

22 March 2024

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

Dear Anna,

## Advice resulting from the 22 February 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 February SRC meeting

The theme for the February SRC meeting was *Future Power System Operation* and its impact on security and reliability. To support this theme, the SRC received presentations from:

- Transpower, as system operator
- Transpower, as grid owner
- The Authority's Policy Operations team
- SRC member, Barbara Elliston.

The SRC also reviewed and revised their risk radar, a copy of which is included in the minutes for the February meeting.

This letter is the SRC's advice arising from the meeting.

### Future Power System Operation

The SRC chose the theme of future power system operation to reflect on general assumptions about the power system and test their relevance against future-state security and reliability risks.

Presentations from Authority staff noted current and proposed initiatives to address security of supply risks across short-, medium- and long-term horizons. Key among these are monitoring and related actions aimed at increasing the level of information available to the industry and regulators to enable appropriate planning and timely investment.

While the SRC supports these initiatives, there is risk of complacency if they create a perception solutions will be forthcoming without further action. The various roadmaps and pathways are important for guidance and a call to action, but targeted and timely action is needed to effect the changes to support the transition. The SRC strongly supports this work and encourages industry to engage meaningfully in it through cross-sector collaboration.

It is positive to see the Authority's increasing focus on demand response and its ability to respond to peak demand and reduce the likelihood of inefficient investment in grid and network upgrades.

Innovative products and services, aimed at reducing cost and maximising efficiency, are also critical to ensuring consumers have confidence and can choose energy options and control solutions best suited to their needs. The SRC looks forward, for example, to insights from the Authority's demand-side flexibility survey, as to needed action across the sector.

SRC members were pleased to hear about the system operator's focus on workforce development, to retain existing talent and attract fresh thinking. The SRC have asked the secretariat to revisit the workforce theme at a future meeting to maintain its lens on this important issue. The SRC acknowledges recent executive changes at both system operator and grid owner and welcomes the strong focus on grid strategy and future system operation across the separate divisions within Transpower.

The SRC strongly encourages the Authority to engage meaningfully with the new government to clearly understand its policy approach and to ensure the government receives quality information and advice from its electricity regulator.

The SRC has also invited the Minister and MBIE to its May meeting, seeking views on the *Electrify New Zealand* plan, consenting reform, the tree regulations review and its gas policy. This will be an opportunity for the government to lay out its plans and for the SRC to directly express their frustration about perceived delays in the tree regulations review and an overall strategy for the sector.

## Incentive gaps in the electricity sector

Barbara Elliston's paper highlighted examples of incentive gaps in the electricity sector, as the pace of technology challenges our existing approach to how the system functions and how consumers interact with it.

The paper notes issues with existing electrical wiring standards, earthing architecture, vehicle to grid (V2G) charging and power system design. It also asks the big question of who should look at these issues and whether those most appropriate may not be incentivised to do so.

The secretariat will share the paper with Authority staff to consider whether the issues require further investigation and action. The SRC considers there is a role for the Authority to advocate a view on the issues raised, including who may be in the best position to deliver the work.

## Market Operations Committee

Members appreciated hearing from the Market Operations Committee Chair, Lana Stockman, on the Committee's approach to its work, including the System Operator Service Provider Agreement (SOSPA) review starting later this year.

As the SOSPA is the largest contract the Authority holds, the Authority needs to ensure it is the best contract to deliver positive outcomes that benefit consumers. This requires mechanisms in the SOSPA that align with Authority policy and support its strategic aims.

The SRC acknowledges the Authority's commitment to consider an independent review, as part of the system operator annual review. The potential benefits, as outlined by the

Authority in their response, speak for themselves. From the SRC's perspective, the sooner an independent review can be undertaken the better, so learnings can be fed into future Authority contracts and included in future system operator self-reviews for additional monitoring and oversight.

## Winter – update on initiatives and security of supply forecast

SRC members appreciated the winter presentation from Authority staff. There was a good level of detail in the presentation, giving relevant information and bringing clarity to the security and reliability issues we face during the transition.

The SRC have added a pre-winter update to its Q4 (October) agenda each year, to increase visibility of any issues and provide timely actionable information.

One issue concerning members is the ongoing potential impact of a single point of failure on system resilience. This is increasing in criticality as existing assets age and costs of maintenance, repair and replacement increase across the world. The SRC encourages the Authority to ensure this risk is well understood and is being managed by the sector.

SRC members remain concerned about the upstream gas supply situation and the potential legacy of government policies that create uncertainty over gas' role during the transition to a low emissions future. Concern also remains as to the readiness of the industry, regulators and participants for the length of the transition and what this means for gas investment and infrastructure. The SRC has included a gas deep dive for its May 2024 meeting to better understand the issues.

