

Security and Reliability Council ::: Meeting Number 21

Venue ::: Level 7, ASB Bank tower, 2 Hunter Street, Wellington

Time and date ::: 9.30 am ::: 6 November 2017

Minutes

Members present

::: Mike Underhill (Chair)
 ::: Nigel Barbour (by telephone)
 ::: Barbara Elliston
 ::: Marc England
 ::: Bruce Turner
 ::: Erik Westergaard
 ::: Guy Waipara

Apologies

::: Anne Herrington
 ::: Vince Hawksworth

In Attendance

Name	Title	Agenda item # attended
<u>Electricity Authority (Authority):</u>		
::: Carl Hansen	Chief Executive	#1-11A (9.30 am – 12.00 pm)
::: Rory Blundell	General Manager Market Performance	#1-11A (9.30 am – 12.00 pm)
::: Grant Benvenuti	Manager Market Operations	#1-11A (9.30 am – 12.00 pm)
::: Callum McLean	Adviser System Operations	#1-11A (9.30 am – 12.00 pm)
<u>Transpower:</u>		
::: John Clarke	System Operations General Manager	#6,8 & 11 (9.38 am - 11.25 am)
::: Leigh Westley	Markets and Business Manager	#6 & 11 (9.38 am - 10.50 am)
::: Matt Copeland	Power Systems Group Manager	#8 (10.50 am – 11.25 am)
::: Stephen Jay	Grid Development General Manager	#10 (11.25 am – 11.45 am)
::: Stephen Jones	Strategic Asset Manager	#10 (11.25 am – 11.45 am)

Welcome and apologies

The meeting opened at 9.32 am.

1. The Chair welcomed members to the twenty-first meeting of the Security and Reliability Council (SRC).

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- The Chair noted the apologies received from Anne Herrington and Vince Hawksworth.

Administration

Changes to disclosure of interests

- Erik Westergaard verbally advised the SRC of a new interest: he will be chairing a technical working group on the topic of distribution pricing.
- The Chair reviewed the latest interests register and Mr Westergaard's verbal disclosure. The Chair considered that those interests would not lead to a conflict and approved members to act despite those declared interests.

Previous minutes

- The minutes of the 28 July 2017 meeting were accepted as a true and accurate record.

Mike Underhill moved, Bruce Turner seconded.

Action list

- The secretariat spoke briefly about action items 4, 6 and 8.
- In relation to action item 7:
 - a member asked whether it was on track for 13 December 2017 and how complex it was. The secretariat responded that it was on track and the SRC's advice would be valuable on this moderately complex event
 - a member noted their apologies for the 13 December 2017 meeting
 - a member requested the secretariat to ensure papers are sent out with sufficient lead-time for members' consideration.

ACTION

- The secretariat is to include a glossary with every set of SRC papers that sets out the acronyms and definitions used.

Correspondence

- There were no questions in relation to the correspondence tabled.

Security of supply

Security of supply activities 2018/19

John Clarke and Leigh Westley joined the meeting at 9.38 am

- Authority staff spoke to the slides. The memo to the industry summarising five upcoming projects in the security of supply area is expected to be sent out on 28 November.
- The group's discussion included the following.

- a. The two-way linkages between security of supply and risk markets. Authority staff agreed and noted the Authority's ongoing support and promotion of futures markets.
- b. Authority staff noted the Wholesale Advisory Group has provided advice on the monitoring of futures market-making and their focus has so far been on self-disclosure. The buy/sell spread is part of the Authority's review of winter 2017. The SRC considered that the Authority's review should ask:
 - i. how well the market responded to the situation
 - ii. how well security of supply was managed during the situation
 - iii. how 2017 compares against other benchmarks or counterfactuals, such as 1992, 2001, 2008 (and bear in mind the promises made to the public after many of these years).
- c. Whether there were major improvements the Authority should be making to improve security of supply (such as seeking further assurance that Waikato/Upper-North Island voltage doesn't manifest as a security issue) or whether fine tuning was all that is warranted. The members agreed that the market managed the risk and got through a tight period pretty well.
- d. The different timeframe over which different risks can manifest as issues: grid development takes years and relates to assets that last many decades; hydrology risks manifest over weeks and even faster in the futures markets.
- e. That the HRCs are predicated on (amongst other assumptions) very high output from thermal generators. While it may be a necessary and suitable approach to base the HRCs on the boundaries of what is possible, there is a downside that needs to be considered. That downside is that the HRCs are not helpful to people outside the industry and this puts any party trying to explain it on the back foot. The Authority should consider how to ensure short-term security of supply can be successfully communicated broadly and that should be part of the design parameters when considering changes to the regime.
- f. That the loss of 1000MW of thermal over the years has been largely offset by wind and geothermal generation, but this lacks the same flexibility.
- g. That the increase in standby residual notices in the last year reflects evening issues relating to 'wet' hydrology where high hydro output is associated with lower spot prices and consequently less thermal generation committed.

