Security and Reliability Council ::: Meeting Number 11
Venue ::: Level 7, ASB Bank tower, 2 Hunter Street, Wellington
Time and date ::: 9:30 am ::: 20 March 2015

Minutes

Members Present

::: Mike Underhill (Chair)
::: Dennis Barnes
::: Barbara Elliston (via teleconference from 9:45)
::: Vince Hawksworth
::: Judi Jones
::: Bruce Turner
::: Guy Waipara
::: Erik Westergaard (from 9:30 until 10:55)

Apologies

::: Albert Brantley

In Attendance

Electricity Authority (Authority):

::: Carl Hansen, Chief Executive
::: Fraser Clark, General Manager Market Services
::: Grant Benvenuti, Manager Market Operations
::: Doug Watt, Manager Market Monitoring (from 9:40 until 10:00, from 10:55 until 11:40)
::: Craig Evans, Manager Retail and Network Markets (from 10:00 until 10:55)
::: Callum McLean, Adviser System Operations

Transpower:

::: Stephen Jay, General Manager Grid Development, grid owner
::: John Clarke, General Manager System Operations, system operator
::: Dan Twigg, System Operations Manager, system operator (from 10:55)
::: Andrew Gard, Engineering Manager, system operator (from 10:55 until 11:40)
::: Bennet Tucker, Senior Security of Supply Analyst, system operator (from 11:40)

Others:

::: Richard Fletcher, Chair of the Electricity Networks Association (ENA) Quality of Supply and Incentives Working Group (from 10:00 until 10:55)
::: Bill Heaps (from 10:55 until 11:40)

The meeting opened at 09:30 am.

1 Welcome and apologies

1. The Chair welcomed members to the eleventh meeting of the Security and Reliability Council (SRC).
2. Albert Brantley sent his apologies.
3. Erik Westergaard advised he would depart the meeting at 10:55 am.

2 Changes to disclosure of interests- *chairperson*

4. The Chair noted that he has been invited to be a member of a new group: "Drive Electric". He undertook to formally advise the Authority of the appointment so the question of whether it would impact on his independence can be considered.
5. Judi Jones asked that her role as Electricity and Gas Complaints Commissioner be noted as an interest.
6. Erik Westergaard asked that any reference to Buller Electricity be removed from his interests.
7. The Chair reviewed the latest interests register and approved members to act despite those declared interests.

3 Previous minutes

8. The minutes of the 21 October 2014 meeting were accepted as a true and accurate record, subject to the inclusion of suggested changes emailed by two members on 3 November 2014.

4 Action list

9. No discussion on the actions list was held.

5 Correspondence

10. No new correspondence was tabled.

Reliability of supply

6 Verbal update on the 5 October 2014 Penrose substation fire event review

11. Authority and Transpower representatives provided a briefing on the event, noting that even basic facts could be subject to change as the enquiry progresses. The members discussed some aspects of the event.
12. The Chair stated that it was important for the SRC to acknowledge that the briefing was purely for update purposes and that discussions must be focussed on clarification rather than expressing any judgement. The Chair noted this as particularly important because Transpower, but not Vector, is present at the meeting.

Barbara Elliston entered the meeting at 9:45am (via teleconference)

13. The Chair asked when the Authority's report would be due. Transpower representatives advised that the Vector and Transpower report is well underway, though has a dependency on overseas cable experts completing their report on the cable that failed. This is likely to impact on the timing of the Authority's report, as the Transpower and Vector report is expected to be an important input. The secretariat is expecting to schedule a meeting for the first half of May to have the SRC consider the Authority's report.

Craig Evans and Richard Fletcher entered the meeting, and Doug Watt departed the meeting, at 10:00am

7 Winter 2014 grid emergencies review

14. Authority staff introduced the paper and commented that, while the issue started out looking like a forecasting problem with the system operator, it turned out that there are genuinely intractable problems with such forecasting. The main issue highlighted by this report was transmission pricing disincentivising South Island generators offering all of their capacity unless a 'grid emergency notice' was issued by the system operator.

15. The Chair queried the meaning of "increasingly tight supply conditions" on page nine of the paper and whether this is a problem for the market. Authority staff responded that the shape of the supply curve has sharpened due to greater unavailability of thermal generation but were unable to say whether this was a problem.

