Mr Neville Henderson
Chairman of the Reliability Panel
Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000
Lodged via the AEMC submission web portal
www.aemc.gov.au

Wednesday 12/7/2017

Dear Mr Pierce,

RE: Reliability Standard and Settings Review 2018 Issues Paper REL0064

ENGIE appreciates the opportunity to comment on the Reliability Standards and Settings Review 2018 Issues Paper.

ENGIE is a global energy operator in the businesses of electricity, natural gas and energy services. ENGIE is the number one independent power producer in the world with 115.3 GW of installed power-production capacity, 19 GW of which is renewable. ENGIE provides generating capacity in Victoria, South Australia and Western Australia. ENGIE also owns Simply Energy which provides electricity and gas to more than 630,000 retail customer accounts across Victoria, South Australia, New South Wales and Queensland..

1) The reliability standard

The current reliability settings and review process is predicated on economic efficiency and market response.

From an economic perspective, the 0.002% unserved energy standard is a pragmatic benchmark that is consistent with the value of customer reliability. According to previous studies by AEMO and the AEMC, it is comparable to electrical systems and markets internationally and should be retained in the NEM.

However, no politician wants to have blackouts occur on their watch, even if they are economically efficient outcomes of a market where it is less expensive to shed load than to fund additional generating and transmission capacity.

Over time, there has been a trend of government and regulatory intervention and this trend is accelerating, as evidenced by the recent developments in South Australia.

The market and reliability settings cannot continue to deliver reliable system in the face of government interference at the state and federal level.

The importance of the NEM arrangement being “left alone” was previously studied by the Reliability Panel in earlier reviews (eg CRAI study and modelling). This implies that a consensus policy direction must be put in place to prevent ongoing or ad-hoc interference in the market.

However if such an outcome cannot be achieved, then a trading arrangement other than the Energy Only Market will be needed to facilitate politically acceptable outcomes, to provide a stable investment environment and to deliver affordable prices to consumers.

The Reliability Panel is seen as having a critical contribution and role in such a process.

2) The market price cap

An effectively calibrated MPC incentivises generator and demand side response to deliver a ‘two sided’ electricity market, does not impede investment and achieves this without over signalling (price). The ‘two-sided’ market is critical in moving away from a default value of customer reliability to a real value set by customer choice.

Should the MPC be set too low, supply or demand side response will be discouraged since some of the inherent risk in the market would be mitigated ‘for free’ by the regulated price cap. This will in turn lead to reduced incentive to forward contract, and hence impede liquidity in the contract market and eliminate some of the medium/longer term market signals that are essential to support investment.

It should be noted that no investor (demand or supply side response) is prepared to invest on the basis of a one in ten-year event; they need some stable revenue stream (i.e. from selling caps and swaps).

The MPC needs to be set at a sufficiently high level to underpin an active demand response sector and to encourage unsophisticated commercial players to contract and not ‘ride spot’ on the back of oversupplied intermittent generation.

In this context the risk of setting the MPC too low is likely to result in under contracting, and hence underinvestment, possibly leading to market failure. These risks are considered far more detrimental to the market stability and efficacy of the market than if the MPC is set too high which would result in a small amount of excess capacity being built.

A fundamental principle in setting the MPC should be to ensure that the cap is ‘out of the way’, and the market (supply and demand) can respond below it.

A pragmatic approach is to set the MPC higher than determined by the modelling by adding an uncertainty margin. This calculation of the margin and reliability modelling sensitivities need to include uncertainties and risks categories as listed in the following checklist:

- Plant life and the level of WACC from an investors perspective (this is the economic life as distinct from a technical plant life)
    - There is a high and ongoing level of uncertainty of future environmental policy outcomes with a possibility of sudden and unexpected changes
    - Technology developments and risks
    - Market risks (increase WACC accordingly)
    - Impacts of changing load shape (also linked to climate change policies and subsidies)
- Gas supply arrangements are complex and costly. To acquire firm gas transport is also expensive.
    - This will increase costs to generators and customers and needs to be incorporated into the modelling assumptions.
- Transmission risks and costs
    - Transmission arrangements in the NEM are non-firm and present significant costs and risk to participants.
    - As the supply side is being transformed over time, generating and consumption patterns will change and some existing constraints will grow whilst new constraints will materialise. These risks also need to be factored into the modelling (possibly adopting a higher WACC).
- Wind and solar generation level and variability (becomes even more important as penetration of these technologies increases)
- Changing demand shape to become flatter over time
    - Impacts of storage on demand and price profiles – large scale and behind the meter battery storage
- Changing role of remaining thermal plant (being displaced and undercut by subsidised non-dispatchable plant producing energy but without dependable capacity)

All of these elements serve to increase risks for investors and need to be comprehensively and effectively addressed in the modelling. In ENGIE's view there is a case to argue that investment in the National Energy Market has been seriously compromised by policy interventions and therefore risk (and hence WACC) has increased at the same time as payback periods have been severely shortened across all technology types. This doesn't impact just new entrants but any investments related to existing plant, especially when considering refurbishment of plant. Recent earlier than expected closures of power stations such as Hazelwood, illustrate that the NEM does not provide an investor friendly environment.

