



Mr John Pierce
Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000
Lodged via www.aemc.gov.au

Friday, 22 September 2017

Dear Mr Pierce,

RE: Reliability frameworks review (ref EPR0060)

ENGIE in Australia (ENGIE) appreciates the opportunity to comment on the Australian Energy Market Commission (AEMC) issues paper on Reliability Frameworks Review (Issues Paper).

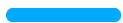
ENGIE has provided its comments in response to a number of the questions posed in the issues paper, as set out below.

Q4 Options to accommodate intermittent generation:

The generator reliability obligation (GRO) proposed by the Finkel review would place an obligation onto new variable renewable energy investments to also provide a level of flexible generation capacity, determined by Australian Energy Market Operator (AEMO), so that an overall level of dispatchable generation capacity is maintained. ENGIE has two primary concerns with this proposal.

The first concern is that approaching the problem incrementally as each new investment is proposed, with a 'spot' assessment at that time of the firming obligation to be imposed, seems an inefficient method. Further, imposing these costs onto the investor at the time of investment introduces a barrier to entry for some renewable energy projects.

ENGIE would prefer to see an arrangement introduced where flexible services are defined and the requirement for these services is determined in advance, and competitively sourced by AEMO. This would allow the requirement to be adjusted dynamically to suit the current and forecast circumstances, which is an improvement on the GRO proposal which requires a one off assessment of the requirement at the time of each new investment proposal. Competitive procurement open to a wide range of potential suppliers is likely to be more efficient than a mandated obligation on an individual renewable energy investor who may or may not be willing or able to procure GRO services.





The second concern that ENGIE has relates to the proposal to introduce mechanisms that ‘bring forward’ investment in dispatchable capacity. Whilst it is important that there is adequate dispatchable capacity available in the NEM, unless such capacity is able to operate in the market in a manner which provides it with a reasonable risk adjusted return on its investment, it will not be dispatched, and will therefore deliver no benefit. A good recent case study of the difficulty for dispatchable capacity in the National Electricity Market (NEM) is ENGIE’s Pelican Point power station, which had half of its capacity withdrawn from the market for almost two years, as it was unable to achieve sufficient return to justify the costs of operating.

If we are to ensure that there is sufficient dispatchable capacity available to balance out variable renewable energy, there needs to be consideration given to both the investment and operational timeframes. Only then can we be confident that the necessary investments will be made, and that the dispatchable capacity will be incentivised to operate when required.

Q5 Credible contingencies:

AEMO are intending to introduce new probabilistic approach to reliability assessment and to change the LOR definitions. AEMO propose to remove reference to credible contingencies in the LOR definitions, and move to a probabilistic assessment method, and claim that separating the LOR definitions from the credible contingency framework has no implications for system security. ENGIE has challenged this claim as it believes that the credible contingency concept is fundamental to both the reliability and security considerations.

ENGIE believes that there is merit in moving towards a probabilistic approach for both reliability and security assessment. Well implemented, such an approach is more likely to be able to adapt and respond to the changing circumstances that we currently face in the electricity industry with increasingly variable generation and demand, and decreasing reliance on traditional base load generation.

ENGIE is of the view that the current credible contingency based assessment methods should not be discarded until such time as any new probabilistic methods have been developed, tested and refined, and all stakeholders have a good level of understanding and confidence in their application. Once this level of confidence has been established in the new method, the decision to remove the existing contingency based methods can be taken more confidently.

ENGIE also notes that the recently introduced ‘protected’ contingency category is still being implemented, and it would be preferable to avoid further change until there is an understanding of the efficacy of this new category.

Q6 Interconnectors:

The discussion paper includes an examination of the capability of interconnectors in the NEM to play a role in relation to reliability. Many commentators have highlighted examples from the United States of America and Europe where interconnections with neighbouring states or countries has a beneficial effect on supply reliability, including as a source of dispatchable capacity to compliment variable renewable energy.

These examples do not necessarily relate to the Australian context where we have a long and thin transmission network, with many interconnectors being on single transmission easements. The Heywood interconnector for example allows the South Australia region to utilise some of the dispatchable services from the neighbouring



Victorian region. When the Heywood interconnector is being relied upon to provide both energy and support services to South Australia, this places a lot of reliance on a single transmission easement, with potentially dire consequences should there be a loss of the interconnector.

The long and thin nature of the Australian transmission network, with limited duplication of interconnectors, means that we should take a cautious approach to increasing the level of dependence placed on the interconnectors in the NEM.

Q7 Markets:

ENGIE notes that the discussion paper includes the statement “for generator participants that have relatively long start-up times, more volatile prices may be concerning”. This statement seems at odds with the AEMC’s recent Draft Determination to introduce 5 minute settlement which clearly will increase the price volatility that market participants face, since the smoothing effect of 30 minute settlement will be lost. To then point to a day ahead market as a potential solution to a problem that will be exacerbated by 5 minute settlement, does prompt the question – why introduce 5-minute settlement in the first place.

