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Australian Energy Market Commission
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Enhancement to the Reliability and Emergency Reserve Trader (RERT) Consultation Paper

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Consultation Paper from the Australian Energy Market Commission (the Commission) on the Enhancement to the Reliability and Emergency Reserve Trader.

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

Snowy Hydro does not support the enhanced RERT as it is inefficient and unjustified. The RERT should only be used as a last resort mechanism in cases of genuine market failure insuring that it does not undermine the market it is actually trying to protect. The RERT should be only be used as a last resort safety net and the energy-only market should be left to deliver the economic level of bulk supply reliability to customers.

We are concerned that the enhanced RERT will be highly distortionary and function inefficiently and as result:

- Cost of off-market reserves will become higher than it should be;
- Triggering of the procurement process will deter or crowd out market responses;
- Revenue structure of the RERT will incentivise both off-market supply and demand response.
- Forecasting of demand to trigger the RERT process will continue to be overly conservative.

The enhanced RERT is a proposal that is seeking to increase the lead time to 3 years adding additional cost and material market distortions for all current and future investments. Inaccuracies in AEMO demand forecasting continue to unnecessarily trigger activation of the RERT with the direct

cost of the RERT being passed on to consumers. Snowy Hydro believes an independent oversight of the procurement trigger for the RERT and a shorter procurement lead time would improve the RERT. The RERT however should not become a permanent alternative market to the energy market.

The existing Long Notice RERT includes a 9 month process which is more than sufficient time for AEMO to procure off market reserves. For instance, AEMO in the summer of 17/18 procured over 1,000 MW of off market reserves. In the absence of a market response, this quantum is a more than sufficient buffer to meet the NEM's reliability requirements. Hence the Procurer of Last Resort under the National Energy Guarantee (NEG) should be aligned with the existing 9 month Long Notice RERT.

Through the revised RERT and other associated measures AEMO is essentially planning to run the NEM at a higher level of reliability than the NEM's reliability standard and do this using off market resources. AEMO is doing via the proposal to use "a broader risk assessment framework" that takes into account the risk of unserved energy, not just the expected amount of unserved energy.

Snowy Hydro is concerned with the intent of the following statement:

> "AEMO considers that even if the risk of unserved energy is low, if there are reserves that required no or low availability payments but with usage cost between the market price cap and the estimated value of customer reliability, this should be an economically efficient outcome."[1]

In essence what AEMO is proposing, is to change the reliability standard by which AEMO operates but not explicitly change the reliability standard. A higher level of reliability may be desirable in the NEM but this should be achieved by changing the reliability standard and the reliability settings (ie. the market price cap) to match the standard. This would mean that the desired NEM reliability would be achieved via market processes rather than via off market transactions with AEMO.

AEMO's calculation of expected annual unserved energy (expected USE) is incorrect. Expected USE = $E[\ \Sigma\ USE(t)\ ]/(\ \Sigma load(t)\ )$. The reliability standard for expected USE is 0.002% per annum. AEMO currently forecasts expected USE based on 30% weighting of the average annual USE for simulations using the 10% POE load forecasts and 70% weighting of the average annual USE for simulations using the 50% POE load forecasts. There is no weighting for the 90% POE load forecasts. This is incorrect and gives an overestimate of expected USE. A more accurate forecast would be something like 30% weighting for 10% POE results, 40% weighting for 50% POE results, and a 30% weighting for 90% POE results.

There needs to be a consistent framework for reliability, market price cap, value of customer reliability and use of the RERT. If there is a desire to use the RERT to increase reliability then this should be reflected in changes to the reliability standard and market price cap so that the market can deliver this increased reliability rather than through an off market use of the RERT. The

[1] AEMC 2018, Enhancement to the Reliability and Emergency Reserve Trader, Consultation Paper, 21 June 2018, Sydney, pp 22

reliability settings of targeted levels of unserved energy and the market price cap should be used as the primary investment signals for additional supply.

Based on the Australian Renewable Energy Agency (ARENA) trial the costs per MWh of dispatched energy was very high. In excess of the market price cap. This perversely incentivises off market response as opposed to participation in the market. The proposed changes to the RERT will result, in effect, to the creation of another energy market with a higher price cap and pay as bid. With fixed capacity/availability payments to providers creating a capacity market by stealth.