16. The members discussed the paper further. Comments included:

    a) it seems to be more a of pricing matter than a security issue

    b) the security issue shouldn't be overstated, as there is a mechanism for releasing extra generation capacity that overcomes the problem caused by the transmission pricing methodology

    c) the extra generation capacity is only available if the system operator's grid emergency notice is issued in time to enable the extra generation to get online in time

    d) the SRC needs to be careful not to get into discussing the merits of the transmission pricing methodology.

17. A Transpower representative noted that the grid emergencies highlighted an opportunity for possible reliability improvement, as the system operator may need to shed load before the extra generation can get online.

Question 1: Does the SRC agree that the Authority's report on the winter 2014 grid emergencies has accurately established the key facts relating to the events?

18. Agreed.

Question 2: Does the SRC agree with the conclusions that the Authority drew from the facts relating to the events?

19. A member highlighted the broader context: more renewable generation and less demand, resulting in less thermal commitment due to it becoming uneconomic. Members agreed that the report does not adequately explain this context and that this sharpening of the supply curve is a lead indicator of the longer-term prospects for baseload thermal generation.

20. Authority staff noted that the report does consider options broader than the transmission pricing methodology (such as ex ante pricing) and that the spot market review consultation is due out soon. A member noted that if demand-side turns off due to price, then parties are following spot market incentives.

Question 3: What advice, if any, does the SRC wish to provide to the Authority?

21. The SRC agreed that no advice needed to be given to the Authority on this topic.

8 Results of the Authority's investigation on the value of lost load (VOLL)

22. The Chair queried if the executive summary is a fair reflection, as the SRC did not receive the extensive

report. Authority staff confirmed it is fair and went on to note:

a) the report has developed a methodology for establishing the value consumers put on lost load, which had previously been guessed to be $20,000 per MWh for all consumers

b) the survey methodology is far superior than previous methods, and is used in other jurisdictions including Australia

c) there are no further plans for work on this topic

d) it is a complex task, however there are significant benefits to doing it well.

23. A Transpower representative asked how this report fits with the work of the Commerce Commission. Authority staff responded that that the research had been shared with them but ultimately it is the Commission's decision on whether to adopt it. A member asked Transpower whether it uses this in grid planning. Transpower representatives responded that they use the $20,000 per MWh figure that the Commerce Commission specify.

24. A member asked whether the report distinguished between planned and unplanned outages, noting that this (along with customer location) can make a large difference to the consumer experience (as evidenced by the reaction within retail call centres). Authority staff responded that the survey methodology identifies the VOLL at the worst possible time for a consumer and so does not distinguish between planned and unplanned outages. Results have been provided for Auckland, Christchurch and Taranaki. Results could be provided for other New Zealand regions.

25. A member asked whether seasonality had been taken into account. Authority staff noted that seasonality is a variable included in the survey design and noted that the highest peaks of seasonality of costs are included.

26. A member asked whether the costs are a national cost to the economy or direct customer costs. Authority staff responded that it includes the direct and indirect costs to the customers surveyed, but not of flow-on effects to the economy.

27. A member commented that they've seen no evidence this VOLL work is flowing through to regional investment decisions.

9 Quality of Supply and Incentives Working Group (QoSI) update

28. The SRC Chair introduced the members to the ENA's QoSI Chair.

29. A presentation was given by the QoSI Chair, including a background to their work. A question and answer session followed.

30. A member asked if the statutory guarantee of quality in the Consumer Guarantees Act was looked at through the QoSI's work. The QoSI Chair responded that it had not, but that there seemed to be merit in doing so. SRC members agreed it should be considered. Members discussed that the test of compliance with the Consumer Guarantees Act is triggered by the consumer making a claim.

31. A member asked whether the QoSI's work had identified if other distributors consult like Powerco does with the Taihape community about transformer upgrades. The QoSI Chair responded that the work hadn't and that there would need to be a poll of companies to understand this.

32. A member commented that future-proofing for technology will be important for the QoSI's work.

33. A Transpower representative queried what the main points/conclusions from the QoSI's work are. The QoSI Chair explained that this is largely a matter for each company to determine for themselves. Putting

his Powerco hat on, he noted that growth in renewables is putting pressure on the network and there is a strong need to demonstrate value for stakeholders. This may cause some companies to look at the Commerce Commission's customised price paths rather than the default price path.

