SECURITY AND RELIABILITY COUNCIL

ACTION LIST

The following are actions to be completed after meeting number 25 on Wednesday, 24 October 2018.

Action #	Meeting created	Action	Date for completion	Status
1	13	SRC Secretariat to arrange ENA's Smart Technologies Working Group presentation once its investigation is sufficiently developed.	Once ENA's investigation has progressed	**On hold.** The STWG will shortly release its key output (a 'roadmap'). Sufficient material will likely be public to warrant discussion at the 20 June 2019 SRC meeting.
2	16	Secretariat to engage with industry and the Commerce Commission in further development of the risk management framework (RMF).	1st meeting of 2019	**Late.** See agenda item #12.
3	16	Secretariat to assess what the threshold should be for a risk that the SRC 'can live with', and incorporate into further development of the RMF.	1st meeting of 2019	**Late.** See agenda item #12.
4	17	The secretariat is to keep the SRC updated with the progress of Transpower's major capital project for voltage stability issues in the upper North Island. Updates of milestones should be provided until the investment decision is made.	As needed until investment decision made	**Ongoing.** Several updates already given, but none was warranted for this meeting. Transpower think an update to the 20 June 2019 meeting would be appropriate.
5	23	Secretariat to report back to the SRC on the sensitivities of the annual assessment assumptions and how the assessment could: a) better take into account the dynamic nature of the market b) include a scenario in which a shortage of stored fuel other than gas and an extended critical gas contingency coincide.	1st meeting of 2019	**Complete.** See agenda item #9.

Action #	Meeting created	Action	Date for completion	Status
6	24	Secretariat to report to SRC about the emergency management preparedness of distributors.	1st meeting of 2019	**Complete.** See agenda item #7
7	25	Secretariat to organise a bespoke briefing on the SRC's risk management framework for the Chair, new members and any other members wishing to attend.	Prior to 1st meeting of 2019	**Complete.** Briefing held in January 2019.
8	25	Secretariat to provide more information about how gas production outage risks are managed.	20 June 2019 meeting	**On hold.**
9	25	Secretariat to request the Commerce Commission to attend the SRC's second meeting of 2019 to provide a refresher and update on the asset management of distributors.	20 June 2019 meeting	**Complete.** Request made and added to agenda planning.

1. Updates

1.1. This section provides information on matters that don't warrant a dedicated agenda item, such as updates on matters that have previously been discussed by the SRC.

The current security of supply situation

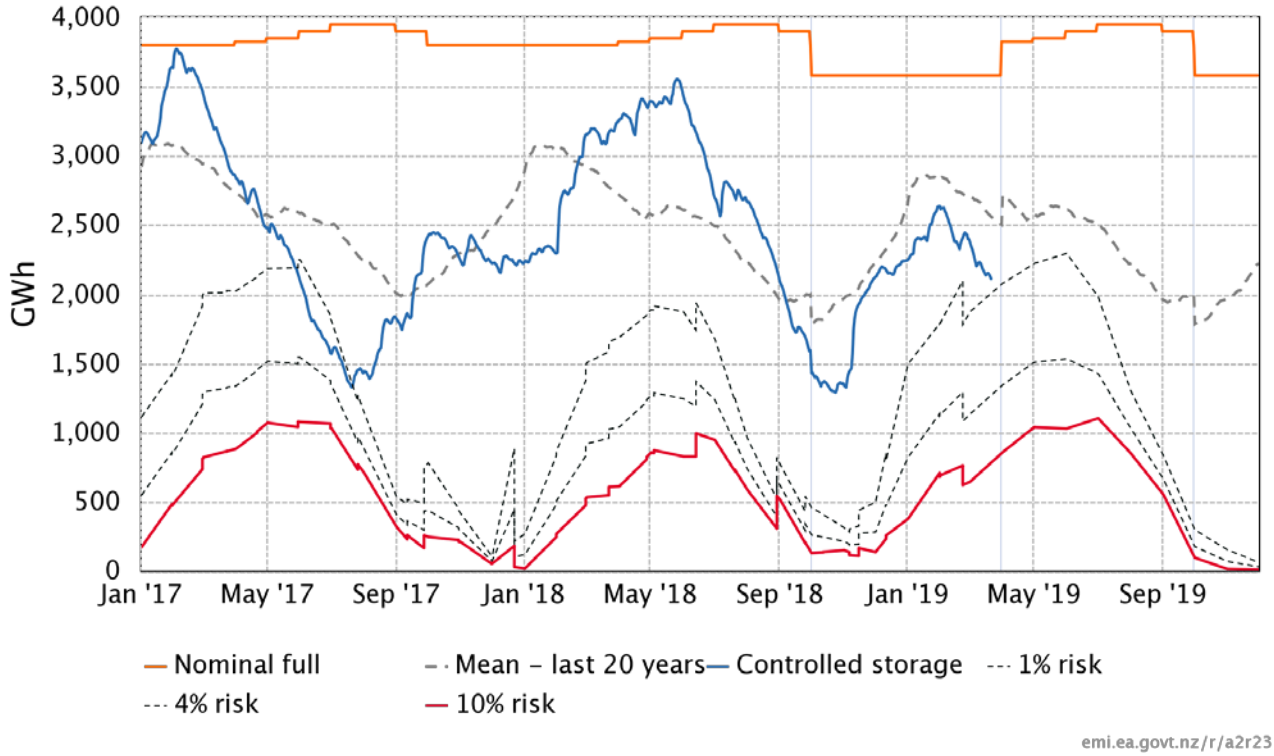
1.2. The current security of supply situation is poor, with actual storage well below seasonal averages. On 19 March 2019, the system operator described that situation as follows:

