

18 May 2018

Australian Energy Market Commission
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Submitted by email to aemc@aemc.gov.au

Project number: EPR0060

Reliability Frameworks Review Directions Paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Directions Paper from the Australian Energy Market Commission (the Commission) on the Reliability Frameworks Review.

Snowy Hydro Limited is a producer, supplier, trader and retailer of energy in the National Electricity Market ('NEM') and a leading provider of risk management financial hedge contracts. We are an integrated energy company with more than 5,500 megawatts (MW) of generating capacity. We are one of Australia's largest renewable generators, the third largest generator by capacity and the fourth largest retailer in the NEM through our award-winning retail energy companies - Red Energy and Lumo Energy.

Executive Summary

Australia's energy system is undergoing a transformation, bringing about challenges to the design of energy and climate policies and energy markets. It is therefore important that the reliability frameworks for the NEM complements the transformation of the energy sector to inform the suitability of the measures currently being contemplated, including the specifics around the design of the National Energy Guarantee (NEG). System security and reliability remains a critical aspect of effective energy delivery which should be achieved through minimal market intervention and disruption.

Our views on the Commission's reliability frameworks review are as follows:

No need for Day-ahead Market

The current market design in the NEM does not have sufficient issues to warrant a day-ahead market. The NEM's real-time market delivers benefits similar to those of a day-ahead market.

The Generator Group¹ commissioned SW Advisory² to undertake an independent review of the merits of a Day-ahead market for the NEM. Advice from the Consultant clearly rejects the need for this major change in the NEM design. The report concludes:


- A Day-ahead market in the NEM seems to be a solution to a deficiency in the NEM that has not been clearly articulated;
- The NEM was designed around price signals providing incentives for efficient behaviour. Where there are deficiencies in price signals or information AEMO should be looking at market solutions and not system control solutions;
- If there are security issues such as system strength in South Australia, these issues can be solved through the provision of new ancillary services and an integrated market for inertia and fast response FCAS contingency services;
- The potential adverse impact of a unit commitment Day-ahead market may be significant with:
 - Less efficient unit commitment optimisation;
 - Complications with 5 vs 30 minute optimisation;
 - How would rebidding be incorporated? Any reduction in flexibility would adversely affect generators whose circumstances can change substantially over a day.
 - How would energy constrained generators be included?;
 - Would complicated offer structures reward inflexibility and encourage gaming?;
 - Would generators be paid start-up costs and how would these be recovered? Uplift cost recovery mechanisms may not allow Participants to manage their exposure;
 - A Day-ahead market is likely to reduce incentives to invest in flexible generation and loads.
 - Complications associated with two part settlements and how this may adversely impact prudent risk management and the depth and liquidity of the contracts market; and
 - Contrary to the NEM's design principles of decentralised decision making and consistency between dispatch and pricing.

The case for Wholesale Demand Response has not been made

There are numerous existing and available commercial incentives for demand response in the NEM. There are no barriers to consumers providing demand side response and there is no evidence to suggest that there are insufficient incentives on retailers to offer demand response services.

¹ The Generator Group consists of Snowy Hydro, Delta Electricity, and Origin Energy.

² SW Advisory, 2018, "Critique of Day Ahead Markets and the NEM"



Separating the wholesale demand response without understanding what demand response is being underutilised would unnecessarily require significant changes to the current market design.

Snowy Hydro cautions against the option of *“transferring the value of the wholesale demand response from the existing FRMP to the aggregator”*. This proposal highlighted in page 130 of the Directions paper is the same as the Demand Response Mechanism (DRM) considered in 2015.

