Balance (NZGB). This has been updated to include sensitivities for no wind generation, multiple significant generator outages and unseasonably high demand. These factors can be considered concurrently to gain a "worst case" view of the capacity available, producing a "multiple contingency" view of security of supply for capacity.
- Following discussion with the Authority, the system operator reviewed its thermal fuel information collection and modelling for the Electricity Risk Curves. Improved thermal fuel information has resulted in a significant reduction in the risk curves for 2025.
- Part of the industry response to winter 2024 energy concerns was to ensure that generation and transmission outages were minimised over this period. Rescheduled maintenance outages would need to be taken before winter 2025, leading to concerns for outage coordination through the Summer and Autumn months. The Authority responded quickly to reinforce the outage coordination obligations under the Code to support effective and secure outage coordination through summer 2025. Consultation on the Code amendment has highlighted our focus on this issue to industry and spurred greater awareness of the



need to contact the System Operator to discuss planned outages. We will continue to monitor the outage coordination process and will assess the need to make further Code amendments as the need arises.

- The Authority is in the process of publishing a series of three-month outlooks that consider multiple contingencies for energy security. These reports will look ahead at how the energy position might evolve over the three-month horizon and will identify potential supply risks to improve industry awareness. The intent is for these reports to encourage participants to take mitigating action if needed. We will update and publish the reports monthly. In these outlooks we use three scenarios that match high hydro with medium inflows, high thermal with low inflows and one in between. The outlook incorporates thermal fuel data on stockpiles and supply arrangements, plant availability and new generation coming to market.
- The Authority is improving the information on thermal fuel availability for both monitoring and information purposes ahead of winter 2025. Our aim is to enhance participants' visibility of available gas supplies. We are reviewing generators' responses to our winter section 46 request and using the results to inform an ongoing information provision notice that we intend to publish early in 2025.
- The Authority and the gas industry co-regulator, the Gas Industry Company (GIC), are working together on matters of joint interest. This includes the arrangements for gas market demand response, as demonstrated by the gas reallocation deal executed between Methanex, Contact and Genesis this winter. The Gas Security Response Group, which GIC leads, and the Authority observes, is also considering the issue of future gas security options, including consideration of domestic biogas production and LNG import arrangements.
- These actions will ensure industry stakeholders and participants have a better and more accurate view of the potential capacity and energy risks facing the power system in the near term. This view will also include steps participants can take to mitigate the risks that they face.
- We appreciate the SRC's feedback on our Power Innovation Pathway initiative and undertake to keep the SRC informed on the progress of proposals relevant to the SRC's interests.

### **Member correspondence about contingent storage**

- The Authority is keenly aware of the need to ensure that the Electricity Risk Curves (ERCs) provide a credible and transparent operating regime while incentivising participants to take action to conserve hydro generation resources.
- The current contingent storage release settings balance the need for certainty of access to contingent storage when it's needed, with the need to manage lake levels within the environmental constraints set out in their individual consents.
- We will be closely engaged with the System Operator as it consults on longer-term changes to the ERC settings, in their 2025 SOSFIP consultation.
- In the meantime, we will encourage the System Operator to engage with all three of the affected generators to clarify the System Operator's position on the contingent release buffer settings for 2025.
- Meridian has engaged the Authority and the System Operator directly to discuss contingent storage options for Winter 2025 and 2026. We continue to work with both Meridian and the System Operator on these proposals.
- Meridian has also, at the request of the Minister for Energy, engaged with the Friends of Manapouri to discuss possible operating regime changes in the Manapouri catchment lakes. We would encourage other generators to engage with the relevant consenting authorities and stakeholder groups regarding changes to operating regimes at their hydro catchment lakes.

## Opportunities for greater use of ripple and smart-meter controlled circuits for managing peaks

### *Consideration of the priority order on network security in the Default Distribution Agreement*

- The Authority welcomed the opportunity to hear from two participants on the outcomes of their respective hot water trials and the recommendations for making greater use of hot water load control.
- We have recently consulted on a clarification to shared load in the Default Distribution Agreement (DDA) under the Code Review Programme CRP#6. We have reviewed Vector's submission which raised some points beyond the immediate scope of the consultation that will be considered by other workstreams.
- We recognise the importance of industry maintaining a hierarchy of control. While the Code is currently principally concerned with grid emergencies, as distributed generation and third-party load control evolve on low voltage networks, network management will need to consider visibility and co-ordination of these resources and ensure these operate within network capacity.
- The DDA already provides a platform for distributors and retailers to agree load control protocols to assist in network management, as illustrated by Powerco's successful 2024 winter trial involving controlling over 20,000 ICPs through smart meters. Powerco noted that under the DDA it retained control of all discretionary load for managing (national) grid emergencies and system emergencies on its own network.
- In the trial, retailers were prohibited from changing their load shifting pattern during a system operator event, to ensure Powerco retained control in warning and emergency situations, including generation shortfalls.
- The Authority is actively monitoring the development of flexibility services markets while it takes action to encourage development of such markets (as outlined below). This includes work to improve congestion visibility on distributors' low voltage networks.
- Improving low voltage network visibility will identify capacity challenged sections of distribution networks and the potential risks from aggregation. This will help all parties better understand the opportunities and risk from greater flexible use of hot water load control.
- Staff have met with Vector to further understand their position and discuss the Authority's response to their concerns, including addressing potential gaps in the Code related to non-retailer aggregators.

