18 July 2017

Mr Neville Henderson
Chairman
NEM Reliability Panel
Australian Energy Markets Commission
PO Box A2449
Sydney South NSW 1235

Dear Mr Henderson

RE: REL0064 Reliability Standard and Settings Review 2018 – Issues Paper

ERM Power Limited (ERM Power) welcomes the opportunity to respond to the National Electricity Market (NEM) Reliability Panel (the Panel) Reliability Standard and Settings Review 2018 – Issues Paper (the Paper) dated June 2017.

About ERM Power Limited

ERM Power is an Australian energy company operating electricity sales, generation and energy solutions businesses. The Company has grown to become the second largest electricity provider to commercial businesses and industrials in Australia by load[1] with operations in every state and the Australian Capital Territory. A growing range of energy solutions products and services are being delivered, including lighting and energy efficiency software and data analytics, to the Company's existing and new customer base. ERM Power also sells electricity in several markets in the United States. The Company operates 497 megawatts of low emission, gas-fired peaking power stations in Western Australia and Queensland. www.ermpower.com.au

General comments

This review of the NEM Reliability Standard and Settings is taking place during a period of significant change in the NEM. The Panel's task is made more difficult by perceptions that, going forward, reliable supply to consumers and secure operation of the power system may be more difficult to achieve than has historically been the case. Furthermore, this is occurring at a time when a number of reviews regarding power system security and reliability are ongoing. The Panel should be mindful that perceptions of difficultly in achieving reliable supply to consumers have occurred before, generally driven by forecasts of ever increasing peak demand which failed to materialise, and yet the NEM has continued to achieve reliable supply despite these concerns.

ERM Power is of the view that whilst the NEM Reliability Standard and Settings were once a major consideration in providing signals for future investment, today the signals provided by these settings have been muted by off-market subsidies, such as the Renewable Energy Target (RET) and the lack of certainty with regard to policies for ongoing emissions reductions, concerns regarding market interventions by governments at all levels, or changes to market rules and market design.

[1] Based on ERM Power analysis of latest published financial information.

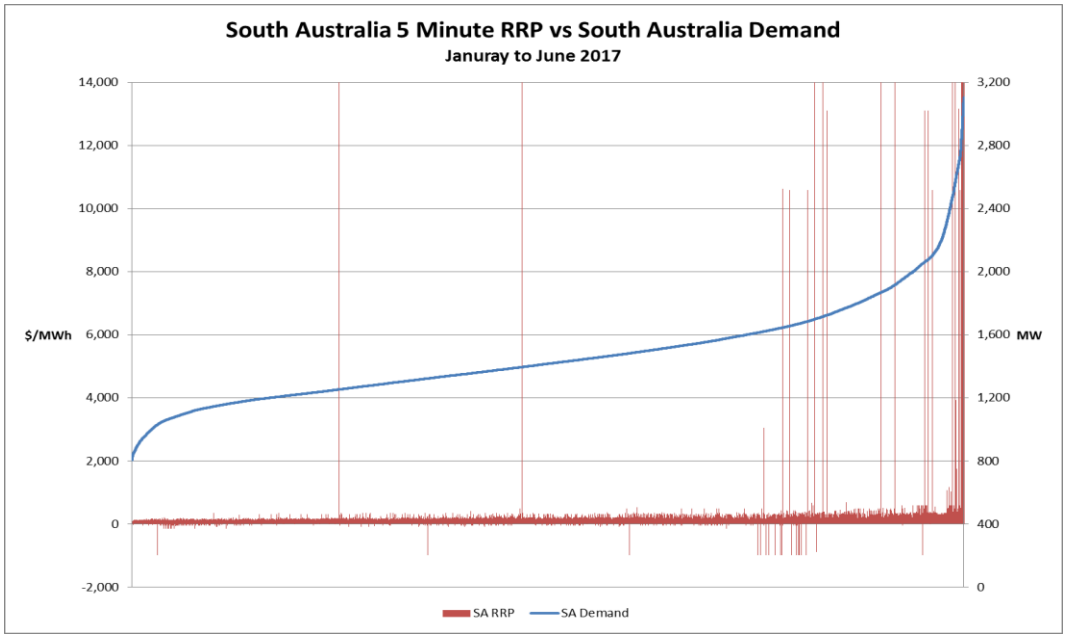
We believe the Panel needs to consider that changes to increase any of the reliability settings in value may not translate to what the Panel believes would be positive changes in investment outcomes given the current levels of market uncertainty.

