

Security and Reliability Council ::: Meeting Number 20

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

Time and date ::: 9.30 am ::: 28 July 2017

Minutes

Members present

::: Mike Underhill (Chair)
 ::: Anne Herrington
 ::: Barbara Elliston
 ::: Bruce Turner (via teleconference from 9.35 am)
 ::: Guy Waipara
 ::: Marc England
 ::: Vince Hawksworth (until 11.35 am and from 11.45 am)

Apologies

::: Nigel Barbour
 ::: Erik Westergaard

In Attendance

Name	Title	Agenda item # attended
<u>Electricity Authority (Authority):</u>		
::: Carl Hansen	Chief Executive	#1-9 (9.30 am - 11.35 am)
::: Rory Blundell	General Manager Market Performance	All
::: Grant Benvenuti	Manager Market Operations	All
::: Callum McLean	Adviser System Operations	All
::: Doug Watt	Manager Market Monitoring	#9 (11.15 am - 11.35 am)
<u>Transpower:</u>		
::: John Clarke	System Operations General Manager	#6-11 (9.38 am - 11.50 am)
::: Bennet Tucker	Market Security Services Manager	#6 (9.38 am - 10.12 am)
::: Daniel Crawshaw	Programme and Performance Manager	#10-11 (11.35 am - 11.50 am)
::: Leigh Westley	Markets and Business Manager	#10-11 (11.35 am - 11.50 am)
<u>Other guests:</u>		
::: Representatives from a metering equipment provider		#7 (10.12am - 11.00 am)
::: Clive Bull	Director of Strata Energy Consulting	#8 (11.00 am - 11.15 am)

Welcome and apologies

The meeting opened at 9.30 am.

1. The Chair welcomed members to the twentieth meeting of the Security and Reliability Council (SRC).
2. The Chair noted the apologies received from Nigel Barbour and Erik Westergaard.

Administration

Changes to disclosure of interests

3. The Chair reviewed the latest interests register. The Chair considered that those interests would not lead to a conflict and approved members to act despite those declared interests.

Previous minutes

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

Barbara Elliston moved, Anne Herrington seconded.

Action list

5. No discussion of action items was required.

Correspondence

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

Security of supply

Current security of supply situation

John Clarke and Bennet Tucker joined the meeting at 9.38 am

7. Transpower staff spoke to the slides tabled at the meeting (Annexure 1 of these minutes). The national hydro risk meter is now set to 'normal'; the South Island hydro risk meter is set to 'Watch' but poised to return to 'normal' status shortly. The hydro risk curves were recently recalculated using the latest assumptions. This winter has set two records: the highest ever south peak (670 MW) flow on the HVDC and the most energy sent south on the HVDC in one day (10 GWh).
8. The group's discussion included:
 - a. that it was confident there was enough storage and system capability to get through to spring inflows, though the situation leaves little security to cope with a major asset outage
 - b. the role of demand response and the suitability of the related assumption, which is a flat and prolonged 2% demand reduction
 - c. the system operator's responses to the security of supply situation
 - d. the effect of weather patterns, wide variance of inflows and inter-seasonal correlations for

the ability to refill the hydro lakes. A member noted that New Zealand has had dry periods starting in November

- e. that dry periods have been less politicised and less hyped by media interest. While regulatory instruments and system operator information have played a role in this, the over-supply of generation in the late 2000's was an important mitigation to the 2012 and 2013 dry periods. Trading and risk tools (enabled by a futures market) were not as sophisticated pre-2010
- f. with respect to the system operator's 2017/18 work programme for security of supply, the group emphasised the high value of having this concluded well in advance of winter (March). The review of contingent storage and sharing information about southward HVDC capability related to the effectiveness of official conservation campaigns (especially compared with HVDC capability in 2010) were considered important.

ACTION

- 1. The secretariat is to provide an update to the SRC on the 2017/18 work programme, including analysis of southward HVDC capability.

Bennet Tucker departed the meeting at 10.12 am, metering equipment provider representatives joined the meeting.

Reliability of supply

Cyber-security posture and management of key risks

- 9. Representatives from the metering equipment provider spoke to their confidential presentation and answered questions from the members.
- 10. The Chair:
 - a. thanked the representatives for agreeing to respond to the SRC's request with their presentation
 - b. noted that the SRC found the confidential presentation very helpful and will provide some advice to the Authority.

Metering equipment provider representatives departed the meeting at 11.00 am, Clive Bull joined the meeting.

Reliability implications of reduced use of high voltage live line work techniques

- 11. The secretariat introduced the paper:
 - a. the Health and Safety at Work Act 2015 (HSWA) has clarified obligations of employers from the governance level down and made successful prosecutions more likely. The industry had already been contemplating live line work and the HSWA raised the stakes for related decisions
 - b. network businesses have difficult decisions to make about whether to work live or deenergised and will be influenced by a wide array of incentives and disincentives, especially the HSWA
 - c. the HSWA weights the trade-off between safety and cost in favour of safety. The cost to

consumers of reduced reliability is on a level footing with other costs, but not on a level footing with safety

- d. does the Commerce Commission's regime imposes any inefficient incentives on the decision-making of network businesses; the Authority's published 'value of lost load' information will assist network businesses' decision-making; there is a residual reluctance to consider live line work among network businesses given Worksafe's previous statements?