The DRM proposal relies on a Third Party submitting a hypothetical baseline consumption profile of what electricity consumers would have consumed in the absence of their actual demand side response. The Third Party is then paid the difference between the “Baseline” consumption and actual consumption multiplied by the spot price. This is problematic and inefficient for the following reasons:

1. Another unrequired regulatory intervention
The NEM design gives equal opportunity/incentives on both the supply side (generators) and the demand side. It can be argued that the demand side already has information asymmetry advantages over generators. That is, unscheduled demand consumers are not required to provide their intention to curtail load through market bids. The DRM further skews this advantage to the demand side with no economic benefit. Snowy Hydro believes the benefits of the proposed DRM are overstated as there are already existing commercial arrangements in place that allow demand side response when it is economic. These arrangements include interruptible tariffs, scheduled and unscheduled demand response, and spot price pass-through.
2. Compromises the current market design and its pricing signals
As outlined earlier, the NEM design gives equal opportunity/incentives on both the supply side (generators) and the demand side. Snowy Hydro is increasingly concerned by claims that any action that reduces short term high spot prices must be in the overall interest of consumers. The introduction of the DRM would further distort and dampen high spot price signals. Longer term customer outcomes are best protected by undistorted pricing signals that provide the investment signal for ongoing investment in new assets.
3. Distortion to the Contract/Financial Markets
The introduction of the DRM would not reduce wholesale and retail market prices. The contracts market is dynamic and buyers and sellers would adjust hedging prices to account for exposure to the demand side response quantity. The net effect of the proposed DRM arrangements is to increase hedging risks for both generators and retailers. This increase risk would then lead to an increase in wholesale and retail electricity costs for end consumers.



4. The DRM would be very prone to gaming of the “consumption baseline”
The Third Party or the Demand Response Aggregator (DRA) is incentivised to maximise the difference between the consumption baseline and their actual consumption. In the United States of America (USA) DRM is often cited as jurisdictions that facilitate demand response. Snowy Hydro notes that there are many different electricity market designs in the USA and hence, like for like comparisons with the NEM are very difficult. Even with this fact, those markets in the USA which have a DRM are embroiled with disputes between DRM respondents and Regulators over the gaming of the consumption baseline to maximise payments to the DRM recipient.
5. The implementation costs of the DRM are potentially significant
Duplicate metering, increased regulatory oversight and working groups to establish the consumption baseline methodology are a number of tangible costs that will be incurred to establish the DRM. The DRM will also require rigorous monitoring by an institutional body to ensure there is no gaming.

Snowy Hydro strongly believes that the DRM is a complex solution looking for a problem that simply does not exist. The DRM is unjustified, distorts the current market design where both the supply and demand side have clear pricing signals/incentives to either produce or to consume energy, would impose significant implementation costs, distort the Contract/Financial markets and benefit a small group of large consumers at the expense of a much broader group of consumers. Snowy Hydro strongly advocates that the DRM option was found to and continues to fail to meet the NEM Objective and should not be considered further.

The NEM does not require a Separate Strategic Reserve

A strategic reserve is a type of capacity mechanism that compensates surplus capacity for being available at times of scarcity. This may be suited at addressing short-term reliability needs. However as the duration of the strategic reserve increases the efficacy of needing the reserve depends on the validity of supply and demand forecasts.

As the variability of both the generation mix and consumer responses increases the accuracy of future supply / demand balance reduces with longer dated forecasts. Further the remuneration of these services through availability payments means that the preservation of reserves is not costless and there is an incentive for these services to only be made available to the reserves process instead of being made available through the existing markets.

For these reasons Snowy Hydro does not support extension of the Long Notice Reliability and Emergency Reserve Trader (RERT) or an Enhanced RERT which would allow AEMO to purchase reserves 3 years ahead of the anticipated shortfall.



Snowy Hydro advocates that the Medium Notice RERT which allows AEMO to purchase reserves 10 weeks from the anticipated shortfall provides the appropriate trade-off for the last resort mechanism of maintaining appropriate levels of unserved energy in the NEM.

What is required for a smooth energy system transition, is to focus on providing long-term investment confidence and direction to the NEM. A orderly transition package would include:

- A long-term emissions reduction trajectory for the electricity sector;
- A credible and enduring emissions reduction mechanism; and
- Integration of energy and climate change policies.