34. The Chair noted that the Energy Efficiency and Conservation Authority has commissioned research that shows that the public perception of outages in recent years is driven by distribution outages. The QoSI Chair responded that disaggregated reliability measures would be enable industry to give a more accurate and/or meaningful message to consumers. The Chair queried if it was possible to get an industry-wide view out of the QoSI's work. The QoSI Chair responded that ENA has specific needs from this work and those needs are focussed on the distribution sector. However, that need is not necessarily in conflict with developing an industry-wide view of reliability and that is a secondary goal that ENA would support. A member questioned the cost of this detailed level of reporting (noting that VOLL is a positive step) and whether consumers want this info or benefit from this.

35. The Chair thanked the QoSI Chair for the presentation and queried if he would be able to come back and report on future progress. The QoSI Chair confirmed that they would.

Doug Watt, Bill Heaps, Andrew Gard and Dan Twigg entered the meeting, and Erik Westergaard, Craig Evans and Richard Fletcher departed the meeting, at 10:55am

10 12 November 2013 AUFLS event review

36. An Authority representative introduced the topic and the Authority's event review report, noting that there are several points of agreement on the report's conclusions, but given time constraints of the meeting it would be good to test the point of disagreement with the SRC.

    a) The event has a technical and complex cause, however the issue identified is neither technical nor complex.

    b) In the absence of a performance standard, the Authority used ISO31000. The system operator agreed to the recommendation that the 'reasonable and prudent operator' standard should be applied in the Code in the future.

    c) The risk was clearly identified adequately, as were the risk consequences. The Authority has not received evidence to demonstrate the risk likelihood was adequately assessed.

    d) The Authority concluded that had the system operator questioned the probability of risk, the test may have been deferred.

37. The Chair challenged the conclusion because it appeared as though the manufacturer had given an "all clear" assurance. An Authority representative responded that the system operator had confirmed that they were aware that a multi-filter trip would be a risk, but that the Authority has not been shown evidence that the manufacturer gave the assurance.

38. A member noted that the circumstances of this event applied to the wider power system, illustrating the trade-off in determining how far the system operator should go in the checking process. Asset owners are incentivised to have reliable equipment and can face event charges for asset failure. A Transpower representative noted that Transpower (as the grid owner) did pay an event charge in relation to this event.

39. Members queried how deeply the system operator's duty of care extends: do they need to ask questions, make detailed inquiries, or detailed double-checks. An Authority representative responded that the Authority's report focussed on what questions were asked.

40. Transpower representatives noted that load shedding happened and that this was regrettable and considered a failure on an otherwise successful project. However there have been learnings from the event. The Code allows the system operator to rely on the assurance of the asset owner. The system operator considers that no amount of challenge would have uncovered the error in the protection logic.
41. A member questioned whether there is a cultural issue here with Transpower in its roles as grid owner and system operator, as compared to how the system operator would interact with any other asset owner. The member noted that if an asset owner causes a under frequency event then they face event fees and questioned whether this incentive should be added to the system operator.
42. A member agreed that the Pole 3 HVDC project had been an excellent project.
43. An Authority representative noted that if there had been clear evidence of challenge by the system operator and response from the grid owner (including from the manufacturer), then the Authority's report would have reached a different conclusion.
44. A Transpower representative responded that there was no difference in process between the system operator's treatment of the grid owner versus any other asset owner, except that it is easier to get everyone in the same room.
45. The Chair asked what the learnings of the event were. Transpower representatives made the following points:
    a) the system operator did challenge the grid owner, but that its record-keeping wasn't sufficient to demonstrate this
    b) the grid owner believes it was well challenged by the system operator
    c) the system operator's minute-taking needs to not just focus on decisions and outcomes of the meeting, but also include the process of challenge.
46. A member noted that some tests will never be able to be covered with conventional reserves, therefore there needs to be an acceptance that asset testing could cause an automatic under-frequency load shedding event. In these situations, there is a risk to consumers and this should be communicated to interested parties.
47. A member questioned if Transpower risk management processes need changes, though it is seems unlikely that its risk management process is anything other than sophisticated.
48. A Transpower representative commented that if the system operator faces another commissioning of an asset and control system of similar complexity to the Pole 3 HVDC, it would apply greater risk management.
49. The Chair noted that the Authority's report doesn't cover technical aspects and there are varying opinions around the table, but that the SRC will advise the Authority Board that:
    a) valuable lessons have been learned in terms of risk management and the documentation of the process behind it
    b) the culture of the system operator/grid owner relationship should be examined by Transpower to ensure the protocols in place are appropriate
    c) when conventional reserves cannot cover a test, the system operator should communicate this risk to relevant/interested parties in order to broaden the ownership/acceptance of that risk and give them an opportunity to ask questions of the system operator

d) the SRC is concerned that it took 16 months for the Authority to present its report to the SRC.

