29 September 2022

Energy Policy WA
Locked Bag 11
Cloisters Square WA 6850

Submitted via email by graham.pearson@energycouncil.com.au to energymarkets@dmirs.wa.gov.au

Reserve Capacity Mechanism Review

The Australian Energy Council (the "**AEC**") welcomes the opportunity to make a submission on the Reserve Capacity Mechanism ("**RCM**") review consultation paper ("**Consultation Paper**") published by Energy Policy WA ("**EPWA**").[1]

The AEC is the peak industry body for electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. Our members collectively generate the overwhelming majority of electricity in Australia, sell gas and electricity to millions of homes and businesses, and are major investors in renewable energy generation. The AEC supports reaching net-zero by 2050 as well as a 55 percent emissions reduction target by 2035, and is part of the Australian Climate Roundtable promoting climate ambition.

The AEC makes the following comments in relation to some aspects of the Consultation Paper.

(3) Do stakeholders support inserting a new flexible capacity product in the design of the RCM?

The AEC supports a new flexible capacity product on the basis that it provides an incentive for these products to enter the market and earns sufficient revenue to recover their costs.

The obligations on these flexible capacity products should also be aligned to their requirements. In particular, fuel should only need to match the required ramp period.

12(c). Do stakeholders support a 5-year fixed price option for proposed flexible capacity facilities?

The Wholesale Electricity Market ("**WEM**") has been subject to a range of reforms and changes over the last few years. There have been amendments to the Access Code, the WEM Rules have been updated, market power mitigation is again be considered and, more recently, there has been this review of the RCM. Most of these new policies are considered in isolation but, together, these reforms and settings can have a substantial impact on generators and their revenues, and this has stimulated significant interest in revenue sufficiency over the last year.

[1] See Reserve Capacity Mechanism Review consultation paper

©Australian Energy Council
All rights reserved.

The AEC engaged Marsden Jacob Associates ("**MJA**") in early 2022 to produce an independent report on revenue sufficiency for generators in the WEM. The Economic Regulation Authority ("**ERA**") also engaged FTI Consulting to inform its Triennial review of the effectiveness of the Wholesale Electricity Market 2022.[2] While the extent of revenue adequacy varies slightly between MJA and FTI Consulting due to the assumptions used, the conclusion is clear: most generation types do not and will not earn sufficient revenue, and investors are not incentivised to enter under the current market settings in the WEM.

FTI Consulting points out in its paper that investors require certainty and "to invest in long-life, long lead-time assets, there needs to be clear and reliable revenue opportunities to produce a strong business case for investment."[3] However, the volatility in the current Reserve Capacity Price ("**RCP**") does not support long term investment in flexible generation and storage facilities, and it is unlikely that a 5-year fixed capacity price will be enough to underwrite investment in new flexible generation and storage in the WEM.[4] To this end, the AEC recommends:

1. That EPWA review the RCP methodology and consider what changes are required to ensure the RCP is sufficient to support efficient investment in new capacity when it is required; and

2. Investors who are willing to invest in long lived generation and storage assets in the WEM should be able to lock in a price at or near the gross CONE for a minimum of 15 years. FTI Consulting notes that:

   > *"Offering 15-year contract lengths provides significant benefits to the market, including securing a lower cost of capital that helps reduce the cost of securing required capacity in the WEM and helps reduce market concentration in the WEM."*[5]

   MJA highlights similar benefits with longer term capacity contracts:

   > *"Offering 15-year contract lengths provides significant benefits to the market:*
   >
   > - *Investors will be able to secure a lower cost of capital that helps reduce the cost of securing required capacity in the WEM.*
   > - *Long term capacity contracts will support merchant plant entry into the SWIS and help reduce market concentration in the WEM.*
   > - *Long term capacity contracts reduce barriers of entry to the WEM by eliminating some complexity of the market mechanisms."*[6]

   There is also a precedent for such longer-term contracts, with the UK Capacity Market offering 15-year contracts and the I-SEM in Ireland providing 10-year contracts.

To summarise, while the AEC supports a fixed price option, it is timely for EPWA to review the RCP methodology and consider the merits of longer, 15-year fixed contracts, as proposed by FTI Consulting and MJA, to ensure investors have sufficient certainty to enter the market.