If AEMO is going to make greater use of the RERT provisions then the current intervention pricing methodology should not be used as this methodology is not producing prices that indicate a scarcity of energy or FCAS. If the RERT is used to meet demand then the energy prices should be set to the market price cap.

Long term contracting, ie. 3 years in advance of a forecast lack of reserve, of resources for the RERT should be avoided as this will distort the market. What is required is improvements to the market price signals to encourage this capacity into the NEM.

Snowy Hydro appreciates the opportunity to respond to the Consultation 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,

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DETAILED SUBMISSION TO CONSULTATION PAPER

Interaction with the National Energy Guarantee (NEG)

Snowy Hydro supports the NEG Procurer of Last Resort, which appears to be identical to the mechanics of the RERT, being aligned with the Long-Notice RERT. There is no justification to extend the Long Notice RERT from 9 to 12 months. The additional 3 month period in the NEG design could be utilised to ensure efficient use of the Long Notice RERT when the Procurer of Last Resort is triggered.

Alternatively, in Snowy Hydro's submission to the NEG[2] we highlighted it would be problematic to extend the Long Notice RERT to 12 months to align with the Procurer of Last Resort. Instead Snowy Hydro advocates that the Procurer of Last Resort is rebadged to be the Long Notice RERT and is triggered at T-¾. This means Retailers have a period of 2 and ¼ years from when the Reliability Guarantee is triggered to close and remove the reliability gap and hence remove the need to enter the Long Notice RERT process.

Market Design

The NEM is an energy-only market. Under this structure, peaking generators such as Snowy Hydro, and others, regularly invest large amounts of capital to ensure they are available during times of scarcity. They do everything possible, at their own cost and own risk, to ensure they are ready to generate during the relatively few periods when demand cannot be met by other types of market generation. They do so without the need for expensive subsidies from AEMO or any other regulatory body.

An enhanced RERT is inconsistent with this market structure. Dispatch of the RERT during periods of high demand deprives peaking plant of the sole opportunity they have to recover their cost of capital. It is this revenue which allows these generators to recover their cost of capital, and sustains their ability to reinvest funds into their plant to ensure ongoing availability.

This Rule Change if enacted would fundamentally and adversely undermine the market and would not be in the long term interests of consumers.

The existing market design and contracting arrangements in the NEM remain effective and will continue to deliver new investment without compromising reliability. The success of the NEM rests with decentralised decision making, liquid and deep contract market and stable regulatory frameworks. The enhanced RERT reverses this risk allocation to a market operator with no risk capital at stake and recovery of investments left to energy consumers.

[2] Snowy Hydro submission, 2018, "Snowy Hydro Limited Response to Draft Detailed Design Consultation Paper"

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.

Procurement lead time

Snowy Hydro does not support a longer lead time from nine months to one year. Increasing the lead time will lead to additional cost and market distortions would raise uncertainty for all current and future investments. There is no justification to increase the procurement time to one year following the recent reinstatement of the long-notice RERT by the Commission. Without a sufficient period to let the long-notice RERT of 9 month notice period work in the market it is an extremely inappropriate time to be discussing increasing this to 1 year only a few months after the consultation. Snowy Hydro believes with the existing 9 month process there is more than sufficient time for AEMO to procure off market reserves.

As mentioned earlier, the RERT would deprive peaking generation from earning a return on investment. The RERT tends to be dispatched during periods of volatility, depriving peaking plant of earning scarcity pricing for making themselves available during these periods. This reduces the number of participants operating in the 'energy only' market. Over time, the quality of the NEM's generation fleet will decline, compromising its ability to respond to future market events. In short, the system becomes less secure.

Just as current political uncertainty has given rise to an investment strike, the uncertainties associated with the operation of the RERT will have a similar effect. These uncertainties increase the cost of capital and cause difficulties in financing investments in new or upgraded plant. This underinvestment will lead to future price rises.

If generators are denied an opportunity to earn an adequate return on their investment, they will have no choice but to reduce their level of investment. As a consequence, AEMO's longer procurement time will crowd out the private sector, and AEMO will need to continually grow its shadow fleet to fill the gap.