3) The cumulative price threshold

The CPT should be set with reference to the level of risk the market can manage in aggregate and not simply as a function of the MPC. ENGIE continues to suggest that the settings of the MPC and CPT should be decoupled. A number of market participants has also raised this issue over numerous reviews, across many years. However detailed analysis and alternate arrangements are yet to be developed.

It is important that the CPT is not set too low and risk undermining the MPC, and hence the investment signal. If the CPT is set too low, it is likely to truncate peaking plants revenue during extreme events, which is essential to achieve financial viability.

It is suggested that the CPT should be at least examined in the context of the reliability modelling used to determine the MPC, to ensure that the revenue adequacy of peaking plant is maintained. In the event that the CPT undermines revenue adequacy of an extreme peaker, the MPC will need to be adjusted higher until revenue adequacy is restored. The frequency and duration of extreme events in the modelling will determine if revenue adequacy is in fact feasible.

5) The market floor price

ENGIE would like to outline some of the fundamental aspects of the existing excess generation arrangements, as well as future technology trends in the market that need to be addressed to maintain equity between participants , technological neutrality and economic efficiency.

The original purpose of the market floor price was to provide a strong signal to generators during periods of excess generation to reduce their output and to do so in a cost efficient manner. At market start in 1998, the majority of generation comprised dispatchable thermal plant. This plant was technically similar (inertia, frequency response, reactive power provision), with fuel type being the main variable. Resolving excess generation with regard to system security was a much simpler task than it is today.

Currently NEM has a mix of dispatchable thermal, semi-dispatchable wind and solar and a large volume of embedded micro generation (soon to be augmented with storage technology).

Whilst dispatchable plant continues to be mainly thermal, there are large quantities of semi-dispatchable wind and some large solar, and also large quantities of embedded micro generation such as roof top photo voltaics.

These technologies are not interchangeable, wind generation doesn't replace the dependable capacity and inertia of thermal plant. Semi-dispatchable wind generation is curtailed in dispatch only in the event of network constraints and not in response to spot prices. In addition, embedded microgeneration not only fails to provide inertia, but it is incentivised to continue to generate and to feed excess generation into the grid, even during excess generation periods by receiving a fixed feed in tariff. At the same time microgeneration receives three sets of additive subsidies, up front STCs, subsidies by other users on the

network (consequence of volume based network tariffs) and receipt of inflated (beyond economic benefits to the system) feed in tariff.

The impact of the current arrangements is that the burden of reducing output falls on conventional plant and yet this plant is also relied upon to provide market services such as inertia and system strength.

Acute system security issues in South Australia already exist and the growth in solar PV, large scale solar and wind generation will make this situation much worse as it becomes more widespread across the NEM. Battery storage technologies may assist to further hinder the operation of the NEM during excess generation periods depending on the price signals and control arrangements for storage technology. The very generators providing a range of system services for free are being financially penalised and are likely to reduce the number of available plants. Direction by AEMO is the only available avenue for these generators. The costs associated with any such direction will be ultimately recovered from the customer. This translates into a “battle of subsidies” which the customer ultimately has to fund and which further increases the cost of electricity.

The Reliability Panel is encouraged to review the level of the market floor price in the short term and also initiate a review of the whole market arrangement dealing with excess generation. The guiding principles are as follows:

- Technological neutrality
    - Or at least a ‘do no harm’ approach to technologies
    - Should encourage demand response (essentially a payment for consumption)
- Economic efficiency
- Equity
- Simplicity
- Implementation costs (and/or costs of not implementing an alternate arrangement)
- Regulatory stability

6) Modelling for the review

As a matter of principle, the modelling should minimise the use of subjective assumptions regarding offer/bid behaviour or dispatch. To be sustainable, the cap contracts need to be valued at the expected value of a cap using the modelling output (without cap contracts in place). Cap contracts may serve to smooth the costs/revenues to counterparties but should not be used to change behaviours in the modelling.

Whether a generator would run below the MPC and when the price is above its marginal costs would depend on a range of considerations regarding its fixed and variable costs, including the cost of stay in business capital and expected asset life (perhaps quite short), fixed transport charges in case of gas fired plant, as well as others.

Demand side response may value its response in a similar way and should be treated in a consistent manner to maintain technological neutrality and symmetry between supply and demand side response options.

ENGIE believes that the use of the cap defender approach is highly distortionary, misprices generation output or demand side response and therefore must not be used as a technique for the MPC determination.

ENGIE welcomes an opportunity to further discuss the submission with the Reliability Panel, and to engage in developing the outlined concepts into an effective process, in time for it to be included in the 2018 reliability settings review.

Yours sincerely,

David Hoch

Regulatory Strategy and Planning Manager

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