These three objectives can be met through a properly designed National Energy Guarantee.

In summary, the NEM does not require a separate enhanced strategic reserve. The inclusion of a reliability requirement as part of the development of the NEG will negate the need for a separate strategic reserve. In addition the Reliability Panel indicates no risk of breaching the reliability standard which directly counters AEMO's logic to reinstate the Long Notice RERT or justifies the need for an enhanced RERT.

Improvements to Demand Forecasts

AEMO should be responsible for the accuracy of the market demand forecasts and should openingly consult with Market Participants. Energy companies should not be burdened with providing their own forecasts.

AEMO's forecasting processes and methodologies need to be transparent and clearly understood.



National Electricity Market

Snowy Hydro believe that the existing market design and contracting arrangements in the NEM remain effective and will continue to deliver new investment without compromising reliability. The International Energy Agency (IEA)³ recently backed the NEM. The independent review from the IEA found that although policies and market rules need to evolve the NEM can remain effective. It highlights that the NEM has remained an effective platform to deliver the energy transformation.

The NEM is going through transition and it is vital that risks are allocated to those best able to manage them. Where the decision-making powers of energy market bodies are enhanced, strong and clear accountability must be maintained. The success in the NEM has been attributed to these factor:

- Decentralised decision making;
- Liquid and deep contract market; and
- Stable regulatory frameworks.

Forecasting

Snowy Hydro believes that it is important that inputs used in the forecast are transparent and the methodology that is used to determine the forecast is clearly understood. As the electricity system continues to transform it is likely that there could be increased errors in forecasting making it harder for participants to depend on these forecasts to make long term investment decisions.

AEMO's development of the MT PASA methodology to improve its assessment of potential reliability standard breaches over a two year horizon and replacing the existing methodology with a new method that can better capture the impacts of intermittent generation on supply adequacy is welcomed. However Snowy Hydro is concerned with AEMO's small generation and demand forecasts which will need to improve in accuracy as they become crucial in the NEM's transformation.

The increasing number of smaller individual generating units, aggregated distributed generators and demand response should be managed by AEMO, along with how a reduced level of scheduled generation will impact AEMO's ability to operate the NEM reliably. Following the NEM scheduling by smaller generating units as well as larger market loads rule change⁴ which was not made by the Commission it is encouraging to see AEMO's intent on the proposed approach to trial the operation of significant non-scheduled wind farms in South Australia (SA) under semi-scheduled arrangements. However we believe by only undertaking the approach in SA it is unlikely to achieve any significant changes to improving forecasts. We would support the approach being implemented NEM wide.

AEMO should be responsible for the accuracy of the market demand forecast and openingly consult with Market Participants to understand how their forecasts can be improved. We agree with the

³ International Energy Agency, 2018, "Australia 2018 Review - Energy Policies of IEA Countries"

⁴ AEMC Final Determination, ERC0203, Non-scheduled load and generation in central dispatch

Commission that the differences between forecasts and actual outcomes will have more significance as the demand-supply balance changes which means *“transparency and systematic regular reporting of these differences will become increasingly important.”*⁵

Snowy Hydro believes that AEMO are the most appropriate party to undertake analysis and reporting for forecasting. They have the ability to access the data required and have the technical skills and systems necessary to undertake analysis. Further to this we believe that the Australian Energy Regulator (AER) would be best suited to audit the reporting and analysis as they are a separate party and already undertakes similar analysis.