### *Operational requirements for Distribution System Operation (DSO)*

- In February 2024, under our Future of System Operation (FSO) workstream, the Authority published a consultation on the future power system operation as the New Zealand energy system evolves over time. This consultation sought feedback on the key challenges and opportunities with the power system as it transitions over the coming years to a more decentralised, non-synchronous power system.
- As part of this workstream, we are considering the future capabilities and functions that will be required of distributors as the function of power system operation evolves and distribution network operators also become distribution system operators (DSOs).
- These capabilities include collecting and analysing more real-time data on network conditions and DER status and availability, to improve visibility and increase the coordination of DER on the low-voltage networks.
- This will facilitate system operation by providing the flexibility required to compensate for the variable and intermittent nature of electricity supply from new wind and solar generation assets coming on stream.
- As part of this task, distributors have said they will at times need to allocate network capacity between competing users, which will lead to the implementation of dynamic operating envelopes (DOE).
- The Authority is already engaging with distributors and the ENA on how this can be achieved without a misalignment of interests, depending on the involvement of distributors

in owning and controlling DER themselves. Part of this relates to the Authority's guidance for distributor involvement in the flexibility services market. Part of it relates to deciding what DSO model might be best suited for the New Zealand power system.

- The Authority is also working with key agencies including MBIE, Commerce Commission and EECA and expects to begin communicating with stakeholders on this in the early part of 2025, with a view to releasing a consultation paper in Q2 2025.

#### *Consistency is needed in the Code on connection*

- The proposed changes under the network connections project to Part 6 would deliver a more consistent connections approach across networks. In 2025, the Authority will consider ways to improve the consistency and robustness of distributors' connection and operation standards.
- The Authority is collaborating with the Electrical Engineers Association and Electricity Networks Aotearoa on ways to simplify and standardise the connections journey, to achieve greater efficiencies and more benefit for consumers and the New Zealand economy in the long term.

#### *Encouraging distributors to look for other opportunities to utilise load control for network management*

- The Authority is working to ensure a flourishing demand-side flexibility market develops. We are encouraging a market-led approach, and regulatory intervention when needed, to ensure a level playing field and competition to ensure the long-term benefit for consumers.
- We have established an industry group to help develop flexibility products for the wholesale electricity market. Load control (via direct control or price signals) has potential benefits for consumers, including better optimisation of existing network infrastructure, reducing power costs and improved system operations and reliability. The Authority is encouraging distributors to use non-network solutions where these efficiently address network constraints.
- In May we published draft guidance on distributor involvement in the flexibility services market. The guidance is to protect development of the flexibility services market with a range of providers, to promote efficient investment in and uptake of distributed energy resources. This will help make these new technologies more viable for consumers and the sector.
- Retailers are now offering tariffs that save consumers money by responding to energy market prices and distributor time of use tariffs. Retailer offers involve load control and injection from battery storage.
- The Commerce Commission is also encouraging distributors to be transparent about opportunities for non-network solutions with new information disclosure requirements that begin to rollout from 31 August 2024.

#### *Potential perceptions of barriers*

- The Authority believes distributors are getting to grips with the opportunities of sourcing demand-side flexibility from third parties. The conservative approach to network management means that distributors often need to trial and test the implications of this approach to sourcing demand-side flexibility. The Authority's work to improve low voltage network visibility will provide the information needed to help accelerate the take up of demand-side flexibility by distributors. Improvements to distributors' information disclosures also support awareness of opportunities for demand-side flexibility from third parties.

#### **Security Standards Assumptions Document (SSAD) review**

- We appreciate the feedback received from SRC on the SSAD review.
- The Authority will prioritise education and communication for the SSAD in the lead up to and as a part of the consultation process through mid-2025.
- As a part of the SSAD review, the Authority will consider:
  - trade-offs between specificity vs flexibility, including the need for the SSAD

- the future roles the Authority and system operator could have in relation to the SSAD
- how often the standards and SSAD should be updated.

### **System Operator annual self-review**

- The Authority appreciates the SRC's advice and will incorporate it into the Authority's review findings.
- The Authority will consider the benefit of an external review of the system operator and may endeavour to include this as a new obligation as it renegotiates the Security of Supply Annual Assessment (SOSPA) in early 2025. We would note that third parties were engaged to look at specific aspects of the System Operator's operations in the latest SOSPA engagement and this has been incredibly useful in those conversations.
- The Authority will continue to work with the System Operator on effective communications and responsibilities during events, including in the annual pan-industry exercise.

### **The SRC's next meeting**

We note the SRC's February 2025 agenda includes a focus on regional resilience. The Authority encourages the SRC to explore ways that the Council can take a deeper thought leadership role in considering and shaping policy settings and industry practice on regional resilience and reliability.

We look forward to receiving your advice on this topic at our April Board meeting and to meeting with you earlier in 2025 to discuss the further evolution of SRC's operations and engagement.

Yours sincerely,



Anna Kominik  
Chair  
Electricity Authority Te Mana Hiko