In the Consultation Paper *"AEMO considers that the inability to enter into longer-term agreements means potential resources, such as diesel gensets, may not be able to be procured in the most efficient way. AEMO's recent experiences support the position that greater reserves could be made available at lower cost if greater certainty could be offered to potential reserve providers."*[3] Snowy Hydro submits that this is incorrect. A diesel generator does not need long-term RERT agreements to operate, if the market is left to invest and work it will provide the most efficient outcomes and not distort a market causing it to become inefficient. The NEM has seen numerous diesel generators installed without the need for a long procurement lead time.

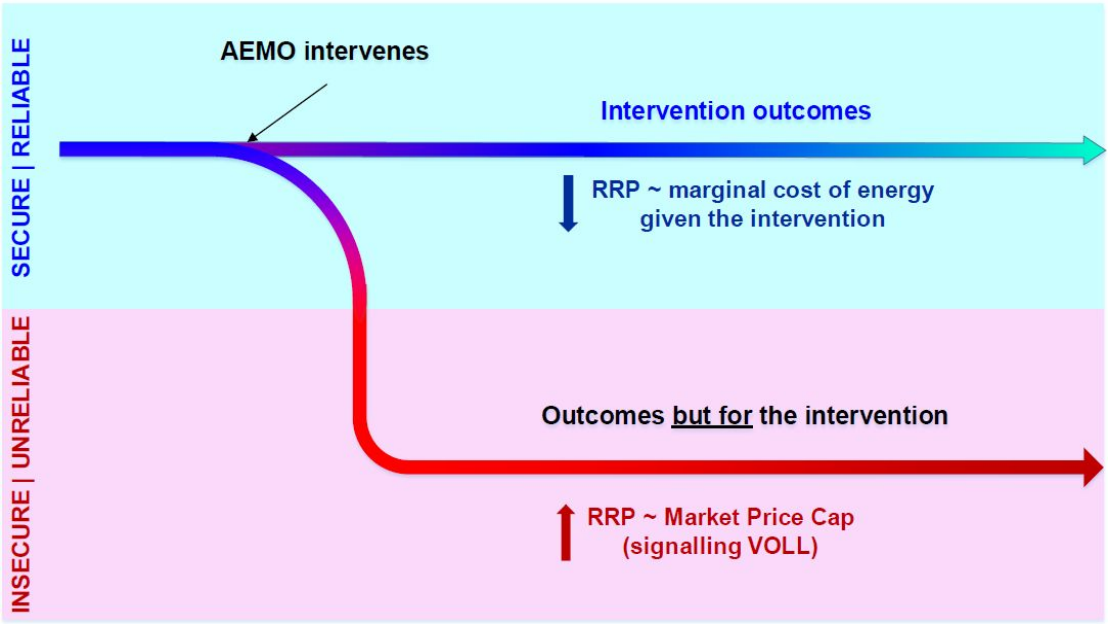
[3] AEMC 2018, Enhancement to the Reliability and Emergency Reserve Trader, Consultation Paper, 21 June 2018, Sydney,pp 20

AEMO suggests that multiyear contracting could lead to lower price RERT contracting than contracting one year at a time although this could be true it exposes numerous dangers which are not highlighted. The approach counters any rational of having electricity markets as providers would see the RERT as a long-term, lower risk alternative to participating in the market as a result customers absorb the proponents ' investment risks rather than the investors themselves.

AEMO recently commissioned a paper on intervention pricing by SW Advisory and Endgame Economics[4]. The paper correctly notes that intervention may prevent an immediate problem for the power system but it has the potential to create a new problem. The act of intervening may mute the signal of scarcity provided by the market at a time that we need those signals to be preserved.

In the absence of the intervention the market outcomes, highlighted in Figure 1, would be associated high price signalling the scarcity of supply. The prices should signal this scarcity of supply, so as to provide an incentive for generators and loads to respond. The intention of intervention pricing and any type of AEMO intervention is to ensure that despite the action of intervening, there is still a signal of scarcity. Further intervention would not achieve this.