Generators and retailers should not be burdened with providing their own forecasts instead of AEMO. We do not support entities other than the system operator providing industry forecasts as it would entail significant costs on businesses. We are currently responding to potential wide-ranging reforms to the security and reliability frameworks in the NEM, and as such it is not the time for an additional burden on forecasting. The Commission correctly highlights that retailer demand-side forecasting would include:

- Retailers installing systems in order to bid
- Retailers being required to have some form of trading desk to manage the forecast provision
- Learning and education costs over time to become used to the new regime.⁶

With the upheaval and structural change already under way in the NEM, this is an inopportune time to be implementing such a radical proposal. We are already grappling with the shift to five minute settlement. The effect of increasing administration costs will ultimately flow through to consumers.

Day-Ahead Markets

As noted earlier the current market design in the NEM does not have sufficient issues to warrant a day-ahead market. Many of the benefits of a day-ahead market are already addressed by the forward contract market that supports the NEM’s real-time market.


Snowy Hydro is concerned that AEMO’s assessment of identifying the existing day-ahead features of the NEM that may require change and the evidence of deficiencies has not been released through the Directions Paper and is likely to be obtained late in the consultation process. AEMO’s assessment is important although it is difficult to respond through the Directions Paper on what is inadequate or needs to be improved. Snowy Hydro does not believe there are any significant deficiencies in the current market arrangements in the NEM.

The Generator Group commissioned SW Advisory, to undertake an independent review of the merits of a Day-ahead market for the NEM, which found that day-ahead markets could have adverse impacts on the NEM. The report found that the day-ahead market adverse impacts would be:

- Less efficient unit commitment optimisation;

⁵ AEMC 2018, Reliability Frameworks Review, Directions Paper, 17 April 2018, pp v

⁶ AEMC 2018, Reliability Frameworks Review, Directions Paper, 17 April 2018, pp 77



- Complications with 5 vs 30 minute optimisation;
- How would rebidding be incorporated? Any reduction in flexibility would adversely affect generators whose circumstances can change substantially over a day.
- How would energy constrained generators be included?;
- Would complicated offer structures reward inflexibility and encourage gaming?;
- Would generators be paid start-up costs and how would these be recovered? Uplift cost recovery mechanisms may not allow Participants to manage their exposure;
- A Day-ahead market is likely to reduce incentives to invest in flexible generation and loads.
- Complications associated with two part settlements and how this may adversely impact prudent risk management and the depth and liquidity of the contracts market; and
- Contrary to the NEM's design principles of decentralised decision making and consistency between dispatch and pricing.⁷

Benefits of a day-ahead market are already addressed by the forward contract market that supports the NEM's real-time market. Market Participants can already hedge pricing risk using financial derivatives under the current frameworks so any scheduling improvements from a day-ahead market would likely be limited. In addition, generators can structure their bids in the real-time market based on their costs, plant characteristics and contract position to ensure dispatch of their generation fleet to cover their contract positions. This provides some certainty over which plant will be running and for how long. If the expectation is that the proportion of fast-start plant in the NEM is going to increase to manage real-time volatility then market signals for slower-start generation may not likely be needed.


The implementation of the NEM's real-time market also delivers benefits similar to those of a day-ahead market. AEMO's pre-dispatch already signals expected market outcomes at a 30-minute resolution to the end of the next market day. The information in pre-dispatch means any scheduling improvement through the implementation of a day-ahead market may be limited.

As the NEM generation mix becomes more variable and intermittent; day-ahead markets are less suited than they are other markets. As noted by the Commission *"in PJM there is a large proportion of both nuclear generation and generation with long start time. Nuclear generation is generally not dispatchable by PJM, whereas slow start generators generally engage in self commitment rather than being committed by PJM in the day-ahead market."*⁸ A day-ahead market allows for inflexible baseload unit to be optimised and provides enough notice for the slow start plant to be online when they are needed.

