Ms Claire Rozyn
Australian Energy Market Commission
L6, 201 Elizabeth Street
Sydney NSW 2000

By online submission

Thursday 10/4/14

Reliability standard and reliability settings review 2014 Ref REL0051

Dear Claire,

GDF Suez Australian Energy (GDFSAE) appreciates the opportunity to respond to the Reliability Standard and Reliability Settings consultation.

We are in agreement with the recommendation to maintain the current levels of the MFP and the CPT and we give conditional support to maintaining the current level of the MPC.

We also suggest a broader interpretation of the MPC is needed and should be addressed more fully in future reviews.

Reliability standard – Support the current standard and level (this also appears to be quite consistent with the VCR).

Market price cap – Conditional support for the current level but suggest the objectives of this measure be revisited and methodology be revised prior to the next review.

Cumulative price threshold – Support the current level and future work on this parameter.

Market floor price – Support the current level

Indexation – Support the current measure of indexation.

Value of customer reliability – Support the development of a methodology in consultation with stakeholders

Role of the MPC and CPT

Prior to discussing the methodology for determining the MPC, it is important to examine some of the roles of this measure.

Energy only markets (EOM) require periods of high prices during times of scarcity for generators to recover fixed costs and achieve a revenue adequacy. During such times there will be situational market power. One function of the price cap is to limit the impacts of market power and to temper participant risk exposure more generally. Some authors have referred to the EOM as a "fragile construct" as it requires situational market power to deliver revenue adequacy. However it is difficult to assess just how much situational market power is needed to ensure that it remains both efficient and sustainable.

High spot prices also provide a market signal for generators and loads to respond to scarcity situations and hence avoid the need to resort to plant directions or involuntary load shedding. However, beyond a given price point, there is a risk of over signalling where no further response is possible or likely. Thus, further price increases beyond this level serve to increase risks and costs without additional reliability benefit.

It should be noted that investment decisions are not primarily driven by the level of a market price cap. That is, there is no direct relationship between increased levels of investment as a result of increased MPC level. However there is a real risk of impeding investment should the MPC be set too low.

The methodology that is currently used to determine the level of MPC is simplistic and excludes many variables that investors consider integral to the investment process. As a consequence, the existing MPC quantity has a wide margin of error and has a low bias. This "low bias' is primarily caused by the omission of key risks from the methodology. A separate section is included in our submission to illustrate some of these risks.

In the event the MPC is set too low, it may serve to deter investment and may contribute to unreliability. If the MPC is set marginally higher than necessary, in addition to improving reliability, it may marginally increase risks to participants and marginally increase end consumer costs.

These risks are not symmetrical, and at the margin, the risks (and costs) of setting the MPC too low may be expected to be much higher (due to the risk of load shedding due to unreliable system) than those from setting the MPC higher (and accepting marginally higher costs to end consumers). Political ramifications of not having a reliable system or involuntary load shedding also need to be considered.

From a reliability perspective, the overall balance is likely to require a small bias in favour of a higher MPC than theoretically required, given the relatively coarse nature of the MPC lever and the uncertainty in establishing its theoretical level in the first place.

It should be noted that the CPT needs to be assessed, and work in concert, with the MPC to achieve these outcomes.

In summary, MPC is a balance between following considerations:

- Generator perspective
    - Must not discourage market based investment when new plant is needed.
    - Must not serve to impede investment.
    - Should limit the risk of over signalling during times of plant unavailability (or transmission constraints), because the ability of generators to manage risks and write contracts is essential for maintaining market liquidity.
- Customer perspective
    - The cost of providing sufficient (or potentially marginally more than sufficient) resources to deliver target levels of reliability.
    - In the short term the MPC will limit the impact of situational market power and hence limit the impact on market prices. *(Note – enduring market power is dealt with using other mechanisms and regulations and the AEMC has dealt with this issue in recent reviews. Sustained prices above new entrant costs will attract new investments, and if not, barriers to entry will need to be examined)*

Methodology for determining the MPC

In this section, two methodologies considered in the ROAM report to the Reliability Panel are examined in detail and additional attention is given to investor risks that are not currently included in the process, but significantly impact the MPC level.

"Extreme peaker" methodology

In this mode peaking plant is offered at the price cap and its revenue is derived from the energy dispatched at the MPC (Rev_MPC). This is a simple, straight forward assumption and is quite independent of generator offers (behaviours) at times when spot price is other than MPC.

This methodology reflects the need to reward plant capacity that is required for system reliability, but which does not compete to supply energy in the market.

"Cap defender" methodology

It is assumed that the peaking plant sells $300/MWh caps into the market and then offers its capability at the cap strike price.

The spot market revenue for a peaker can be split into two categories, one when the price is above the cap strike price AND below the MPC , the other when the price is at the MPC.

Where:

Rev_SP = net revenue earned when spot price is above the cap strike price (SP) and below the MPC
Rev_MCP = net revenue when price is at the MPC

This methodology reflects the need to reward plant capacity but only as a "top-up" to its energy market revenues.

This methodology essentially mixes the energy and reliability components of the revenue.

Considerations of the two modelling methodologies

In case of the "Cap defender" the MPC can be calculated so that Average (Rev_SP + Rev_MPC)$_{annual}$ = Average cost of production$_{annual}$

However Rev_SP term is independent of the MPC whilst Rev_MPC term is a function of the MPC. Different offer assumptions (ie other generators) below the MPC will alter the value of the term Rev_SP (but not term Rev_MPC).