Bennet Tucker entered the meeting, and Doug Watt, Bill Heaps and Andrew Gard departed the meeting, at 11:40am. The SRC dealt with agenda items 13-15 at this point before continuing with item 11, though these minutes record the proceedings in order of the agenda rather than actual sequence in the meeting.

11 Arrangements for power system restoration, including black start

50. A Transpower representative noted that:

a) there is currently no detailed standard for system restoration

b) there is good reason to expect that stakeholder expectations of the time to restore the power system are higher than real performance and that more communication could help align expectations

c) the system operator has sound experience with restoring the system after a regional loss of supply, but no previous experience with a true black start

d) there appears to be merit in coordinating an industry-wide simulation exercise.

51. The Chair questioned if the equipment on the power system has adequate battery backup to still be usable when needed after a black start. A Transpower representative responded that:

a) such equipment has been identified on the Transpower network and actions taken

b) distributors may be making incorrect assumptions about how long their equipment needs to last without power and could come up short

c) the system operator has learned much since 2010 when black start testing commenced

d) having a hydro-based system is helpful, however the risk likelihood to New Zealand (as opposed to power systems with less hydro) is unknown

e) communication equipment is crucial.

52. Authority staff asked the members if it was well understood within their own organisations that it may take up to 48 hours to restore the power system from a black start situation. The members indicated that this was not well understood.

53. The advice to be given to the Authority Board is that the SRC agrees that:

a) there is high value in performing an industry-wide simulation exercise, even though it is a time-intensive investment

b) investigating a restoration standard is unwarranted at this time, as any restoration target set would be arbitrary

c) there is poor understanding within the industry about the system operator's projections of how long system restoration would take after a black start.

Security of supply

12 The National Winter Group's report on winter 2015

54. A Transpower representative noted that:

a) the National Winter Group's report shows the power system is in a secure state with no obvious

issues, provided generation and grid assets are available as expected

b) the removal of a major thermal generation plant from the availability assumptions has been offset by demand forecasts falling by a similar margin

c) the system operator outsources its demand forecasting function to Transpower's grid development group.

55. A member commented that the report is extremely conservative and questioned whether the SRC would even be concerned if the report produce a negative result.

56. A member questioned what would have to happen for this report to not be true. A Transpower representative responded that the supply capacity is adequate, so long as the incentives are there to assure availability. A member responded that the incentives are there for all parties, not just thermal generators. However, the incentives aren't enough to make it economic for thermal generators to run for six hours or less. An Authority representative noted that over-incentivising is also a risk as it comes at a cost to consumers.

57. The Chair thanked Transpower for the comprehensive report.

13 The system operator's annual assessment of security of supply

58. The Chair asked members if they wished to challenge any aspect of the annual assessment of security of supply. No challenge was made by members.

Performance of the system operator

14 The Authority's annual review of system operator performance

59. The Chair asked members if they wished to challenge any aspect of the annual review of the system operator's performance. No challenge was made by members.

15 Verbal update on the renegotiation of the system operator service provider agreement and the role of performance metrics

60. An Authority representative briefly spoke about the renegotiation of the system operator service provider agreement (SOSPA) and that it does contemplate performance measures for the system operator. The system operator is planning to present its organisational strategy to the SRC in July 2015.

General Business

16 General Business

61. A member noted that the SRC is well engaged with the system operator and grid owner, but not as much with distributors. An Authority representative responded that the Authority Board has appointed a new SRC member who is the CEO of a distributor. Other appointments were discussed.

62. The Chair noted that this was the last meeting for Dennis Barnes and thanked him on behalf of the SRC for his contribution over four years. Dennis has a wealth of experience and gives forthright views that have proved invaluable to the group.

Meeting close

The meeting closed at 12.02 pm.