> *"National hydro storage has continued to decrease due to low inflows, and the risk of shortage continues to rise as we head into winter. At the end of this month contingent storage at Lake Tekapo will be recategorised as controlled storage which will lift controlled storage 220 GWh above the current reported levels and away from the Hydro Risk Curves (HRC). While the Risk Meter is currently set to Normal status, conditions remain dry, and storage is trending toward Watch Status."*

1.3. As Figure 1 illustrates, actual storage is approaching the 1% hydro risk curve. As the system operator notes, the 220 GWh increase on 1 April will strongly influence whether Watch status is initiated in the next three weeks.

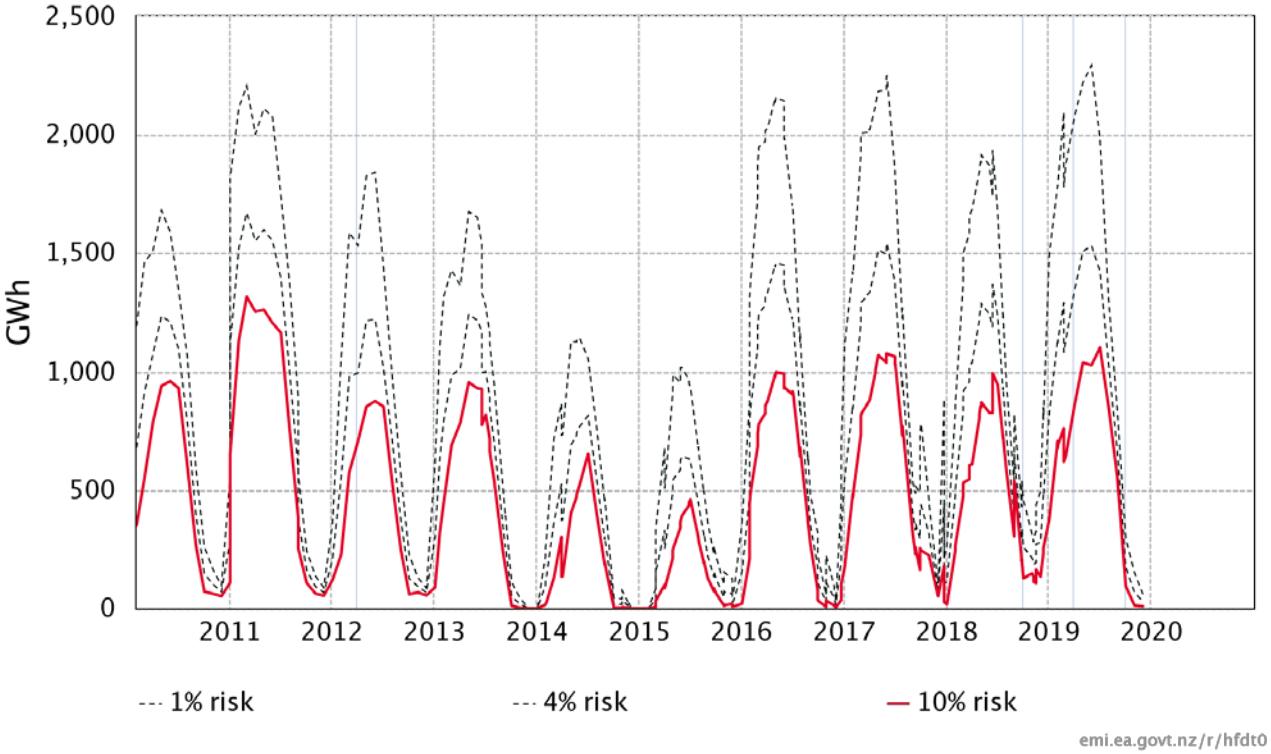
1.4. As the system operator will only change the status to Watch if it expects storage to remain below the 1% hydro risk curve for one week, a status change appears unlikely in the next three weeks.

