2021 Dry Year Event Review

Summary of Submissions

26 April 2022

Contents

1 2021 Dry Year Event review

1.1 The security of supply regime forms a part of the electricity market design. Coupled with some explicit policy settings, the regime's purpose is:

(a) to ensure the electricity supply to consumers is resilient in the event of a dry year. That is, the role of higher prices is recognised as an appropriate means of rationing to ensure we get through the dry year, including promoting efficient operation in the event of dry-year scarcity and efficient investment in generation and demand response to manage dry years;

(b) to incentivise the efficient management of a medium-term energy scarcity situation (the risk of generation undersupply leading to consumer outages), ideally while minimising the total cost to consumers arising from the trade-off between more supply (at higher cost) versus less supply (with more frequent outages);

(c) to minimise the gap between actual risk and perceived risk (for example, ensuring there is common understanding of the risk, allowing market mechanisms to work as intended, and minimal need for regulatory or government responses or action outside the processes provided for under the regime) so that the regime isn't undermined by interest groups to compromise the efficiency and effectiveness of the system, ensuring the regulatory and market arrangements are durable.

1.2 The regime does this through ensuring there is sufficient public information on fuel supply to:

(a) Allow participants to make informed risk management decisions, and through financial hedges encourage the supplier (usually a generator) to ensure they have sufficient supply.

(b) Signal to the market the availability and cost of generation, through the price generators are willing to offer their generation signalling the limited availability of resources.

(c) Encourage consumers (especially those exposed to the wholesale price-linked products) to assess the value and make informed choices to use electricity or not.

(d) Signal the need for efficient investment in new generation or demand management.

1.3 The explicit policy settings include:

(a) Reporting by the system operator on the short and medium term availability of fuel through the risk meters, energy risk curves and other regular reports[1], and the long term assessment of generation for forecast demand through the security of supply annual assessment against the security standards[2].

(b) A series of triggers for increasing focus on the amount of fuel available and the risks of running out of storage, with agreed actions at each trigger point.

(c) A formal trigger for an official conservation campaign (OCC), coupled with a dedicated appropriation funded through an industry levy.

[1] See Security of Supply and ERCs and Weekly Summary and Security of Supply Reporting

[2] See Policies, Plans and Publications

(d) A customer compensation scheme (CCS) in parallel with the OCC, to compensate customers for their conservation efforts.

(e) A formal trigger and pre-agreed process for rolling outages if an OCC is insufficient.

(f) A standardised series of stress tests, that must be performed by all wholesale market participants and the results reported to the participant's board.

The first half of 2021

1.4 There was a confluence of factors that lead to prices that were higher than average in the first half of 2021. Those factors included:

(a) Gas supplies were reduced and the spot price for gas was higher than historical averages. This means gas fuelled generators were pricing higher to recover fuel costs.

(b) Carbon prices were up around 50% from a year previously. As thermal generation pays this cost, it was built into their offers.

(c) Wind generator output was lower than normal for that time of year. As wind generation cannot normally be controlled or stored, it is usually fully dispatched when available, displacing other more expensive generation.

(d) A La Niña year was occurring, and therefore hydro inflows and wind flows were expected to remain lower than normal.

(e) There was lower than normal inflows in the latter part of 2020 and the hydro storage lakes were at lower than normal levels for the start of 2021.

1.5 Starting in February 2021 there was an increasing level of media commentary about potential; hydro shortages, increasing electricity prices and very tight gas supply. By early April 2021 fuel storage almost reached the 1% energy risk curve and there was then a series of small 'inflow events' (rain in the catchment areas) that arrested the decline in storage. In late April storage again started to decline but still did not reach the 1% energy risk curve. From 8 May there was significant rain, and this has continued through winter and into spring.

Reviewing the event

1.6 The Authority commissioned MartinJenkins to perform an independent review of the event. The scope, and exclusions of the review are explicitly noted in the 'Context' section on Page 1 of the report.

1.7 The review canvassed the views of the major generators and the government. The review has made several findings and recommendations.

1.8 In December 2021 the Authority released the review for industry feedback. This paper summarises the submissions received. The full submissions are available on the Authority's website Consultation — Electricity Authority (ea.govt.nz).