Figure 1: Intervention distorts the signal for supply scarcity[5]



The enhanced RERT is a form of moral hazard. A situation where economic actors make inefficient decisions because they are able to avoid costs associated with their conduct. In the case of the RERT, AEMO implements costly intervention measures on the basis they are paid for by principally mass

[4] SW Advisory and Endgame Economics, 2017, "Review of Intervention Pricing"
[5] SW Advisory and Endgame Economics, 2017, "Review of Intervention Pricing"

market customers. This risk of moral hazard is that investors undertake projects without adequately assessing the externalities created by the RERT resulting in inefficient investment decisions.

The RERT should only be used in cases of genuine market failure insuring that it does not undermine the market it is actually trying to protect. The RERT should be a form of last-resort intervention only used sparingly and as a safety net to satisfy concerned stakeholders. The energy-only market should be left to deliver the economic level of bulk supply reliability to customers.

The impact of increasing the procurement lead time for demand response

The Commission notes that the ARENA and AEMO RERT trial has demonstrated that there are more resources, primarily demand response, that have the capability to change their energy consumption in response to an instruction but require a longer lead time is required for these types of reserve. Snowy Hydro believes this argument is an unjustified reason for increasing the lead time when demand response has not be properly forecasted through AEMO.

The Commission should firstly understand what wholesale demand response is being utilised as the current lack of transparency noted in the Commission's Reliability Frameworks Review is making it difficult to understand what level of demand response is efficient and the value it actually brings to the NEM. It would be inefficient for AEMO to be in a position where they can procure over a year and are unable to forecasts what demand response will be available.

Procurement Trigger

Snowy Hydro believes the current procurement trigger which is the reliability standard is an appropriate trigger and would not support AEMO taking a broader risk assessment on the risk of unserved energy. The procurement trigger being calculated consistent with the current reliability standard, which is expressed as weighted average estimate of expected USE remains appropriate. The USE represents an acceptable trade-off between reliability and cost.

To date the reliability standard has essentially been met. The reliability standard of 0.02 percent unserved energy has provided an appropriate balance between providing a reasonable level of reliability without significantly increasing costs to consumers in providing a higher target. The energy-only market has been robust and delivered the required levels of generation investment, system reliability and security and the decentralised decision making in the NEM has ensured investments have been prudent.

The reliability settings of targeted levels of unserved energy and the Maximum Price Cap should be used as the primary investment signals for additional supply. AEMO has worryingly not proposed a specific solution to the issue that it raised with the procurement trigger. Instead, it states that it wishes to have a trigger that takes into account a broader risk assessment, which would include the risk of unserved energy, not just the expected value of unserved energy. Without any methodologies highlighted in the consultation paper Snowy Hydro is unaware of any significant concerns with the unserved energy outcomes.

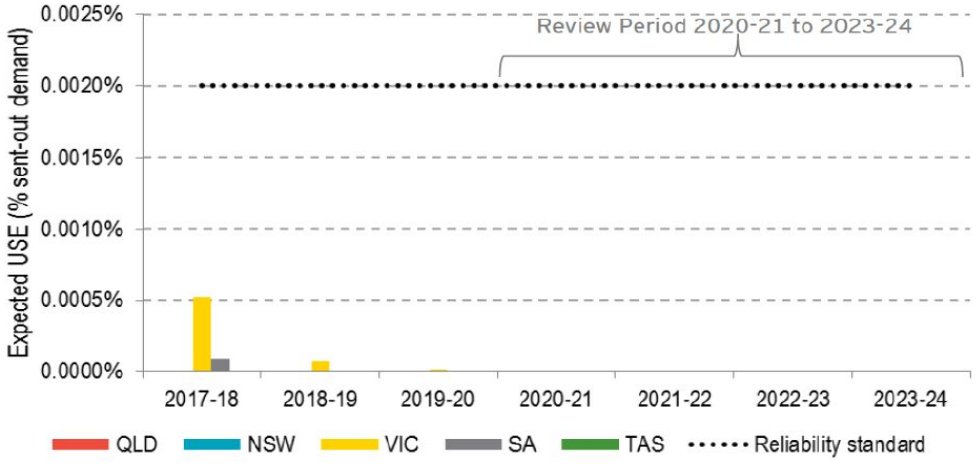
The Reliability Panel has an on-going process for periodically reviewing and setting the Reliability Standard and Snowy Hydro believes that should be dealt with there and is outside the scope of this rule change. Instead we supports the Australian Energy Council (AEC)'s submission to the Enhanced RERT[6] note that the Reliability Panel could assist AEMO by providing interpretations of the Reliability Standard that can be used in forecasts with shorter horizons than one year. This would:

- remove the confusion that seems to pervade this issue;
- ensure the RERT was used only in relation to the optimal economic level of reliability for customers; and
- create a clearer governance structure over in what conditions market intervention would occur.

