

Meeting Date: 23 May 2024

A LONG-STANDING SRC MEMBER'S PERSPECTIVE

SECURITY AND RELIABILITY COUNCIL

This paper introduces a paper from SRC Member, Mike Underhill with his perspectives on the areas of priority focus for the sector, including the roles of the SRC, the Authority and government.

Note: This paper has been prepared for the purpose of the Security and Reliability Council (SRC). Content should not be interpreted as representing the views or policy of the Electricity Authority except where specifically noted.

A long-standing SRC member's perspective

1. Introduction

- 1.1. Long-standing SRC member Mike Underhill has kindly agreed to present a paper with his perspectives on the role and focus on the SRC, the Authority, the government and other parts of the sector.
- 1.2. In his paper, Mike Underhill gives his candid observations about the SRC and the issues impacting the sector, including tree regulations, demand-side solutions, and industry leadership.
- 1.3. The paper concludes with suggestions to address some of the concerns raised.
- 1.4. Members are encouraged to consider additional areas of focus or methodology, ask questions, and provide feedback that may support the SRC's advice to the Authority.
- 1.5. The paper is included as Appendix A to this paper.

2. Questions for the SRC to consider

The SRC is asked to consider the following general questions.

- Q1. What further information, if any, does the SRC wish to have provided to it?**
- Q2. What advice, if any, does the SRC wish to provide to the Authority?**

3. Appendix A: Mike Underhill's paper

Observations on the SRC

This paper is written in response to a request to present my views on security and reliability issues now that I have completed my term on the SRC.

This brief paper raises some of the issues that I think are important for the SRC to address.

Many issues can affect reliability and security of supply in the short, medium and long term. SRC considers expert papers, has a detailed risk radar and is made up of competent and experienced members from across the industry and its customers. It is well chaired and is supported by capable EA staff. So why is it that the SRC/EA unable to address, in a timely manner, key threats to reliability and security (RS).

This paper considers a few examples that have the most impact on RS, to illustrate this, and makes some suggestions as to how performance could be improved.

SRC's influence goes up the policy/ regulatory chain through EA management to the EA Board to MBIE to the minister and to the industry participants and eventually to customers.

Trees

Most customer outages occur due to incidents on the distribution networks and an increasing majority, driven by climate change, are due to vegetation and trees particularly in provincial NZ. Trees and the regulations for trimming them have proven to be a major blockage to addressing this growing impact on reliability.

The SRC have raised this issue on a number of occasions over the past 10 years only to have it continually vanish into a black hole in MBIE. Megan Woods made a promise that the regulations would be updated last year and now Simeon Brown has made a similar promise, hopefully with more impact. In the meantime, customers are facing more outages and a tidal wave of tree hazards is building up.

On average customers suffer from 150 minutes of outages per year from distribution faults which is so much higher than outages from elsewhere in the sector. Why is this not more of a focus for the SRC?

Climate Change

Climate change impacts are visibly increasing with flooding, inundation, temperatures and wind increasing in ferocity and volatility. These are and will have growing impacts on Transpower and distribution networks. The most obvious challenge is that currently accepted design standards will not meet the new climate impacts, both in location and exposure. We have seen the impact of cyclone Gabrielle but also higher temperatures derate equipment and reduce capacity to supply.

The challenge with improving design standards is that they must be applied to existing infrastructure as well as new. This will be a particularly expensive exercise.

The transfer from high carbon fuels to renewable electricity is a major plank in the delivery of NZ's mitigation programme but is a major financial challenge which has been made worse by our traditional supply side focus.

One of our key failings has been our inability recognise and introduce demand side solutions.

Demand side solutions

The irony of the demand side or customer solutions is that they have existed for many years. We are all familiar with the use of ripple control. But we also use the demand side as our final back stop to system failure eg AUFLS and system operator instructions to shed load.

We all remember our high school economics of supply and demand, but we have not taken the initiative to develop this until recently. What are the blockages in the EA that stop us from developing this and we also need to be mindful of action needed for future new issues.

Margins

As prudent operators the industry have established capacity and energy margins to provide cover for unexpected events. Our operating and planning objectives are to ensure that we never breach these margins. The fact is that we have had a number of breaches. In spite of SRC calling on several occasions for this to be addressed no clear solutions have been found.

This is concerning as there seem to be market solutions such as paying stand-by for slow start thermal generation to run on at-risk days.

The challenge for SRC is why is this taking so long.

Black Swans

Covid, cyclone Gabrielle and August 2021 are examples of black swan events with significant impact on NZ and of course our industry. I believe our industry performed magnificently in response to these events. The challenge is how can we best prepare for such unpredictable events?

I believe that there are common elements of a black swan that can be investigated and planned for.

EA Industry Leadership

Our industry is going through a quantum leap of change both from a customer perspective and industry investment. Old operational and regulatory models are under challenge.

The public and the media want to know what is happening and there are poorly qualified “experts” ready to provide commentary. RS is of particular interest to the media, particularly if it is a story where some blame can be attached.

I see a critical role for the EA to be the unbiased industry source of trusted information. The EA is best able to see the big picture, the trade-offs and the challenges facing the industry. I would like to see the Chair and CE of the EA taking up this leadership role.

Speaking Softly

Why is the SRC so polite in its letters to the Board and why are they so polite in their responses? Does this also happen when the Board briefs MBIE and MBIE briefs the Minister. We have a number of serious and urgent issues where politeness fails to deliver the message.

It feels like there is a public sector culture to avoid putting blunt messages into government sector communications to avoid being caught out for inaction. My view is that a failure to spell out the need for action leads to an equally bad set of outcomes.

Affordability

In these times of cost of living “crisis”, affordability is a serious issue for many customers and not just vulnerable residential customers. My view is that affordability is a RS issue because if you cannot afford supply, the impact on you is the same as a loss of supply due to system issues.

There is a view that affordability is a social welfare issue and not part of the electricity sector’s concern. I disagree.

Customers are the reason our sector exists and we have had a poor record of customer service, which has historically led to a number of complex Government interventions. Large parts of our industry are Trust owned and have customers as their beneficiaries.

I would like the SRC to make the call as to what their roll should be in the affordability issue.

Conclusions

I put forward the following suggestions to address some of my concerns

1. We institute a red flag regime where really critical issues that need policy or procedure development are flagged to the EA Board and if they agree then red flagged to MBIE or the EA for authorising action. This would require regular reports back to the SRC on progress. We already have procedures in place to let MBIE and the minister know if there is a real and present danger situation.

2. Our communications when required should be blunt and action focussed.
3. Affordability sits uneasily within the SRC. We should resolve whether it is part of our mandate. I believe that it should be.
4. After years of inaction the EA is starting to address demand side management. This is a critical red flag and progress should be regularly reported back to the SRC.
5. Energy is such a large part of NZ's future and as such deserves to have the best advice. MBIE needs to have staff with industry experience and an action focussed culture. As an example their proposal to develop an energy plan over 4 years compared poorly to the 3 month exercise that BCG undertook
6. I would like to see a group consider black swan events to determine what if anything can be generically planned in advance to mitigate the impacts
7. I would like to see a public communication function being built into the EA board chair and CEO role so that the media and public can have access to authoritative and unbiased information.

Mike Underhill

29 April 2024