12. The group's discussion included:

- a. organisations making decisions within the HSWA context are likely to be guided primarily by the legislation rather than unofficial guidance
- b. the Authority should not seek to regulate or otherwise direct the decisions made by industry organisations concerning live line work
- c. whether the expected reduction in reliability would warrant any changes being made to any security or reliability regulatory instruments
- d. that the report provided some interesting qualitative assessment, but that drawing conclusions or providing advice will not be possible until the Electricity Networks Association quantification has been completed.

ACTION

- 2. The secretariat is to liaise with the Electricity Networks Association to seek quantifiable analysis of the reliability implications of reduced use of HV live line techniques and report back to the SRC on those findings.

Clive Bull departed the meeting at 11.15 am, Doug Watt joined the meeting

Reliability monitoring

13. Authority staff introduced the paper, noting that:

- a. the proposed measures are akin to the temperature gauge on a car: it doesn't tell the user exactly what has gone wrong, but it can provide an indicator that some expert analysis is needed
- b. the Authority looked at what data was already available as it wanted to ensure the proposal was implementable in a reasonable time with minimal effort
- c. there is scope for future development, for example having a dataset available on 'near-misses' within the power system.

14. The group's discussion included:

- a. a member considered that the measures set out in paragraphs 2.4-2.7 (AUFLS events, scarcity pricing, grid warning and excursion notices, and insufficient reserves) would be the useful measures of those proposed
- b. a member considered a measure of energy balance would be a useful addition
- c. a member considered a measure of thermal fuel supply would be a useful addition
- d. a member considered a geographical heat map of reliability would be a useful addition

- e. ideally, measures would include leading indicators for reliability five years out to enable informed decision-making when planning investments
 - f. that the group expects that the relevant reporting will be drawn from existing datasets.
15. The group concluded it would like to receive the proposed measures annually with accompanying commentary.

ACTION

- 3. The secretariat is to prepare a draft report of the proposed reliability measures with associated commentary and present it to the SRC by the second meeting of 2018.

Carl Hansen, Vince Hawksworth and Doug Watt departed the meeting at 11.35 am, Daniel Crawshaw and Leigh Westley joined the meeting.

Performance of the system operator

Performance metrics and incentives for the system operator

16. Authority staff introduced the paper, noting:
- a. the previous system operator service provider agreement was less detailed; accordingly, the performance management provisions were simpler and blunter
 - b. the performance metrics and incentives for 2017-18 are a step-change in the way the system operator's performance is measured
 - c. there are still many aspects for further development and this process will take several years to bed in.
17. The group's discussion included:
- a. that the metrics and incentives are a major step in the right direction
 - b. that the numerous metrics and having the incentive spread over so many metrics may not give the optimal focus for the system operator
 - c. the metrics and incentives appear complicated and this has risks that need to be managed
 - d. the size of the financial incentive appears small relative to the overall cost of the system operator service
 - e. development of metrics for the 'we are smart with money' objective would be desirable
 - f. transparency provides an important incentive, so the arrangements should ensure that instances of poor performance are in the public domain.

Vince Hawksworth re-joined the meeting at 11.45 am

18. The group concluded it would give advice to the Authority that the metrics and incentives for system operator performance are a significant improvement but that the combination of many metrics, all financially incentivised with one relatively small amount risks not giving the optimal focus to the system operator.

System operator's strategy for its service (2017-22)

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19. Authority staff asked the group if they wanted to receive a copy of the system operator's strategy for its service 2017-22 at a future meeting.
 20. The Chair directed the secretariat to distribute a copy to the SRC by email and ask members if they have comments or wish to discuss it at a future meeting.

ACTION

4. The secretariat is to distribute a copy of the system operator's strategy for its service 2017-22 to the SRC by email and ask members if they have comments or wish to discuss it at a future meeting.

John Clarke, Daniel Crawshaw and Leigh Westley departed the meeting at 11.50 am

General Business

Administration

21. The Chair alerted members that he would conduct his annual phone survey of the members concerning the performance of the secretariat.