Snowy Hydro is concerned that AEMO called into question that the reliability standard could be breached. If AEMO claims that the reliability is now a higher concern it needs to be empirically demonstrated. A closer look at the data suggests this is not the case and that the current reliability standard remains appropriate. 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.

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 2: Expected unserved energy outcomes for the base scenario from 2017/18 to 2023/24[7]



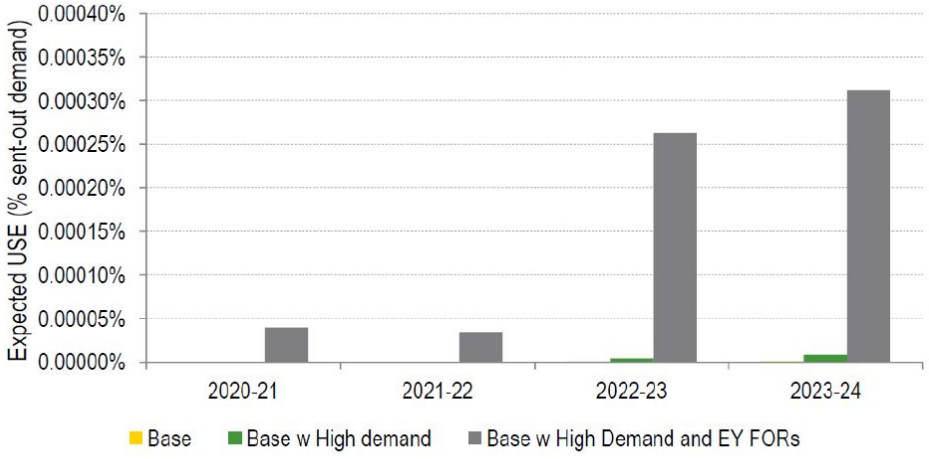
[6] Australian Energy Council submission to the Enhanced RERT consultation paper.
[7] EY, 2018, "Reliability Standard and Settings Review 2018 – Modelling Report - The Reliability Panel"

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

Figure 3: Expected USE outcomes in NSW for the base scenario sensitivities[8]



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

The Commission should not consider alternative metrics to the reliability standard metric. AEMO only recently implemented additional tools that enable it to forecast unserved energy outcomes more accurately. This includes the requirement that retailers provide NMI level data on any contracts that provide demand side response and those that have a portion of their load subject to the spot market, i.e. not contracted.

Governance and transparency of the RERT

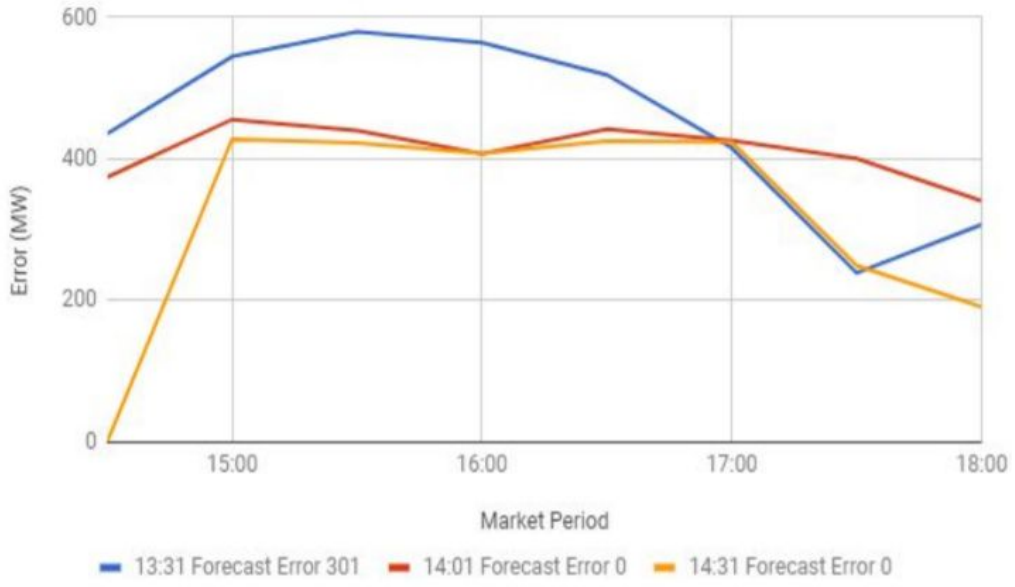
Snowy Hydro has concerns with the governance and transparency of the RERT framework. Inaccuracies in AEMO demand forecasting is unnecessarily triggering activation of the RERT with the