2 Summary of submitters

Submitters

2.1 Submissions were received from the following organisations:

Electric Kiwi and Haast Energy Trading	Retailer/Wholesale energy trader
Flick Electric	Retailer
Genesis Energy	Generator/Retailer
Meridian Energy	Generator/Retailer
Nova Energy	Generator/Retailer
Trustpower	Generator/Retailer
Methanex New Zealand	Industrial user/major gas user
New Zealand Steel	Industrial user/major gas user
Electric Power Optimisation Centre (EPOC)	Academic researcher
Electricity Retailers Association of New Zealand (ERANZ)	Industry association
Energy Resources Aotearoa	Industry association
Major Electricity Users Group (MEUG)	Industry association
Major Gas Users Group (MGUG)	Industry association

2.2 Submitters overall support for the review's findings is indicated in the following table:

General Support	Qualified Support	Not Supported	No Comment
Trustpower	MEUG	NZ Steel	MGUG
ERANZ		Flick Electric	EPOC
Nova Energy		Electric Kiwi/Haast	
Genesis Energy			
Energy Resources			
Methanex			
Meridian Energy			

3 Themes from submissions

3.1 The following themes emerged from the submissions:

Security of supply regime intent and design

3.2 Several submitters noted that the regime worked as intended by incentivising conservation of hydro storage for the upcoming winter.

3.3 Several submitters noted the Authority should make improvements to the Electricity Risk Curves (ERCs) and make the underpinning assumptions more explicit.

3.4 One submitter suggested the settings for the official conservation campaigns and associated customer compensation scheme should be reviewed.

Authority response

3.5 The Authority is working with the system operator to review the ERCs and assumptions as recommended by Martin Jenkins. The Authority expects the system operator to consult on proposed changes in late March 2022.

3.6 The Authority has identified that a general review of the OCC settings will be needed to ensure they remain fit for purpose as the industry evolves and transitions to 100%. The Authority intends to include such a review in its workplan.

System operator's performance

3.7 Some submitters noted the system operator performed its functions well and as expected under the security of supply policies during the event.

3.8 Several submitters agreed with the MartinJenkins recommendations that the system operator's policies should be less subjective.

3.9 Some submitters noted the system operator should provide more proactive communications when the ERC assumptions change.

Authority response

3.10 The Authority is working with the system operator to review the ERCs and assumptions as recommended by Martin Jenkins. Options to make the system operators decisions more objective are included as part of this review. The Authority expects the system operator to consult on proposed changes in late March 2022. The comments about more proactive communications have been passed onto the system operator

Authority's performance

3.11 Several submitters commented that the Authority needs to provide more proactive communications before and during a dry year event. Some submitters also noted they expect the Authority to take the lead in communicating during an event.

Authority response

3.12 The Authority is working with Transpower to clarify the communication roles and responsibilities.

The review's scope

3.13 Several submitters noted that the reviewers should have included interviews with the gas sector and retailers.

3.14 Submitters also suggested the review's scope should have included the wholesale prices that were seen during this period, and that price was inherently coupled to the security of supply regime. Submitters also noted that some consumers saw an immediate impact on their retail price, and that other consumers are likely to see a future impact on their retail price driven by the wholesale and forward hedge market prices seen during the event.

Authority response

3.15 The security of supply regime is primarily designed to incentivise generators to conserve hydro storage. Consequently, the Authority decided to instruct MartinJenkins to interview generators. Retailers and gas sector participants were given opportunity to provide their

views through their submissions during the consultation process. This was to ensure MartinJenkins could concentrate their report on the effectiveness of the regime to conserve hydro storage.

3.16 Prior to the Authority commissioning the review, the Authority had independently commissioned a review into the competitiveness of the wholesale market. This review included looking at the level of prices and if that level was a result of a competitive market. Therefore the Authority decided to concentrate the 2021 Dry Year Event review on whether the regime acted in a way to incentivise generators to conserve hydro storage. The actual level of prices seen during the event was a matter for the competition review.

3.17 The Authority acknowledges the MartinJenkins report could have more clearly stated the impact on retail prices. At the time consumers that were on spot price linked contracts saw their retail price track the wholesale price. Also, consumers that were on fixed term fixed price contracts, where their contract came to the end of its term during the event were offered further fixed term contracts on prices that reflected the forward hedge prices that were current at the time.