The Rev_SP term can vary significantly from the assumed behaviour in the ROAM "Cap defender" modelling and cause a wide range of possible levels of MPC. These may range all the way to Rev_SP = zero, when the offer behaviour resembles the "Extreme peaker".

It is undesirable for the value of MPC to be determined based on assumed behaviours of peaking, or any other, generation assets in the currently over-capacitated market.

The "Cap defender" methodology results in changes to assumed bidding behaviours, which in turn alter investment decisions and impact system reliability (specifically reducing reliability below the required setting).

GDFSAE questions the logic of the "Cap Defender" methodology, given the nature of the energy-only market.

The "Cap Defender" approach assumes that a greater or lesser proportion of the predicted revenue for capacity that will provide reliability will come from selling cap financial derivatives in the contract market.

At a principle level, the EOM is weak in its assurance of delivery of reserves since it only remunerates energy delivery[1]. Reserve (the essence of reliability delivery) is assumed to be delivered by the interest of peaking plant and other technologies in providing insurance products like caps and effectively participating in the spot market opportunistically. This is reflected in the "Cap Defender" model.

The value of these caps will be determined by the probability of securing the spot market energy revenue, and as the market finds its efficient equilibrium, delivery of capacity should asymptote to the level of capacity needed to efficiently deliver the energy required, otherwise the investments will under-return.

Investment in different peaking plants (once again in the efficient equilibrium state) will have different expected load factors (the peak is a variable demand level and not an "all or nothing" occurrence). However, to secure the delivery of the final capacity at the margin, revenue is being concentrated into a progressively smaller and smaller market participation.

Thus we would argue that the "Cap Defender" model, if configured appropriately, asymptotes to the "Extreme Peaker" in any event at the margin at which reliability is ultimately delivered.

In conclusion, it is strongly recommended that the "Cap defender" methodology isn't used for determining the MPC as it doesn't correctly price the marginal capacity economics which are required to deliver the reliability setting. The "Extreme peaker" methodology is better suited to assess marginal capacity but needs to be adjusted to cater for risks outlined in the following section.

Risk considerations – missing in the current methodology

Generation assets have long asset lives and potential investors in generation take on a large and enduring exposure to a wide range of risks. These risks need to be priced into the investment and there must be a reasonable prospect of achieving adequate returns on projects for investments to occur.

Factors impacting risks include, but are not limited to the following:

- Length of useful (economic) life
- Financing costs
- Fuel costs, particularly the cost of firm supply (difficult for peakers)
- Fuel availability
- Market risks
    - Revenue variability - Not being able to derive adequate revenues under some cases and in some (or perhaps even many) years
    - "Lumpy investment" due to plant size restrictions can cause price suppression in early years
    - Over response by participants can cause initial overcapacity and consequential suppression of sustainable revenues to generators.
- Regulatory risk - Government policies and regulations (including the impact of the RET on the demand supply balance and plant profitability, impacts of climate change policies such a future introduction of a cost of CO_2))
- Industry structure risk (plant maybe stranded as a result of portfolio offers)
- Technology risk

[1] This has recently been recognised in the ERCOT market where a specific reliability payment effectively remunerating undispatched capability based on risk to reliability has been implemented.

- Plant availability and start up risks (ie plant will not always be available when required and may miss revenue opportunities as a consequence)
- Transmission risk
    - (constraints, lack of firm access rights, possible changes to transmission regulation)

Accurate assessment of risk for investors is difficult, if not impossible, for external parties to undertake. It is suggested investor input be sought and that a reasonable margin above modelled outcomes is established and then consistently applied.

Suggested principles to follow when setting the MPC

- Set the MPC at a level that is marginally above new entrant levels to ensure that the MPC does not deter investment.
    - The "Extreme peaker" methodology be employed as it better represents the "Capacity" rewards needed to maintain a reliable system. In this case use the average level determined in the modelling.
    - The "Cap defender" methodology should not be used as it confuses energy and capacity revenues, depends on competitors offer behaviours and under-estimates the MPC level required to maintain a reliable system
- Modelled MPC is "Risk adjusted" upwards, add 10?+%(subject to consultation with industry) to compensate for the range of risks covered in the earlier section on risks.

MFP considerations

GDFSAE considers the MFP an important market signal to deal with oversupply conditions and to avoid the need for Directions. The MFP must be sufficiently low to incentivise participants to respond and methodology needs to consider, but not be limited to, the following:

- The cost of installation of equipment to enable dispatch control
- It must also overcome opportunity costs (such as the lost REC revenue, start-up costs, risks of delayed return to service and failed starts etc)). As such it must be well clear of the potential penalty REC cost including the tax effects (currently approximately $92/certificate).
- Encourage participants to make plant more flexible (reduce plant inflexibilities such as minimum generation)
- Be sufficiently strong to facilitate prompt response to assist market stability.

Specifically the MFP should not be increased (ie made less negative) from its current levels as it likely to blunt the over-supply signal, decrease the response from generators and increase the need for on-going direction.

Note that management of generator offers (at the MFP) behind a binding network constraint need to be dealt with quite differently. These circumstances need a local price signal as distinct to the current regional price signal which is outside the binding constraint. Generators seek to increase dispatch by offering their output at the MFP, without any risk of setting the regional price at the MFP. The OFA arrangements as currently being considered under the TFR have the potential to create more economically efficient signals to generators operating behind a constraint.

GDFSAE would welcome an opportunity to further discuss this submission with the Reliability Panel, and to engage in the process to develop these principles into an appropriate methodology ahead of the next review of the reliability setting.

Yours sincerely,

David Hoch
Regulatory Strategy and Planning
0417343537