[8] EY, 2018, "Reliability Standard and Settings Review 2018 – Modelling Report - The Reliability Panel"

direct cost of the RERT being passed on to consumers. As a consequence, AEMO's RERT is impacting market participants by not earning a return on its investment likely decreasing future investment in new or existing plant. Market participants would benefit in improving the transparency and governance arrangements of the contracting process.

On the 19th January 2018 when the RERT was again activated for 6 hours, AEMO significantly over forecasted demand. Figure 4 shows that AEMO's last VIC/SA demand forecast before the RERT was activated was around +550MW in error, and subsequent forecasts were also around +400MW in error.

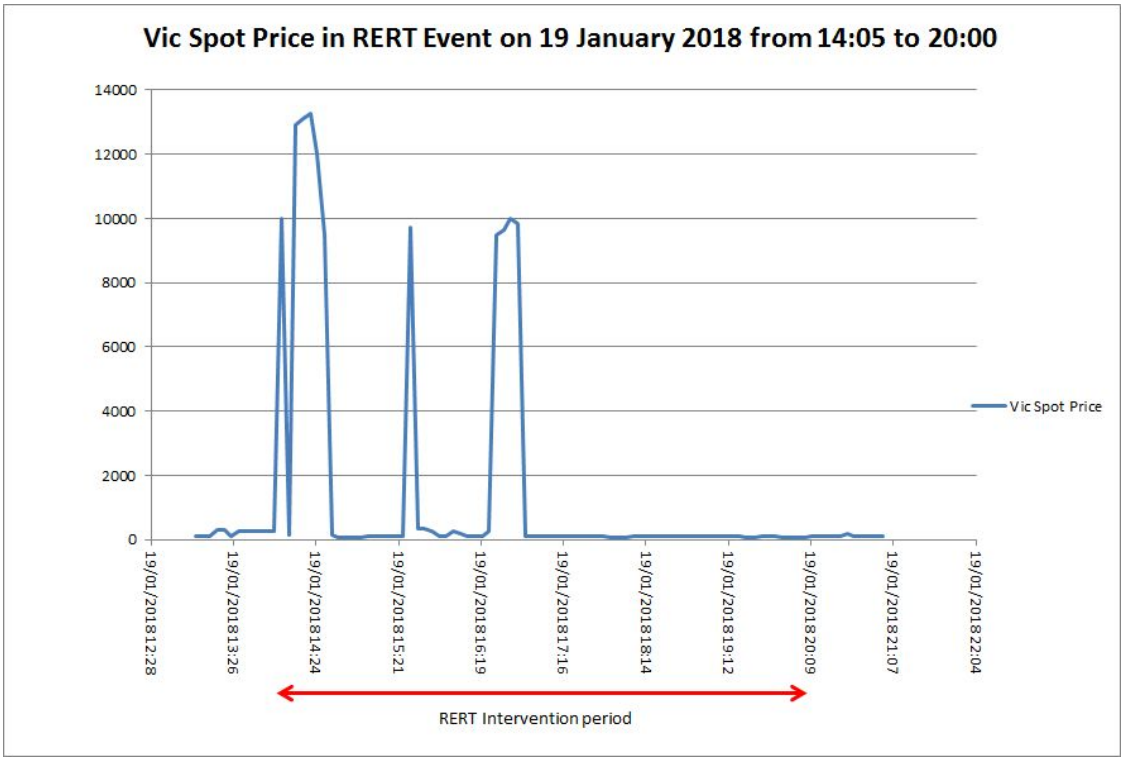
Figure 4: VIC/SA Demand Forecast Error (MW)[9]