As noted in the SW Advisory review, AEMO should be looking at market solutions and not system control solutions where there are deficiencies in prices signals. Security issues such a system strength in South Australia can be solved through the provision of new ancillary services and and an

⁷ SW Advisory, 2018, "Critique of Day Ahead Markets and the NEM"

⁸ AEMC 2018, Reliability Frameworks Review, Directions Paper, 17 April 2018, pp 103



integrated market for inertia and fast response FCAS contingency services rather than a significant regulatory change in a day-ahead market.⁹

Wholesale Demand Response

Snowy Hydro believes the existing and available commercial incentives for demand response in the NEM are sufficient. There is no credible proof of a problem with the current market design, market signals and market frameworks do not provide the appropriate price signals and incentives for the uptake of demand response.

The lack of transparency around how much wholesale demand response is currently being utilised is the greatest factor in understanding whether the level of demand response is efficient and the value it actually brings to the NEM. This could only be achieved through improvements in AEMO's forecasting which we noted in the previous sections. Snowy Hydro notes that the following is being undertaken in the current market for demand response:

1. Consumers are being offered demand response products from retailers and third parties. Only recently as the Commission notes Flow Power expanded engaging in demand response.
2. The uncertainty of cost recovery for demand response will be improved due to the five minute settlement rule change. Five minute settlement was partly implemented to allow for the price signals for demand response and align the timing of such response with the physical need of the power system.
3. *"The costs of compiling a demand response portfolio have fallen with technological developments. These costs are likely to continue to fall over time."*¹⁰


As the market transitions, demand response is expected to increasingly participate and contribute to power system reliability. We agree with the Commission that *"firm and fast acting demand response requires time, education and equipment to develop"*¹¹ and we are therefore unclear which demand response is currently underutilised. This need to be made clear as separating the wholesale demand response without understanding what demand response is being underutilised would unnecessarily require significant changes to the current market design.

The Commission highlights that the most significant restrictions on facilitating more wholesale demand response in the NEM are the current arrangements that allow only a single Financially Responsible Market Participant (FRMP) at a connection point. The two options considered in the Directions Paper include transferring the value of the wholesale demand response from the existing FRMP to the aggregator or transferring spot market responsibility for demand responsive load from the existing FRMP to an aggregators.

⁹ SW Advisory, 2018, "Critique of Day Ahead Markets and the NEM"

¹⁰ AEMC 2018, Reliability Frameworks Review, Directions Paper, 17 April 2018, pp 126

¹¹ AEMC 2018, Reliability Frameworks Review, Directions Paper, 17 April 2018, pp 126



Both options suggested by the Commission would require transferring from the existing FRMP to an aggregator which concerns Snowy Hydro. The challenge lies in any type of coordination scheme to aggregate households into usable Demand Response resource that would align the objectives of the retail mass market users with the objectives of the NEM. Not to mention the confusion with multiple retailer bills for the same period, and the obligations of which party has the obligation to provide the consumer protections (e.g. hardship) associated with any affordability issues. The costs in coordinating very large number of end users and also incorporating various constraints of their loads needed to obtain system wide benefits would be high.

In addition, the options relies on the aggregator submitting a hypothetical baseline consumption profile of what electricity there consumers would have consumed in the absence of their actual demand side response. The aggregator is then paid the difference between the “Baseline” consumption and actual consumption multiplied by the Spot price. This is problematic and inefficient for the following reasons:

1. Another unrequired regulatory intervention
2. Compromises the current market design and its pricing signals
3. Distortion to the Contract/Financial Markets
4. The DRM would be very prone to gaming of the “consumption baseline”
5. The implementation costs of the DRM are potentially significant

As the NEM generation mix becomes more variable and intermittent, it becomes more imperative for the NEM’s central dispatch to capture the operational intent of Market Participants and improve the price discovery process for all stakeholders to optimise their generation and consumption decisions. We therefore, firmly believe that the wholesale demand response source is able to be centrally dispatched in the spot market and it must act in good faith as per the relevant provisions in the National Electricity Rules.