There is still coordination needed to ensure information reaches those that need it for critical decisions. Where coordination is not working or appropriate, the Authority should consider mandating disclosure via the Code, for example, the Authority's gas disclosure initiative could include fuel availability generally.

## The SRC's next meeting

The theme for the SRC's Q2 (May) meeting for 2024 is the new government approach for the sector and a deep dive on gas resilience.

The aim is to increase understanding of the government's aspirations for the sector, especially through the transition, and support the SRC's advice to the Authority.

The SRC welcomes suggestions from the Authority about its forward work programme.

Yours sincerely,



Hon Heather Roy  
**Chair of the SRC**

cc: SRC members, Grant Benvenuti and James Blake-Palmer (Authority)

16 May 2024

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 22 March 2024**

Thank you for your letter of 22 March 2024 that gives the SRC's advice arising from its 22 February 2024 meeting. The Board of the Electricity Authority Te Mana Hiko (Authority) considered all the advice at its 30 April 2024 meeting.

### **Future Power System Operation**

The Authority values SRC's ongoing focus on future power system operation.

The Authority's Future System Operation (FSO) workstream is an important part of the broader Future Security and Resilience (FSR) work programme to manage the transition challenges ahead. I can confirm that consultation has now closed on the FSO consultation paper and we will be bringing the results and thoughts around next steps to you for further discussion.

We are grateful for the SRC's feedback on the earlier stages of the FSR roadmap. As you will be aware, the FSR provides a roadmap for the Authority and the sector, including pan-industry collaboration and specific actions, especially between the Authority and system operator. In response to the point in your letter about targeted and timely action, we believe the roadmap will support and help drive innovation and investment through clear signals of a responsive regulatory environment. There is always more we could be doing and we welcome the SRC's ongoing feedback on additional options and/ or gaps.

I am pleased that the Authority continues to make progress on actions on the roadmap, including reviewing the common quality requirements of Part 8 of the Code (the Part 8 Code review). Stakeholders indicated this was the highest priority activity on the roadmap. Amending Part 8 of the Code has wide-reaching implications and will also go some way to address some of the other challenges identified in the roadmap. An issues paper was published last year. Staff are working with the system operator and the Common Quality Technical Group (CQTG) on options to address the seven issues identified. The consultation on options is expected by the middle of the year and we will be progressing this as quickly as we are able.

In addition to the roadmap, the Authority published nine indicators in 2023 to monitor the changes to the power system as we transition to a highly renewable system. For example, the indicators monitor the increased use of distributed energy resources (DER) and changes to the system inertia. The indicators confirm the review of the common quality obligations in the Code is being done in a timely manner to enable new technologies and address bi-directional power flows.

Regarding the demand-side flexibility survey, the Authority Board has received an update and an update will be available to SRC for its May meeting.

The Authority is pleased to hear the Minister for Energy and MBIE have accepted the SRC's invitation to attend and present at the SRC's May meeting. We have asked staff to ensure appropriate support for the Minister's visit.

## **Incentive gaps in the electricity sector**

The Authority fully endorses the SRC's approach of giving departing, long-term SRC members an opportunity to provide a candid view of areas of risk and prioritisation. We all benefit from the exchange of ideas, and the knowledge and experience of our senior industry people. The paper discussed at SRC's February meeting noted several issues and this has been shared and discussed with Authority staff and at the Board.

Several of the areas of risk noted in the paper have been focus areas for the Part 8 Code review. One of the key issues identified during this review is the governance and management of harmonics on the power system. With the rapid increase of inverter-based resources, harmonic distortions are expected to become more acute over time. As these distortions can affect the security of the power system, the Authority wants to ensure standards, regulation and the Code are adequate to manage them.

The responsibility of the current standards and regulations on harmonics is shared between the Authority, the Ministry for Business Innovation and Employment (MBIE), and WorkSafe NZ. To address this issue, changes are needed to the Electricity (Safety) Regulations 2010 (Safety Regulations), which are administered by MBIE, then the necessary consequential changes can be made to the Code by the Authority. The Authority have met with MBIE and WorkSafe NZ and there is agreement this is an issue. Our hope is that work on the required changes to the Safety Regulations will be prioritised and we will continue to monitor and report on progress.

The Authority thanks and recognises Barbara Elliston and Mike Underhill for their valued input on the SRC. The Authority acknowledges both members' commitment and many years of service as well as their passion for our sector.

The Authority also welcomes new members, Karen Frew and André Botha to the SRC and looks forward to their input.

## **Market Operations Committee**

The Market Operations Committee Chair Lana Stockman appreciated the opportunity to talk with SRC members and outline the committee's approach to its work. Authority staff are aware of the need to ensure that our advisory groups and sub committees are engaged early to maximise the opportunity for those groups to provide timely and well-reasoned advice. The direction and scope of work is better informed with your input.

