

Submission to: “Driving efficient solutions to promote consumer interests through winter 2023”

Eric Pyle, Director Public Affairs and Policy, solarZero, 16th December 2022

Introduction

The nature of the power system is changing due to more variable renewables, less use of thermal plant and a demand for greater electricity system reliability as electricity is used to power the economy. Any change in the nature of a system necessitates a change to the governance regime to ensure that the system performs as society wishes it too.

The Electricity Authority needs to recognise that the electricity sector is going through its first major change just as the electricity industry is being asked to power the economy. To ensure that the transition to 100% is smooth and orderly the electricity market will need to evolve and the Electricity Authority will need to lead this programme of change. New products and services will be needed and quickly if the change is to be smooth and orderly.

The Electricity Authority has three key objectives:

- Competition
- Efficiency
- Reliability

Reliability is key and politically is a trump card. If the system is not reliable, competition and efficiency become irrelevant. If reliability is not achieved the whole system and all the participants will be seen as a failure by politicians and society. In other words, if the Electricity Authority fails to step up to the challenge all players in the electricity system potentially suffer.

We are moving beyond the point where slow starting thermal plants can be relied upon to provide peaking. New technology, such as batteries, need to be brought into the market. The Electricity Code is not-technology neutral and probably never will be. Reflecting the changing physical (e.g. thermals used occasionally) and social (e.g. society demanding higher reliability) circumstances the approach to meeting peak needs to change.

We support Options F, G&K on the basis that these options lead to a new winter peaking product quickly.

Q1 Do you agree that the operational coordination performance has become more challenging?

The question is not quite the right one to ask. A key question is; will managing peak become more challenging? The answer is yes. Thermal plants are running less frequently and are becoming older and less reliable. Peak demand is increasing as the economy is electrified.

Electricity system reliability is a relative concept and changes as society evolves. Whilst the market may attempt to price reliability (paragraphs 3.9-3.10) that assumes that the market is working well and that everyone in the market makes the right decisions at the right time. Ultimately what is considered reliable is a political decision. From August 9th 2021 it is clear that 30,000 people without power for an hour or two on a cold winter’s night is unacceptable.

We agree with the first point 3.11. *“However, there are some recent signs that operational coordination is becoming more challenging with potential adverse implications for reliability.”* But we disagree with the second point. *“At its heart, the challenges may be due to growing information*

or incentive problems which make it harder for consumers and providers to strike efficient bargains.”

The winter peaking issue is not about growing information or incentive problems. The simple fact is that the power system is changing, societal demands are changing and governance arrangements need to be updated to reflect these changes. The market needs to evolve to enable new technology to come into the market as old technology is phased out. As the electricity system evolves to 100% renewables new market mechanisms will be needed either to support the transition or permanently. A new mechanism, possibly only interim, is needed to address the politically critical issue of winter peak.

Q2 Do you agree that the factors in paragraphs 4.10 to 4.62 create information challenges or misaligned incentives?

This is the wrong question to ask. The key concept is that the nature of the power system is changing, due to less thermal, more variable renewables, increasing demand (e.g. EV) and increased demand for reliability as expressed through the political process. These changes may lead to a range of issues in the market, such as information challenges or misaligned incentives, but these are symptoms of a much bigger problem. The market mechanisms need to be updated to reflect the changing nature of the electricity system.

Q3 Do you agree that it is prudent to examine options to address information and incentive gaps?

Paragraph 5.2: “This has worked well for many years”. Unfortunately what has worked well for many years may not work well in the future because the power system is going through a major change. The question is what are the market mechanisms that are needed to keep the lights on during and after the transition to 100% renewables?

Q4: Proposed evaluation criteria

These seem wrong. Surely the criteria should include: timeliness, potential effectiveness at helping to keep the lights on and alignment with the overall strategy for the development of the electricity market as New Zealand transitions to 100% renewable electricity and the economy is electrified. The FSR work sets out a clear direction for that part of the electricity system. There is no equivalent for this kind of issue, i.e. meeting peak demand, that can be used to make assessments and judgements.

Q6-9: Information and forecasting questions

Improving information is generally a good thing to do. These items will not address the fundamental issue: The power system is going through a major change and the electricity market needs some new mechanisms.

Q10&11: Discretionary demand and new ancillary services product

These sections should be reframed as distributed energy resources. The question is how to accelerate their involvement in the market to help address winter peak. A new product, if designed correctly, should encourage the aggregation of demand and controllable distributed generation such as batteries. Accelerating aggregation of distributed energy resources is an important part of the strategy for dealing with the phasing out of thermal plant and transitioning to a 100% renewable electricity system. Developing products to bring these kinds of solutions forward are important for the orderly decarbonisation and electrification of the economy.

Q12-16: Existing ancillary services

These sections miss the point that the electricity system is going through a technology change and a transition. As stated elsewhere in this submission, technology changes by definition need to result in governance changes, as a truism in any system.

To help make the change to 100% renewable smooth and to avoid, for example, politically unacceptable blackouts, the market needs to evolve in terms of new products and rules. These won't happen by accident. The Electricity Authority needs to get with the programme, acknowledge that New Zealand is headed for 100% renewables and that the economy will be electrified, and start adjusting the market to enable this future.

Q17 Option K

This option should be considered even as a temporary measure. It may be the quickest way to procure the much needed winter peaking capacity.

Q18 Response to A-E

Suggesting that these options are preferred indicates that the Electricity Authority:

- Does not understand the key issue of reliability.
- Is not interested in driving a smooth and orderly transition to 100% renewables and does not recognise the need to create new market products and services as the transition takes place.
- Does not understand the urgency of addressing the winter peaking issue.

Q19 Options F&G

Consideration of these should be fast tracked to the point where they can be implemented in February 2023.

Q20 Option K

Option K would be included as part of F&G. In fact taking responsibility for keeping the lights on out of the hands of the Electricity Authority may actually be a more successful way of keeping the lights on in a quicker way than any lengthy process that the Authority may run.

Q21 Other issues

The Electricity Authority does not appear to recognise that substantial change occurring in the electricity industry as it moves to 100% renewable and the economy is electrified. For the benefit of all New Zealanders, the transition needs to be smooth and orderly. The Electricity Authority either:

- Needs to embrace and help lead the change by quickly working to create new products and services in the market.
- Leaves it up to others, e.g. the System Operator, to show the necessary leadership (Option K) and timely action.