The Commission notes that *“retailers may have limited opportunities to offer products given that some consumers may not want to engage in wholesale demand response”*¹² and suggests increasing incentives for wholesale demand response. Snowy Hydro owns two second tier retailers (Red Energy and Lumo Energy) and we believe there are no barriers to consumers providing demand side response. We observe considerable interest from customers in determining whether demand response suits their current circumstances. However, the current volume and form of demand response in the market reflects the willingness of customers to curtail load, reflecting factors such as the cost of alternative sources of energy (e.g. back-up generation), the significance of energy as a cost input, and the flexibility of current production processes.

We refer to Commission’s 2016 final rule determination on the Demand Response Mechanism and Ancillary Services Rule¹³ which was unable to find evidence of a relevant market failure that would

¹² AEMC 2018, Reliability Frameworks Review, Directions Paper, 17 April 2018, pp 142

¹³ AEMC 2016, (Demand Response Mechanism and Ancillary Services Unbundling), Final Rule Determination, 24 November 2016, Sydney

prevent the current demand side participation arrangements in the market from delivering the benefits identified as arising from the implementation of the demand response mechanism in the cost benefit analysis submitted with the rule change.

The Commission's report also found no evidence that there are insufficient incentives on retailers to offer demand response services. The Commission's survey evidence reflected that retailers did offer demand response services in many forms. Furthermore it notes that it is in retailers' interests to maximise the demand response of their customers, particularly their large customers, because it allows them to better manage the spot price risk that they are fully exposed to. We are unclear what has changed in the retail market since 2016¹⁴. Currently retailers are offering demand response to customers through numerous trials currently underway. These haven't required alternate mechanisms or overpriced incentives.

The implementation costs of DRM can also potentially be significant. Duplicate metering, increased regulatory oversight and working groups to establish the consumption baseline methodology are a number of tangible costs that will be incurred to establish the DRM. The DRM will also require rigorous monitoring by an institutional body to ensure there is no gaming.

The analysis provided in Oakley Greenwood (OGW)¹⁵ report noted that retailers who required tailoring products and pricing arrangements for customers for DR the transaction costs associated with such tailoring meant that these arrangements were typically only provided to larger commercial and industrial customers (primarily those with an average load of about 5 MW or more).

Once the DRM is implemented there is no guarantee that it will be cost effective way to free up electricity supply. Under the DRM program in Western Australia, the State Government has paid in the last 10 years around \$430 million to demand-side management providers for 106 hours of reduced power use.¹⁶

Strategic Reserve

Snowy Hydro does not support the need for a strategic reserve. The inclusion of a reliability requirement as part of the development of the NEG will negate the need for a separate strategic reserve. The reliability guarantee will oblige retailers to hold a minimum amount of contracts with dispatchable generators in relation to their own demand. The additional incentive and price signal for dispatchable synchronous plant which provides services such as synchronous inertia and system strength would negate the need for a strategic reserve.

AEMO's rationale for reinstating the long-notice RERT is that the power system has continued to undergo rapid transformation change with an increasing chance of supply shortfalls since the

¹⁴ AEMC 2016, (Demand Response Mechanism and Ancillary Services Unbundling), Final Rule Determination, 24 November 2016, Sydney