In this current world of uncertainty, ERM Power does not support an increase to any of the NEM Reliability Settings and believes any increase to the Market Price Cap (MPC), Cumulative Price Threshold (CPT) or Administered Price Cap (APC) would potentially lead to poor outcomes for consumers. An increase in any of these settings would only increase the risk to all participants of operating in the NEM and would lead to further and unnecessary price increase to consumers at a time when many consumers are struggling with significant increases in electricity costs.

Potential changes in the relationship between high price events and demand

The Panel, in section 4.2.2 of the Paper, raises concerns that there is some evidence of a breakdown in the historical close relationship between high price events and periods of high demand in South Australia. The Paper then uses data from calendar year 2016 as the basis for this view. ERM Power believes the Panel should consider this data at closer detail as our own analysis of the data indicates that approx. 75% of dispatch intervals where the regional reference price (RRP) exceeded $1,000 occurred during periods of reduced network capability, sometimes with instantaneous changes in network transfer capability. In addition, 50% of the events were associated with long duration outages for upgrade of the Heywood interconnector which was unfortunately scheduled at the time of the peak winter demand period.

By contrast, data for South Australia in the period January to June 2017 indicate a significantly decreased frequency of high priced events and a return to a closer relationship between demand and high prices, notwithstanding, even in this period, approximately 20 per cent of price events were due to changed network capability. Analysis of the data also indicates that approximately 70 per cent of the price events in this period occurred during the hot weather, high demand periods encountered during 8 to 10 February 2017. In this period some price events were primarily due to demand outcomes in South Australia, however, a number of these events were due to the import of prices from Victoria associated with weather outcomes and associated high demand in other regions. Therefore we believe the Panel needs to take a more NEM-wide approach in assessing any potential change between high priced events and demand and seek to better understand the individual cause of high priced events.



Value of customer reliability (VCR)

ERM Power acknowledges that the Panel must take into account the level of VCR during their materiality assessment process[2]. Notwithstanding, we believe that simply using the VCR as calculated by the Australian Energy Market Operator (AEMO) should not be the only values considered by the Panel in assessing the price placed on supply reliability by consumers.

Significant levels of demand management, either via consumption reduction or behind the meter generation, is readily observable at times where a RRP exceeds values as low as $5,000/MWh. This outcome tends to indicate that some consumers are prepared to accept lower supply reliability from the grid in return for lower cost outcomes. Unfortunately, as the National Electricity Rules (the Rules) currently do not require this price sensitive load to reveal to the market the price at which they are prepared to cease consumption, the Panel can only infer the value placed by these consumers on supply reliability by observation of market outcomes.

In addition, the Panel in its recent review of the System Restart Standard determined that the regional VCRs were not in fact a fixed value but reduced with the length of a supply interruption[3]. This could suggest that the value of VCR may not be a static number and may decrease as the level of unserved energy (USE) increases and should be considered as an input assumption into the modelling process.

Coupling of gas and electricity prices and securing inputs to generation in the event of a gas supply shortfall

The Panel, in section 4.2.4 of the Paper raises concerns with regard to structural changes in the East Coast Gas Market, driven by the establishment of a liquefied natural gas export industry. The Panel includes the observation that during June and July 2016, during the period of the Heywood interconnector upgrade outages, the increased requirement for gas-fired generation in South Australia led to a significant increase in the price of gas in South Australia and Victoria to high levels for sustained periods.

In addition, the Panel, in section 4.3.3 of the Paper raises concerns regarding recent evidence of a lack of availability of gas supply for electricity generation, potentially resulting in some interruption to the supply of electricity.

We agree that the impact of forward gas prices and secure gas supplies is relevant for the modelling undertaken as part of the review process. However, in assessing the impact of gas prices and secure gas supplies on electricity prices, ERM Power believes the Panel needs to consider that a number of the gas-fired intermediate and peaking duty generators in the NEM have dual fuel (both gas and liquid) capability. In assessing the impact of gas prices and secure gas supplies on electricity price outcomes, we believe the Panel should consider that even at a relatively high gas or liquid fuel price of $30/GJ, which is above the price outcomes observed in the winter of 2016, the equivalent generator marginal cost remains sub $450/MWh, which is well below the current MPC value.

South Australian involuntary load shedding event 8 February 2017

In assessing the events in South Australia on 8 February 2017, with regard to considering the potential for USE events in the future, we believe the Panel needs to consider that additional generation remained available for commitment, based on sufficient notice being provided, should AEMO have indicated to the market or determined this additional generation was required. A higher level of MPC or CPT would in all likelihood not have changed this outcome.