ENGIE supports the statement in the discussion paper relating to day ahead markets that “it is particularly important to be clear on what the objective is that is trying to be met, prior to thinking about what the best mechanism is to address it.” ENGIE is of the view that recent discussion on day ahead markets has emerged relatively quickly, and feels somewhat like a solution looking for a problem.

The AEMC need to keep in mind that a day ahead energy market was comprehensively evaluated prior to the commencement of the NEM, and the decision was taken not to introduce a day ahead market, and rely instead on financial hedges between parties. Since that important design decision was taken, the financial derivatives markets have developed extensively, with both over the counter and exchange traded instruments in common use. These financial markets could be detrimentally impacted should a day ahead energy market be introduced, and could result in some participants suffering significant financial loss.

These are very fundamental matters that go to the heart of the NEM design, and need to be carefully considered.

On the other hand, ENGIE appreciates there are potential benefits if the day ahead market concept is applied not to energy, but to the additional services that are increasingly being recognised as being necessary to ensure secure and reliable supply of electricity. For example, there is consideration being given to market arrangements for inertia services (AGL rule change consultation paper). Since the provision of synchronous inertia is related to the binary of whether the unit is on or off, it does not lend itself to being optimally dispatched in a 5-minute energy market. There may be scope, however, to consider the need for inertia in a day ahead forecast, and have a day ahead market for the provision of inertia service.

ENGIE believes that if such a day ahead market for inertia has merit, then it would be preferable to extend the idea beyond just inertia, and have a day ahead market for a range of flexible services that rely on the commitment status of synchronous generators. For example, a day ahead market could be arranged that places value on system strength, inertia and flexible ramping, all of which are now being recognised as services that are important to maintaining a secure and reliable power system.



Q8 External factors:

Consideration of the effectiveness of the market and regulatory framework needs to be carried out within the current political context, which is characterised by governments that are unable to agree on a clear, long term energy and emissions policies, and have shown a willingness to intervene regularly in an uncoordinated manner.

This context is important because it is possible that we could devise and implement effective market and regulatory frameworks to encourage efficient investment, retirement and operational decisions, only to have these stymied by government interventions.

Whilst it is hoped that governments will legislate well considered, long term, energy and emissions policies and end the cycle of interventions, ENGIE recognises that with energy prices and reliability increasingly politicised, it may ultimately prove unlikely that governments will revert to a non-interventionist approach.

With this in mind, it is perhaps better to recognise the political reality that governments will continue to intervene in the energy sector, and therefore attempt to establish market and regulatory frameworks that are more resilient to government interventions, or better still, are able to be integrated into direct government interventions. For example, an investment framework that specifically recognises that governments can and will seek to support supply and demand side options to achieve certain reliability outcomes within their jurisdictions.

Q9 Efficacy and efficiency of information provision:

ENGIE agrees with the need to continually review and if necessary, refine the information provided to market participants across the various timeframes from 5 minutes to 10 years. ENGIE also notes that there have been a number of initiatives completed by AEMO recently to streamline and coordinate the information that is used and reported in the various reports.

One of the challenges that has emerged in recent years is how to treat variable generation sources when assessing the reserve capacity across the different timeframes. The importance of this issue will continue to increase as the proportion of generation obtained from variable sources increases. These inevitably lend themselves to a probabilistic approach to capture the uncertainty of output from these generation sources at any particular point in time.

ENGIE understands that AEMO currently apply probabilistic estimates of wind and solar energy from each region, based on an assessment of the total wind / solar generation within that region over a measurement period. A possible improvement would be to assess the probabilistic output of each variable renewable generator individually, as it is likely that each wind /solar farm will exhibit different characteristics over the longer term.

Another item that ENGIE believes needs to be improved in terms of the reliability assessment, particularly in the short and medium term PASA's, is the treatment of capacity that has been commercially withdrawn from the market, but may return at some point in the future. The National Electricity Rules currently do not include specific provisions to cater for participants wishing to commercially withdraw from the market, which potentially creates uncertainty regarding how they are expected to communicate their intentions to AEMO and the wider market.

ENGIE anticipates that there may be more examples in the future of capacity that, for a range of reasons, decides to commercially withdraw from the market for a period of time. If this is the case, then it would be desirable that the



requirements for such participants are made clear in the NEM, to reduce the likelihood of confusion and uncertainty.

Q10 Role of interventions:

The role of interventions should continue be a last resort safety net, to provide a means of achieving a level of reliable electricity supplies in the event that the market mechanisms have failed to reach the reserve standard.

There is a danger that, when interventions are applied, the market will be denied the opportunity to respond to a reserve shortfall, and potential holders or investors in reserve capacity will be dis-incentivised from providing additional reserve capacity.