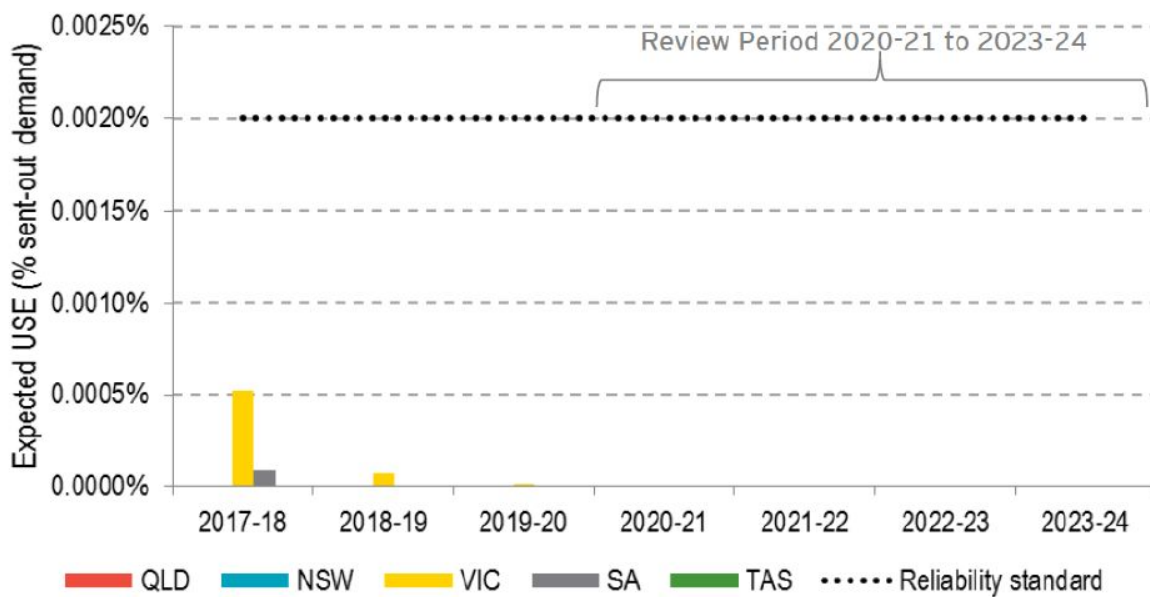
¹⁵ Oakley Greenwood (OGW), 2016, "Current Status of DR in the NEM: Interviews with Electricity Retailers and DR Specialist Service Providers"

¹⁶ ABC news, 2016, "Power reforms will save Western Australia \$500m per year, Treasurer says"

Commission allowed the long-notice RERT to expire in 2016. Snowy Hydro however believes that the analysis commissioned by the Reliability Panel, dated 30 April 2018, indicates relevant observations that directly counter AEMO's logic to reinstate the Long Notice RERT.

The EY was commissioned by the Reliability Panel to forecast the likely expected unserved energy to 2024 based on the current reliability standard and settings. The results of the EY forecasts highlight that for the "base case" scenario there is no Reliability Issue with all regions well below the 0.002 per cent standard.

Figure 1: Expected unserved energy outcomes for the base scenario from 2017/18 to 2023/24¹⁷



Furthermore the report undertook a strong demand and high generator outages rates sensitivity scenario. In this scenario EY varied several key parameters:

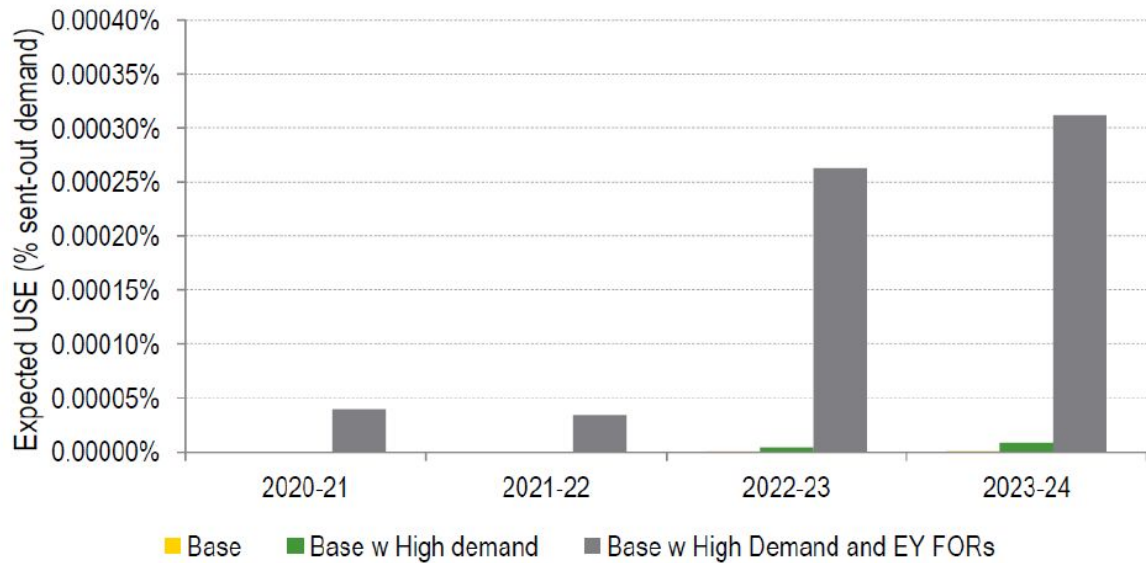
- Demand – using AEMO's most recent strong demand forecast rather than neutral demand.
- Generator outage rates – using EY's own higher generator forced outage rates (significantly higher than the base assumptions for many generators).