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[2] Materiality Assessment Page 45 Issues Paper - Reliability Standards and Settings Review 2018

[3] Table 5.4 Page 63 Final determination – Review of the System Restart Standard

The first Lack of Reserve (LOR) notice[4] indicating a potential shortfall in reserve was not issued until 15:18 that day. This notice indicated a LOR level 1 condition which indicates to the market that if the largest credible contingency event was to occur, a supply shortfall could occur following a subsequent second contingency event. An additional LOR level 1 notice was issued at 16:13[5].

The first LOR level 2 notice[6], indicating the potential for supply interruption following a credible contingency event was not issued to the market until 17:13, this market notice also indicated that 'AEMO does not intend to intervene through an AEMO intervention event'. This market notice was issued only 45 minutes before the involuntary load shedding commenced, which left little time for the 240 MW capacity second Pelican Point generator unit, which was available but not yet market committed, to affect a return to service.

The Panel should also consider that the AEMO, Market Event Report,[7] indicated that the 16:00 pre-dispatch revision indicated a higher level of output from wind farms located in South Australia and a lower level of forecast demand for South Australia. Combined, these errors totalled approximately 250 MW when compared to actual outcomes. Had AEMO's forecasts been more accurate at the 16:00 revision, this involuntary load shedding event may well have been avoided as the LOR2 notice would have been issued one hour earlier than actually occurred.

Currently, the Rules do not set requirements regarding the bounds of accuracy for AEMO's demand and semi-scheduled generator forecasts; this is an area the Panel may consider as part of this review due to the impact of AEMO forecasts on supply reliability and market intervention. We note that improving the accuracy of AEMO forecasts was one of the recommendations of the Independent Review into the Future Security of the NEM, the so-called 'Finkel Review'.

The reliability standard

There current reliability standard of 0.002% USE has been set at its current level since June 1998 and was last reviewed in 2014. To date, the standard has delivered a very high level of reliability of supply to consumers. While some trends are emerging with regard to the way in which consumers use electricity through the introduction of new technology, these trends are only just starting to emerge. While there are forecasts regarding future adoption, we believe the Panel needs to consider that these forecasts will be subject to revision and may be impacted by other new technologies, changes in the costs of existing technologies or overall prevailing economic conditions.

The Panel has identified that solar PV penetration, both for residential and small to medium size enterprise customers, is expected to increase over the forecast period including systems that integrate solar PV and battery storage.[8] ERM Power notes that one of the installation requirements for existing grid connected solar PV only installations is that they cannot output unless they are connected to an energised grid. In the event of loss of energy source from the grid, the solar PV system trips out of service and remains out of service until grid supply is restored.

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[4] AEMO Market Notice 57276
[5] AEMO Market Notice 57277
[6] AEMO Market Notice 57279
[7] AEMO SYSTEM EVENT REPORT SOUTH AUSTRALIA, 8 FEBRUARY 2017 Issued 15 February 2017
[8] Page 48 Issues Paper - Reliability Standards and Settings Review 2018

However, the Paper then indicates that, 'the caveat noted above, that many rooftop solar PV systems will not operate unless connected to the energised grid, also applies to many integrated solar and battery systems.'[9] We are concerned that the Panel has erred in this assessment as one of the primary considerations for customers installing batteries is to allow a continuation of reliable supply following loss of grid supply and integrated battery and solar PV installations are permitted to be installed to achieve this outcome. This is no different to outcomes for integrated solar PV and battery installations that are not connected to the grid. We believe the Panel should reconsider the impact of integrated solar PV and battery systems on the level of supply reliability required by consumers from the grid as these integrated systems allow consumers to accept a lower level of grid based supply reliability.

In assessing the potential impact on the NEM of these emerging technologies, which suggests that consumers going forward will place less value on reliable supply from the power grid, it would suggest the reliability standard could be relaxed, i.e. increased in value. ERM Power believes it is too early to make this conclusion and considers that the reliability standard should remain at 0.002% USE to allow these emerging trends to mature, which would allow a more accurate assessment of their impact at the next review.

Currently ERM Power does not believe any change to the reliability standard is warranted.

The reliability settings

The Panel's task in reviewing the reliability settings during this review is challenging. Any changes to any of the settings should be based on an assessment that the change will result in positive benefit to the NEM from a consumer's perspective. In addition, should the Panel recommend a change to any of the reliability settings, this change should be progressively implemented over a number of review periods to allow reassessment of the change during future reviews.