Meeting close

22. The meeting was closed at 11.52 am.

Annex 1: Security and Reliability Council: security of supply update (28 July 2017)



SECURITY AND RELIABILITY COUNCIL: SECURITY OF SUPPLY UPDATE



TRANSPOWER

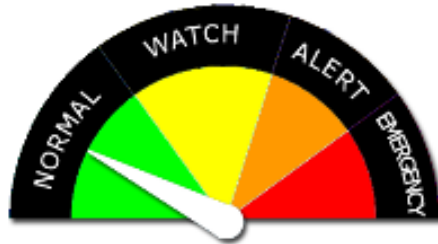
28 JULY 2017

POWERING NEW ZEALAND TODAY + TOMORROW

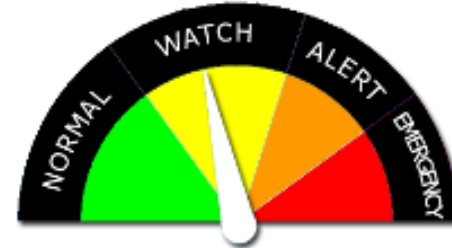
LATEST INFORMATION

- Risk status has returned to 'Normal' at the national level in the last few days

New Zealand Hydro Risk Meter



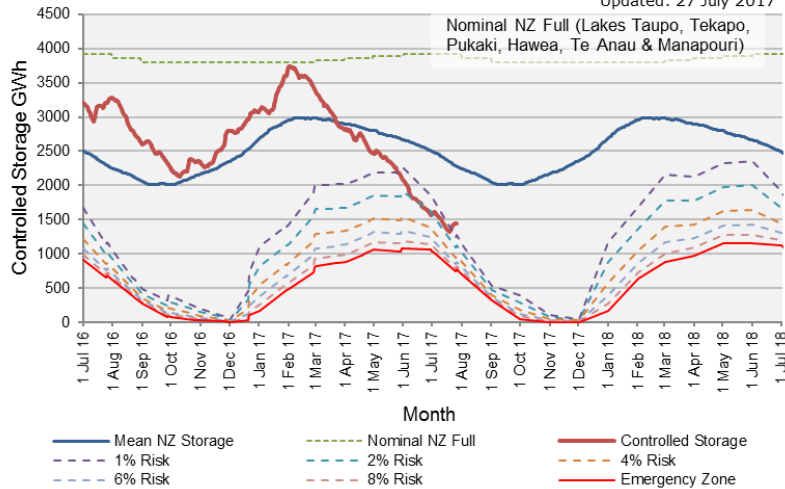
South Island Hydro Risk Meter



HYDRO RISK CURVES

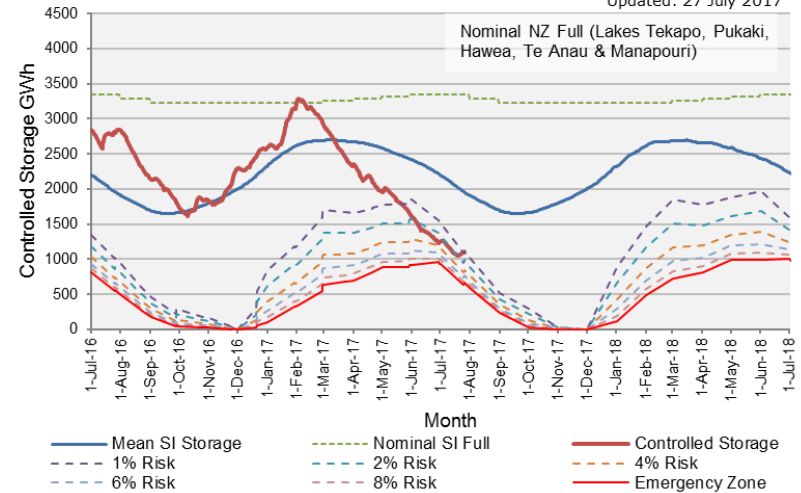
NZ Controlled Storage and Risk Curve

Updated: 27 July 2017



SI Controlled Storage and Risk Curve

Updated: 27 July 2017



2017 DRY WINTER OBSERVATIONS

- We crossed the 1% relatively late in the 'hydro risk' year (late May)
 - However from March to June, South Island inflows were the lowest on record
- Unusual situation of high North Island inflows and low South Island inflows (opposite of recent years)
- From June, we observed significant south transfer and high levels of North Island thermal utilisation
- Very few grid constraints compared to previous dry situations (2001, 2008)
- Some short notice challenges to policy settings, for example an urgent variation to treatment of contingent storage was requested



WHERE TO FROM HERE

- Still relatively high level of risk compared to recent years
- We will continue to monitor the situation closely
- Planning efforts for Official Conservation Campaign and other activities are paused, but not ceased
- Initiating program of work focussing on continual improvement of the security of supply function
- This work will be guided by what we learned this year



2017/18 PROGRAM OF WORK

- Review of the treatment of contingent storage in security of supply modelling
- Review of the validity, and assumptions that support, some aspects of the security of supply framework
 - Annual assessment
 - Hydro risk curves and the actions triggered at certain levels of risk
- Further develop internal and external processes, and carry out preparation activities, to ensure smooth delivery of 'dry winter services'
- Review the presentation of information to industry, especially with respect to the annual assessment