Summary of winter 2017

11. System operator staff provided a short summary of winter 2017. Winter 2017 was the closest hydro storage has gotten to the 4% HRC since 2010. The positives that came out of the situations were:
 - a. got through a tight period without too much difficulty
 - b. the grid performed well with few constraints and high southward HVDC flows achieved
 - c. road-tested the security of supply arrangements.
 12. The SRC asked about and discussed hydrology since the SRC's July meeting. Since July, storage went well above seasonal average, but dry conditions over the last month have storage to close to the seasonal average. The snow pack is below the 25th percentile for the seasonal
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average, so there may be lower inflows than usual. Futures prices for 2018 have risen in the last month – indicating the market is pricing in risks of higher spot prices.

13. A member was concerned that too much focus on New Zealand-wide HRCs may distract attention from the South Island security of supply risks. 2017 was a period of high inflows in the North Island, increasing the South Island's risk relative to the North Island.
14. A member asked the system operator to publish more information about how transmission line ratings can and/or will be applied in dry periods. A system operator representative noted that ratings are calculated dynamically and only key circuits have variable line ratings. The benefits of variable line ratings are frequently limited due to special protection schemes being in place.
15. A member asked the system operator about the testing or questioning of participants' rolling outage plans. A system operator representative noted that participant rolling outage plans are a Code requirement (through the system operator rolling outage plan) and the system operator was simply sending a timely reminder to distributors to ensure their plans are up to date and they are prepared to implement rolling outages if required.
16. The Chair reiterated an earlier discussion point about the importance of good communications as part of good design and questioned the Authority on its view of how the industry's reputation fared from winter 2017. An Authority representative responded that the industry reputation has improved since 2008, but that it took a light setback in 2017 due to the inaccurate television report of the system operator's teleconference as a 'crisis meeting'. One positive to come out of the dry period was that twenty thousand consumers on spot price were exposed to a period of elevated prices and both they and the media learned more about how price responds to dry periods.
17. The SRC noted that, in general, the power system and market arrangements had operated as intended during winter 2017.

Performance of the system operator

Performance of the system operator for the year ending 30 June 2017

18. Authority staff introduced the paper, noting that:
 - a. the Authority's description of the system operator's performance and associated recommendations is a draft that hasn't been reviewed by senior management or governance within the Authority
 - b. the Authority and system operator have had only preliminary discussions about the findings and there are some points made that the parties wish to discuss further before the Authority Board is asked to finalise the Authority's review
19. In terms of the five recommendations made Authority staff noted:
 - a. the first (about security of supply) was broadly agreed upon with the system operator, though the final wording may change
 - b. the second (about alignment with the strategic plan) is a carry-over from last year's recommendations and likely to remain
 - c. the third (about reporting of risk management) is also a carry-over and regarded as a reporting issue rather than any concern about the system operator's risk management

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- d. the fourth (about the success of the real-time pricing project) is pure praise about an exceptionally well managed project and has no slight implied about other system operator projects, as all projects have been well managed this year
 - e. the fifth (about the system operator's economics capability) is subject to further discussion with the system operator and is likely to be reworded or removed.
20. The SRC's discussion about system operator performance included:
- a. that, overall, performance seems to be good and trending the right way
 - b. that there is always room for improvement
 - c. noting the number of manual errors, to which the system operator representatives responded that there are some automation projects underway and monitoring of trends is in place
 - d. noting that the system operator was rated less 'responsive' than previously in its customer survey, though this was not necessarily a significant change given the overall improvements
 - e. a member expressed confidence that the system operator has a suitable separation from, and collaboration with, the grid owner
 - f. that if the 'tools' referred to in recommendation #1 relate to the market systems, then this may be prohibitively expensive to do. Authority staff responded that this recommendation does not relate to the market systems - it seeks improvements to reduce manual effort but only if there is a net benefit
 - g. that many of the issues under discussion relate to a tightening in the power system, so the SRC should be alert to whether there is less slack in the system and it may be more sensitive to shocks.
21. A member asked the system operator if this review process adds value. A system operator representative saw value in it and was keen to ensure it doesn't become stale through repetition.
22. Members also discussed, but reached no agreement on, the following matters indirectly related to the performance of the system operator:
- a. That the system operator needs to be cognisant that in performing its security of supply role (such as providing information and optimising power flows) it can be perceived as 'solving' security of supply situations. This would lead to eroding the industry's responsibility to provide security of supply through the market arrangements if participants over-relied on the system operator to always coordinate the industry's response to potential issues. The system operator noted that it is aware of this tension.
 - b. The Australian national electricity market is disordered, with too much political attention on a single issue. By contrast, New Zealand's electricity industry attracted little political interest this election year.
 - c. That there is a tension between potential capital investments in grid solutions versus market-led solutions. Attendees noted that:
 - i. Transpower must consider transmission alternatives and can create grid investments if the Commerce Commission approves
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- ii. system operator has, and follows, a conflict of interest policy
- iii. the system operator can propose enhancements to power system management
- iv. one such enhancement was implemented and has a pending legal challenge.