We also believe that the Panel in this review should carefully consider the recommendations of the 'Finkel Review'. A number of recommendations from the Review relate directly to the reliable supply of electricity to customers and therefore have the potential to impact features of the reliability settings.

The Panel has indicated that one of the primary functions of the MPC is that it sets a default bid for loads, as loads, including price sensitive loads; do not actively participate in the spot market.[10] This default bid serves as the proxy limit for the price at which load will switch off, or reduce consumption. As indicated earlier in our submission, we believe the Panel should consider the observable evidence that demand management by consumers is occurring, and is occurring at wholesale spot price outcomes substantially less than the current MPC.

In assessing the level of the MPC, the Panel needs to carefully consider the impact any change may introduce in the financial contracting market. The financial contracts market allows participants to manage the risk of participating in the wholesale spot market, and changes to the reliability settings for the spot market, may potentially result in impacts, which may be either positive or negative, in the contracting market.

[9] Page 48 Issues Paper - Reliability Standards and Settings Review 2018
[10] Page 53 Issues Paper - Reliability Standards and Settings Review 2018

The Panel considers that an increase in the MPC may create incentives for generators to increase the level of contracts available which would assist other participants to manage the increase in spot price risk due to any increase in MPC level. However, the Panel needs to be aware that from a generators perspective, an increase in the level of the MPC also increases risk for a generator in the event of an unplanned outage, as the generator would still be required to pay contracts for difference payments even though the generator would not be receiving spot market revenue. To efficiently manage this risk, generators will generally decrease their exposure to the contracts market to avoid unfunded CFD payments; therefore an increase in the MPC equally incentivises generators to potentially contract less.

In a market where the supply-demand balance is tightening, and generators believe that supply of fuel input is also tightening, the potential exists for increased returns for price versus volume trade-off. This is exacerbated where sourcing of adequate contracts for risk management is becoming more challenging, such as in the NEM which is dominated by a small number of large vertically integrated Gentailers[11]. This is further compounded by increases in intermittent generation which to date have been less inclined to offer firm volume contracts. We believe the Panel needs to take these factors into careful consideration during this review.

The Cumulative Price Threshold (CPT) is the primary setting that limits market participants' financial exposure to the wholesale spot market during prolonged periods of high prices. The cumulative price threshold also limits the risk of financial contagion across participants in the national electricity market, where the financial failure of a participant could trigger a cascading series of failures across the market, leading to significant instability and significant price impacts for consumers.

In assessing the level of the CPT the Panel needs to ensure the CPT's role in managing the potential risk to the market as a whole against the need for a marginal generator to earn sufficient revenue to remain available to the market or to provide an efficient signal for additional investment. Historically, the CPT has triggered infrequently in the energy market and looking forward there is no evidence to suggest an increase in the frequency for CPT events.

Whilst the CPT for Frequency Control Ancillary Services (FCAS) markets has recently triggered more frequently in South Australia, generally associated with an outage impacting the capability of the Heywood interconnector, than has not historically been the case, this increase in frequency occurred due to a change to AEMO's operating procedures for the enablement of South Australia local FCAS regulating services and the limited number of suppliers for these services. This change to operating procedures was initially implemented with little notification to the market, and whilst a time delay in market response has occurred, changes to the rules in November 2016 for the provision of FCAS will assist the entry of new service providers leading to an increase in competitive outcomes for provision of these services in South Australia.

We support the Panel's view that 'these high prices reflect either temporary and/or local circumstances rather than indicating long-term structural change, which would warrant a reassessment of the level of the market price cap and the cumulative price threshold for FCAS markets'.[12]

Currently ERM Power has not observed any trends in market outcomes or increased costs for the provision of generating plant and equipment that would suggest a change in the level of the CPT is warranted.

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[11] Combined generator and retailer

[12] Page 63 Issues Paper - Reliability Standards and Settings Review 2018

The Administered Price Cap (APC) and Administered Price Floor (APF) both come into effect following the declaration by AEMO of an Administered Pricing Period which is automatically triggered when the CPT has been exceeded. The primary purpose of the APC is to cap participants' exposure to sustained high prices, thus reducing the risk of cascading financial collapse of the market whilst maintaining incentives for participants to continue to supply energy. The APC therefore should be set high enough to cover the normal range of marginal costs of the majority of generation in the NEM.