We acknowledge the SRC's support for the independent review of the system operator as a part of system operator annual review. Following the agreed review process, staff will provide the SRC with the system operator self-review for comment, likely around August this year. Following SRC comment and internal review, staff will consider the need for an independent review of the system operator.

The Authority agrees that the SOSPA is a critical contractual mechanism for ensuring the wholesale market is operated in a forward thinking and flexible way. This must ensure that security and reliability is delivered in the most efficient manner. The SOSPA re-negotiation team comprises members from across the Authority's Market Policy, Commercial Management, legal, finance and risk management teams. This broad range of experience and viewpoints is key to ensuring that the

system operator's obligations and incentives are aligned with the Authority's strategic aims for the market.

## **Security of supply in winter 2024 and beyond**

The Authority welcomes SRC feedback on the Authority's winter initiatives and security of supply forecast and is pleased to hear the February presentation was well received. As previously noted, the Authority supports the SRC including a pre-winter update in its Q3 (October) agenda.

As noted in my letter of 8 January and the presentation, the Authority is prioritising security of supply work so we move away from a winter-to-winter approach and towards a roadmap for improving security of supply over the short, medium and long term.

The road map will guide the Authority's work programme and ensure that progress against security of supply outcomes can be clearly measured, monitored and communicated. Staff will be engaging with the SRC for feedback on the draft roadmap ahead of the SRC's May meeting.

Following concerns regarding peak capacity coordination issues through winters 2022 and 2023, the Authority consulted on potential solutions to address these issues in January 2024<sup>1</sup>. In parallel with this consultation, the Authority issued a demand response survey, inviting flexibility resource owners and operators to indicate their potential availability and expected price sensitivity of their loads. The consultation generated significant industry interest and 31 submissions were received. Analysis of these submissions is underway and a final decision will be presented to the Board in June.

Since I last wrote to the SRC, I can confirm the Authority will be making permanent all four initiatives put in place to enable participants to better manage winter peak supply issues. The secretariat can update the SRC on the detail in its updates for the SRC's May meeting.

In response to the SRC's concerns around a single point of failure, this issue is captured in the system operator's principal performance obligations, which the Authority monitors. This includes the safeguards of the *N-1* security standard the SRC is familiar with, together with the system operator rolling outage plan (SOROP) and Automatic Under Frequency Load Shedding (AUFLS) regime requirements.

From a capacity perspective, the Authority is working with the system operator to review the New Zealand Generation Balance (NZGB) reporting to ensure it credibly reflects the potential impacts of an unexpected loss of supply. The communication and implementation of the scenario analysis provides a forward view of potential capacity issues should the loss of the largest single source of supply eventuate. This information enables participants to manage outage timings and durations to mitigate system risk.

As discussed, when we met, the Authority encourages the SRC to consider the general availability of gas, as part of its gas resilience theme in its May agenda, to gain additional perspectives, aid the discussion and inform its advice. Staff are currently working with the Gas Industry Company to review the gas contract disclosure rules in the Code. These rules are critical to ensuring that all participants have access to the information they need to manage their supply risk and allow the Authority to effectively monitor and respond to potential security of supply issues in a timely manner.

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<sup>1</sup> <https://www.ea.govt.nz/projects/all/managing-peak-electricity-demand/consultation/potential-solutions-for-peak-electricity-capacity-issues/>



Another useful point of enquiry could be for the SRC to consider gas industry roadmaps, to gain a meaningful sense of time horizons relevant to gas' role in electricity generation through the transition.

Further to this monitoring work, staff are also working with the system operator to ensure that the energy risk curves (ERCs) reasonably reflect the energy risk situation as it is impacted by the contracted position of gas fuelled generators. The Authority considers that the information used in the generation of the ERCs should result in a credible worst-case energy supply view to ensure that industry response is appropriate.

To complement the deeper discussion on the coming winter, scheduled at each October meeting, the Authority would like the SRC to regularly consider security of supply forecasts and related information to become familiar with the trends over time and to consider anomalies in these trends. This would also be able to inform the SRC's risk radar, enable more timely advice and capture issues potentially arising during Q1 and Q2.

Input from Authority staff can be arranged through the secretariat, with support from the Authority's operations policy and monitoring teams.

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

The Authority looks forward to the SRC's feedback from the Minister's visit and on gas resilience, as well as other advice that may arise. As discussed in our in-person meeting, there may also be value in a future meeting of looking at the impact of insurance risk and increased severe weather events on security of supply for the future.

Personally, I want to thank you for your focus and hard work that has gone into raising the bar on how the SRC supports the Authority's work and thinking. It is good to see the SRC and the Authority working more closely and strategically to identify, define and investigate issues in our energy sector. I hope that you feel the same sense of increased momentum and focus that we do.

We are committed to continuous improvement, so keep the advice and feedback coming!

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Anna Kominik', written in a cursive style.

Anna Kominik  
**Chair**  
Electricity Authority Te Mana Hiko