Leigh Westley departed the meeting at 10.50 am, Matt Copeland joined the meeting.

Reliability of supply

Solar PV penetration in NZ

23. System operator staff introduced the emerging technology programme and spoke to the slides.
24. SRC members asked the system operator about the suitability of the assumptions relating to:
- a. North orientation of panels, as most installers are orienting to maximise users' self-consumption rather than total output
 - b. average installation size being 3 kWp, as this seems too low given likely decreases in panel costs
 - c. New Zealand's housing stock.
25. System operator representatives explained that the project tested three types of common inverters and found one of them did not comply with AS/NZS 4777. This inverter type is understood to be used in about 20% of New Zealand solar installations. The SRC were concerned that, if true, this shows flaws in the standards and/or installation process. While it could not be a security issue for many years, there appears to be merit in stronger policing for cheap prevention rather than costly remediation when there are many more non-compliant installations. The members considered that this is a compliance issue with the Electricity Safety Regulations, and is the responsibility of the Worksafe New Zealand.
26. The SRC discussed the potential for impacts on distribution networks, agreeing that overseas examples shows it is possible and uptake is not uniform within or between networks. At least one distributor has been able to use advanced meter data to identify connections with distributed generation that was unknown to the network, though most distributors do not have direct access to this information by default.
27. The SRC discussed other emerging technologies, noting that the work of the GREENGrid project has work underway and parties should take care not to unnecessarily duplicate this.

John Clarke and Matt Copeland departed the meeting at 11.25 am, Stephen Jay and Stephen Jones joined the meeting.

Waikato and upper-North Island voltage management investigation

28. Transpower representatives spoke to the slides provided. In response to questions from the SRC, Transpower representatives noted that:
- a. they are not assuming the Huntly Rankine units will be retired in 2022, just taking a prudent approach
 - b. to avoid capex spend on an additional AC cable across Auckland, Transpower would need to know about the future of the Huntly Rankine units by 2023

- c. to avoid lesser, but significant, capex spend on grid developments other than the additional cable, Transpower would need to know about the future of the Huntly Rankine units prior to submitting its proposal to the Commerce Commission in late-2018 or early-2019
 - d. the additional AC cable across Auckland would be a major grid development, but it is achievable
 - e. Transpower's role is not that of a central planner – its role is to consider all options for maintaining grid capability and reliability.
29. A member asked whether the voltage difficulties manifested in summer only, as in that case using the voltage support potential of inverters at consumers' premises with distributed generation might be viable at little cost.
30. A member contended that the timeline for grid development looks unachievable with little slack for unexpected difficulties such as arise in resource consenting processes. Transpower representatives noted the feedback and pointed out that P90 demand assumptions are being used, so that is likely to allow some additional time.
31. The SRC summarised its likely advice to the Authority Board:
- a. there are some interactions between regulated grid development investments and market-based generation investments and these, in principle, could be uncoordinated at considerable cost to consumers
 - b. in practice, commercial negotiations should lead to further announcements in 2018 in regards to the Huntly Rankine units and this announcement is likely to provide certainty one way or the other
 - c. the future focus of the yet-to-be-established Climate Commission could have a significant effect on coordinated timing decisions
 - d. if the grid voltage issues do manifest only in summertime, the grid owner should investigate using consumers' inverters to manage power system voltages.

Stephen Jay and Stephen Jones departed the meeting at approximately 11.40 am

Regulatory strategies and monitoring

32. The SRC discussed:
- a. the scope and terms of reference of the Council of Energy Regulators
 - b. monitoring of reliability that meaningfully describes consumers' experiences, noting that consumers had 99.975% reliability (or 2.5 hours without power on average)
 - c. how to know whether current high levels of reliability are high enough, noting that different consumers have different tolerances for reliability
 - d. the High Court decision involving the Authority's jurisdiction in relation to distributors
 - e. that consumers have another layer of protection through the Consumer Guarantees Act which has led to some consumer refunds for unreliability
 - f. how the Commerce Commission's strategy to empower third parties to influence distributors.
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General Business

Administration

33. The secretariat reminded the members of the special SRC meeting on 13 December.

All Authority staff departed the meeting at 12.00 pm

34. The SRC discussed the Chair's survey of the members and finalised its correspondence to the Authority to explain the observations and recommendations arising from that survey. Overall the SRC felt well served by Authority staff with a particular mention for Callum McLean.

Meeting close

35. The meeting was closed at 12.10 pm.