Figure 1: Historical hydro risk curves as at 21 March 2019



1.5. Figure 1 highlights that the 1% hydro risk curve is the highest it has ever been, breaking the previous highs in March of 2011 and June of 2017.

Figure 2: Historical hydro risk curves 2010-2019



1.6. The Pohokura gas production field is partway through a three-month intervention campaign that is scheduled to end by 1 May 2019. Within that three-month campaign, the owner (OMV) expects 30 days of reduced production.

1.7. The secretariat or the system operator can provide the SRC with a verbal update on the latest security of supply situation. The system operator publishes a weekly security of supply newsletter, available on the system operator's website.[1]

[1] https://www.transpower.co.nz/system-operator/security-supply/recent-sos-newsletters

Wellington CBD and hospital on ‘n security’ for 20 days

1.8. Transpower, in its capacity as grid owner, needs to undertake thousands of outages a year just to maintain its network. Hundreds of those outages involve customer loads being put on ‘n security’. This means that consumers still have power, but there is no redundancy left in the network that usually supplies them.

1.9. In the unlikely event that the remaining asset fails, consumers lose power until Transpower and any downstream distributor can make other assets available and reenergise the networks.

1.10. Transpower recently advised Wellington Electricity that “most of the [Wellington] CBD and Wellington South will have a reduced level of electricity supply security” from 14 March until 2 April 2019. The outage was to replace deteriorating Transpower wires connected to the Central Park substation.

1.11. If the remaining wire fails before 2 April, most of Wellington’s central business district and South Wellington will be without power for three to eight hours.

Concept Consulting study on the economics of hydrogen

1.12. Concept Consulting were commissioned to undertake a study of the potential economics of hydrogen technologies in New Zealand. Their synopsis of the study is:

> *“This three-volume study examines whether hydrogen technologies are likely to be cost-effective solutions for decarbonising New Zealand's economy. It examines both 'green' hydrogen produced from renewable electricity, and hydrogen produced from natural gas coupled with carbon capture and storage.*
>
> *It finds that hydrogen could be economic for some niche applications, but for the majority of New Zealand's energy needs hydrogen is unlikely to become cost-competitive with alternative low carbon options, particularly direct use of electricity for electric trucks, process heat boilers and heat pumps. In large part this is due to the energy losses and additional capital costs associated with converting electricity into hydrogen, rather than using the renewable electricity directly.*
>
> *The study also indicates that there may be opportunities for New Zealand to export hydrogen to "renewables-poor" countries such as Japan to decarbonise their economies. However, this is subject to significant uncertainty, and having an export industry is unlikely to materially improve the economics of hydrogen for decarbonising New Zealand's own economy.”*

1.13. The three-part study is available from here

Recent evidence of investment in electricity generation

1.14. Genesis Energy announced it was reviewing its ability to run a third Huntly Rankine over winter if gas or water shortages continue:

> *"In order to ensure the market has as much information as possible Genesis is announcing that it is beginning this review and the preliminary work required to assess the possibility of running a third Rankine for short periods. At this stage Genesis can make no commitment to doing so."*[2]

1.15. Tilt Renewables announced the Waverley wind farm would likely proceed, now it had secured a buyer for the wind farm's output. The wind farm would have 100 MW of nameplate capacity, produce 500 GWh per year and be located in South Taranaki.

> *""The parties' agreement of proposed terms and conditions for a long term power purchase and services agreement, is a significant step toward the finalisation of a key partnership which will allow Tilt Renewables to progress the Waverley Wind Farm to construction, potentially as early as the first half of 2019, subject to reaching final agreement on commercial terms"*[3]

1.16. These announcements add weight to evidence that suggests market forces are incentivising additional investment in electricity generation.

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2 Announcement available from https://www.genesisenergy.co.nz/about/media/news/genesis-assesses-viability-of-operating-third-rank

3 Announcement available from https://www.tiltrenewables.com/documents/228/Genesis_Energy_-_Tilt_Renewables_Waverley_Wind_Farm_-_17_October_2018.pdf