The findings indicated that the level of unserved energy forecast by the base scenario model under these sensitivities remains well below the reliability standard. The highest forecast level of unserved energy under this sensitivity analysis is in New South Wales, where the impact of high demand and EY's forced outage rates is to increase 2023-24 forecast unserved energy to approximately 0.0003

¹⁷ EY, 2018, "Reliability Standard and Settings Review 2018 – Modelling Report - The Reliability Panel"

per cent, compared with the reliability standard of 0.002 per cent, or around one seventh of the standard¹⁸.

Figure 2: Expected USE outcomes in NSW for the base scenario sensitivities¹⁹



*Note that y-axis scale shows up to one fifth of the reliability standard of 0.002 per cent.

The work commissioned by the Reliability Panel further indicates no risk of breaching the reliability standard.

If a separate strategic reserve formed then the cost associated with such reserves would be significant. AEMO’s recent usage of its RERT function (which shares many of the same drawbacks as a strategic reserve) does not offer reassuring portents. For example, AEMO’s activation of the RERT on 19 January 2018 for the dispatch of 390 MWh cost some \$24 million, or an incredible \$62,000/MWh²⁰ (or four times the *Market Price Cap*).

The NEG will provide an effective policy measure; will also require the attention of generators. In fact, by exploiting the decision making expertise of the private sector the NEG should more effectively address the very issues targeted by the strategic reserve.

Co-ordinated approach to market design reform in the NEM

¹⁸ EY, 2018, “Reliability Standard and Settings Review 2018 – Modelling Report - The Reliability Panel”

¹⁹ EY, 2018, “Reliability Standard and Settings Review 2018 – Modelling Report - The Reliability Panel”

²⁰ See http://www.nemweb.com.au/REPORTS/CURRENT/Reserve_Contract_Recovery/



Over the past year a priority for energy policy development has been the design and implementation of national climate and energy policy. As Australia looks to meet its climate change policy objectives, a well-designed National Energy Guarantee (NEG) is expected to provide carbon abatement policy and allow for the investment in generation required by the industry.

Snowy Hydro however is concerned that parallel to the NEG consultation there has emerged a parallel debate on the design of the NEM. This has evolved implicitly through the RERT scheme with the potential to evolve into a broader creation of a strategic reserve and the Reliability Frameworks Review particular proposal for a day-ahead market. An appropriately designed NEG would remove the need for further changes to the NEM such as the strategic reserve and day-ahead market.

Day-ahead market and strategic reserve reviews and processes are being discussed variously but separately. Together they constitute a material reform of the existing energy-only market. It is clear a co-ordinated approach is essential to any reform on this scale.

Snowy Hydro appreciates the opportunity to respond to the Directions Paper. Any questions about this submission should be addressed to Panos Priftakis, Regulation Manager, by e-mail to panos.priftakis@snowyhydro.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'K Ly', with a horizontal line underneath.

Kevin Ly
Head of Wholesale Regulation
Snowy Hydro