The settled spot price for Victoria region is shown in the figure 5 below. What is apparent from figure 5 is that during the RERT period from 14:05 to 20:00 the settled spot price did not properly signal the scarcity value of energy. For instance for the period from 17:00 to 20:00 the spot price was below $200/MWh. This highlights that the RERT was simply not required to be activated in this period. This observation highlights that the current intervention pricing methodology is not producing prices that indicate scarcity of energy or FCAS. In simple terms if RERT is used to meet demand then the energy prices should be set at the Market Price Cap to efficiently signal scarcity.

[9] Snowy Hydro analysis

Figure 5: Settled spot price for Victoria region



Independent oversight of procurement trigger for the RERT

Snowy Hydro believe there needs to be independent oversight of the procurement trigger for the RERT. Under the enhanced RERT[10] there would be no independent oversight of procurement triggers compared to the design of the NEG that proposes an independent trigger for the Procurer of Last Resort. The independent entity expected to be responsible for reviewing AEMO's Electricity Statement of Opportunities (ESOO) in the NEG will improve forecast accuracy and Snowy Hydro submit is more effective at improving forecast accuracy that any other proposed approach.

There are numerous aspects of AEMO's forecasting need more transparency. The systematic trend in inaccurate demand forecasts requires further investigation on reporting and understanding the methodology will be critical for the RERT.

Snowy Hydro is particularly concerned that in progressing the assessment of AEMOs rule change proposal there was a lack of detailed reporting on the use of the RERT mechanism over summer 2017-18. AEMO's review of summer 2017-18 provided some basic total cost to have the reserves on

[10] AEMC 2018, Enhancement to the Reliability and Emergency Reserve Trader, Consultation Paper, 21 June 2018, Sydney

call and to activate RERT noting that it would equate to an annual average household bill without taking into account any other variables. Snowy Hydro however believes the RERT costs should have be presented by more relevant statistics to understand the actual impact of triggering the RERT . If the cost of energy procured under the RERT were compared under the cost of energy supplied by the private sector, RERT energy contracted by AEMO would have likely been more expensive than energy supplied by market generators in the market.

AEMO's activation of the RERT on 19 January 2018 cost nearly four times the Market Price Cap. The costs associated with such reserves are significant and need to be properly assessed in AEMO reports. In addition, AEMO has not provided any methodologies they expect to use to assess reserve requirements which would have allowed the market maximum time to deliver a low cost response.

Snowy Hydro supports the AEC's[11] suggestion presented in their Enhanced RERT submission to improve AEMO reporting by including costs and characteristics of individual providers. Although such information is confidential it should be a necessity of those participating in this intervention process that all such information is revealed. This should not have anti-competitive effects as the RERT is not intended to be a routinely repeating exercise.

Information provided to the market

The improvement in governance and transparency of the RERT should improve AEMO's continued publishing of reports detailing the circumstances giving rise to the need to dispatch reserves, the processes associated with such dispatch, cost and recovery of the cost of the RERT. AEMO should continue to inform the market every time it enters into new contract and there are a series of market notices that it must publish in the lead up and during the activation/dispatch of the RERT. As noted in the previous section there need to be further improvements in the AEMO reports to properly assess the RERT triggered periods.

Procurement volume

Following the forecast uncertainties, Snowy Hydro believes AEMO's wish that both the procurement trigger and volume take into account a broader risk assessment framework does not proceed until AEMO's forecasting processes have improved and received the appropriate oversight from an independent entity.

Standardisation of products

Snowy Hydro does not support AEMO's proposal to move towards more standardised RERT products. Technologies are likely to improve and be outside of the normal market therefore unlikely to fit into a procurement design that has been developed before this technology arose making it an unfavourable position for the RERT.

[11] Australian Energy Council submission to the Enhanced RERT consultation paper.

Types of reserves

A technology neutral approach is the preferred approach for Snowy Hydro on the technologies eligible to participate in the RERT. Technologies should not be restricted to certain types of technologies as all dispatchable energy should be considered regardless of the source. However there needs to be a fair comparison on operational characteristics such as duration of response and reliability to supply desired response.