Q 11 Triggers for intervention:

ENGIE believes that there is reasonable transparency regarding the triggers for AEMO to intervene, whether by using the Reliability and Reserve Trader (RERT), direction or instruction. ENGIE accepts that these mechanisms cannot be closely defined up front since the specifics of each low reserve situation are often quite distinct and therefore require a degree of room for AEMO to adapt to seek the most appropriate response.

The principles that guide AEMO are quite clear, being that AEMO should seek to intervene at the latest possible time, and provide the market with sufficient and timely information to elicit a market response where at all possible.

AEMO are proposing to move towards a more probabilistic assessment of reserve trigger mechanisms which are believed to be more able to accommodate the requirements of the transforming electricity sector, with increasingly variable supply and demand side.

ENGIE is broadly supportive of these probabilistic measures, although this does raise the concern of a potential decrease in transparency of reserve triggers and interventions. In response to this concern, ENGIE encourages AEMO and the AEMC to strive to ensure that as these new methods are developed and introduced, there is sufficient attention paid to the need to retain clear and transparent processes which are understood by industry.

Q12 Relevance of the RERT mechanism:

The RERT mechanism has been reviewed a number of times in the past, although these reviews have been carried out within the context that the RERT mechanism was initially conceived as a temporary safeguard measure that would be abolished once confidence in the NEM was established.

The prevailing view now is that a permanent reserve mechanism needs to be established to provide ongoing reliability protection for the NEM. Within this context, ENGIE believes that there would be value in fresh thinking about how reliability can be protected in the most effective and efficient manner. Such a re-think could perhaps contemplate both the reliability and emerging security issues such as inertia, system strength, flexible ramping. Conceivably, a new mechanism could be introduced which provided a safeguard for all of these services.

ENGIE is somewhat uncertain as to how the recently discussed 'strategic reserve' relates to RERT, and expects that this will become clearer as further consideration is applied. ENGIE notes that the adoption of strategic reserve, possibly on a region-by-region basis, driven by jurisdictional governments, is counter to the principles behind the establishment of the NEM and will be difficult to contain.





Q13 RERT procurement trigger:

The existing RERT procurement triggers, are based on a tiered approach utilising the medium term PASA, short term PASA, pre-dispatch and dispatch. This provides a good level of transparency and fits in well with the NEM concept of encouraging a market response in preference to AEMO intervention.

AEMO have flagged their concern that the current procurement triggers do not allow AEMO to intervene in response to unexpected shortfalls. ENGIE agrees that there could be some value in strengthening the procurement arrangements and usage triggers that are available for AEMO to call upon in circumstances where an issue arises without warning; however, this will impose a cost onto consumers and it still needs to be concluded that AEMO's RERT and network support powers are insufficient going forward. This needs to be assessed against the alternative of not purchasing such emergency reserve, and accepting that under some unexpected outcomes, there may need to be load shedding.

Q14 RERT lead times:

ENGIE believes that the RERT lead times have been broadly appropriate for the short and medium term RERT. The concern that AEMO seem to have relates to unexpected outcomes as discussed above.

Q15 RERT price discovery process:

Again, ENGIE believes that the RERT price discovery process has been adequate up to date, but believes that there needs to be a new enduring and flexible reserve mechanism in the NEM that accommodates the changing needs of the industry. This will inevitably require reconsideration of the current reserve triggers, procurement and pricing.

Q16 Demand response not participating in the RERT:

ENGIE is unable to suggest any rationale or reason for available demand response not taking part in the RERT. Notably, the amount of demand response that is firm is something that is difficult to assess outside of an event.

Q17 Efficacy of directions and clause 4.8.9 instructions:

ENGIE believes that the current mechanisms in the rules for directions and 4.8.9 instructions are not as effective as they could be, and would support potential reform. As noted above, one factor that is becoming apparent is that the current rules do not explicitly cater for market capacity that has been withdrawn from the market for commercial / technical reasons. This has occurred in the past, and ENGIE suggests that there is a likelihood that it will happen again in the future, as generators grapple with issues such as difficulties in establishing commercial arrangement for gas or coal supply, and contracts with market customers.

Faced with such issues, it is possible that generator participants will decide to withdraw from the market, rather than have to pay high prices for fuel whilst not having the certainty of an electricity contract. The rules do not currently provide sufficient clarity on how such capacity should be declared to the market.

One approach that might be considered would be that a process be established whereby participants continuously indicate to AEMO any capacity that they have that is not being offered into the market commercially, but could be made available under emergency conditions, subject to being compensated for the costs incurred. This means



covering costs even in the absence of an event, if that generator is asked to come back on line but then not engaged. This would avoid AEMO having to make rushed assessments of what capacity is available under direction.

ENGIE trusts that the comments provided in this response are of assistance to the AEMC in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 03 9617 8331.

Yours sincerely,

A handwritten signature in black ink, appearing to read "C. Deague". The signature is fluid and cursive, with a prominent initial "C" and a long, sweeping underline.

Chris Deague
Wholesale Regulations Manager