The Rules also include a safety net provision for generation where the marginal costs of generation may exceed the APC. [13] This allows a participant to claim additional compensation where the participant's actual marginal cost can be demonstrated to exceed the APC. As indicated in the Paper, to date there has only been one claim for compensation made under this provision. In assessing the potential for the lodgement of compensation claims under this provision of the rules into the future, the Panel should consider that only a small component of this claim was associated with the participant's marginal cost of production and due to a significant level of controversy regarding the claim, rules changes occurred to more clearly detail the areas that may be claimed following the processing of the claim.[14]

We believe that in assessing the appropriate value for the APC the Panel should consider if a structural increase in normal marginal costs has occurred for the higher cost generators in the NEM. In this case an increase in the APC may be warranted, or if there may be from time to time some level of short term volatility in marginal cost for these generators, in which case the APC should remain at its current level and the existing compensation provisions should be used to cover any short-term volatility in marginal costs.

In assessing this, we believe it would be beneficial for the Panel to refer to an independent assessment of the marginal costs for generators such as that used by AEMO for modelling in the National Transmission Network Development Plan.[15]

The Paper indicates that the Panel's view is that the MPC and CPT are interrelated and should be reviewed together, and that changing one setting affects the basis on which the other setting is determined. ERM Power supports this conclusion, however we also believe that from an overall market financial stability perspective, in that the CPT and APC work together to limit participants' financial exposure to the wholesale spot market during prolonged periods of high prices, that the APC is also interrelated to the MPC and CPT and these three setting should be reviewed together.

The Market Price Floor (MPF) which is currently set at -$1,000 is sufficiently low for its intended purpose and ERM Power has not observed any changes in the market that would warrant a change to the value of the MPF and therefore does not support any change to its current value. We also support the Panel's view in the Paper that, 'In light of the uncertainty currently prevailing in the National Electricity Market (detailed in chapter 4) there may be merit in retaining the current level of the market floor price to provide regulatory certainty'.

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[13] Clause 3.14.6 Compensation due to the application of an administered price, market price cap or market floor price
[14] 4 February 2016 Rule Change Final Determination Compensation arrangements following application of an administered price cap and administered floor price
[15] ACIL Allen Fuel and Technology Costs Review

Modelling for the review

In general ERM Power supports the approach to modelling as set out in the Paper. We support the approach that the modelling should be technology neutral with regard to new investment and would encourage the Panel to publish the cost input assumptions for the different technologies to be used in the modelling for review and comment by participants prior to the commencement of the modelling. Achieving widespread agreement on these key assumptions prior to the modelling work should prevent any disagreement which could arise with regard to the modelling outcomes with regard to the input assumptions if they are only released with the modelling results.

The Paper indicates that the modelling will attempt to value the reliability settings not just on the basis of new investment but also factor in the retirement decisions for existing generators, we believe that in seeking to model the retirement outcome, the value placed on retirement should not exceed the value placed on new investment as this would result in an inefficient market outcome where higher costs generation is retained.

We support the view that in addition to the natural variances in demand the modelling should also factor in the natural variances that do occur in intermittent generation output due to prevailing weather conditions. However, in doing so the model should also consider recommendations from the' Finkel Review' that intermittent generation be required to provide controllable output and believe the modelling assumptions should include for a number of levels of controllable output from intermittent generation sources. The Panel should clearly articulate their assumptions in this regard prior to commencing modelling.

Conclusion

ERM Power believes the panel's task in completing the 2018 review is far more challenging than the reviews undertaken to date. The NEM is undergoing significant change which is challenging power system security, supply reliability and affordable price outcomes for consumers. In assessing the reliability settings the Panel needs to consider the potential for both negative as well as positive outcomes for the ongoing reliable supply of electricity at affordable cost to consumers from any proposed changes.

Observable changes are occurring in consumption patterns, particularly at times of high spot prices, we believe the Panel should consider that demand management is routinely occurring at spot prices below the current value for the MPC and well below the estimated values in AEMO's VCR estimates. Consumers appear to be indicating their own individual view as to the value they place on reliable supply.

With regard to the extensive modelling works proposed as part of this review process, we believe the Panel's task can be made easier by the release of all input assumptions for modelling work for review and comment prior to the commencement of any modelling work; this will allow for increased efficiency in the modelling process and review of the model outcomes as the input assumptions have already been reviewed and agreed to by interested parties prior to the modelling commencing.

We also believe the Panel should note and include in the review process those recommendation contained within the 'Finkel Review' which directly or indirectly impact on the question of supply reliability.

Please contact me if you would like to discuss this submission further.

Yours sincerely,

[signed]

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