---

[2] See Triennial review of the effectiveness of the Wholesale Electricity Market 2022: Discussion paper
[3] See p142, Triennial review of the effectiveness of the Wholesale Electricity Market 2022: Discussion paper
[4] See p12, Revenue adequacy for generators in the WEM
[5] See p147, Triennial review of the effectiveness of the Wholesale Electricity Market 2022: Discussion paper
[6] See p81, Revenue adequacy for generators in the WEM

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083
©Australian Energy Council 2016
All rights reserved.

13(a). Do stakeholders support replacement of the current Availability Classes with Capability Classes? AND 13(b). Do stakeholders support the conceptual design proposal for the Capability Classes?

The AEC supports, in principal, replacing the current Availability Classes with Capability Classes but suggests further consideration needs to be given to the following issues:

- The Consultation Paper states "that capacity certification must evolve to allow treatment of hybrid facilities as a single entity. Separating storage from its co-located wind or solar generation for certification purposes will increasingly work against the behaviour required in a world with more intermittent generation."[7] This raises questions over how co-located wind and solar projects will be considered for certification purposes and what Capability Class they will be assigned. For instance, a co-located solar project that discharges the battery storage during its allocated dispatch period would have a different value to, say, a wind farm that uses battery storage to even out its wind generation profile throughout the day. Given the varying operating profiles, would these facilities be treated differently or allocated to the same Capability Class? What Capability Class would they be assigned to or do they have their own, separate, Capability Class? What obligations would be put on each of these facilities?

- A potential unintended consequence of treating hybrid facilities as a single entity is that it may not create the 'correct' set of incentives for the facility and for the market. In other words, the obligations put on a hybrid facility could dictate how they operate and that might not match the objectives of the participant. Equally, the obligations could also mean that hybrid facilities have the same operating profile and this may not lead to the best outcomes for a market that increasingly requires flexibility.

  The AEC remains open minded about treating hybrid facilities as a single entity and also acknowledges that there are a range of challenges. The obligations and financial incentives for hybrid facilities need to balance the market requirements with how owners may prefer to operate their hybrid facilities. This is an important issue with significant implications for facility owners and the AEC suggests further detailed consultation is required. As part of this, EPWA should also consider the following issues:

  - Will treating hybrid facilities as a single entity incentivise them to enter the market and assist with the energy transition?

  - Does this approach provide revenue sufficiency for hybrid facilities and allow them to operate using their preferred dispatch profile?

  - Does this create the 'right' set of incentives for facilities and the market?

- The proposed Capability Classes appear to group together different products, such as demand side management, battery storage and gas generation. Each of these products offer different reliability and value to the market, and it is inappropriate to price them similarly.

  MJA and FTI Consulting note that most new generators will not earn sufficient revenue and there is a potential for under-investment because they cannot recover their costs with the low and variable reserve capacity price. Both consultants recommend differential capacity prices.

  EPWA is encouraged to consider differential capacity prices to appropriately value and incentivise each of the products.

[7] See p37, Reserve Capacity Mechanism Review consultation paper

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083
©Australian Energy Council 2016
All rights reserved.

13(c). Do stakeholders support retaining the 14-hour fuel requirement, with its practical implementation to be considered in stage 2 of the review, and the all-hours availability requirement for Capability Class 1?

The AEC does not support retaining the 14-hour fuel requirement.

All generators are already incentivised to ensure that they have sufficient fuel to operate, satisfy their obligations and earn revenue. An additional requirement to have 14-hours of fuel is totally unnecessary and only adds to the costs incurred by participants.

There is also a significant amount of confusion about how the 14-hour fuel requirement has evolved and is now being adapted in the Consultation Paper. While it notes that "the requirement was originally put in place to ensure that liquid fueled facilities had sufficient onsite fuel to operate for 4-5 hours a day for three days, without resupply"[8], the Consultation Paper also says that the 14-hour requirement would be applied on a daily basis: "A Class 1 facility must be firm, dispatchable capacity with no fuel supply or availability limitations such that, if dispatched, it could run at maximum output for at least 14 hours."[9]

Requiring gas and diesel plants to have 14 hours of fuel every day is impractical given they may only be occasionally dispatched to meet extreme stress situations. The requirement to over-procure fuel also ignores the challenges of contracting gas in the current market and may encourage some generators to register in Capability Class 2 to avoid this burden, which could reduce the availability of Capability Class 1 facilities.

The AEC suggests that the 14-hour fuel requirement is not retained and instead replaced with a fuel requirement aligned with the initial intent of 4-5 hours a day.

14(a). Do stakeholders support the proposal for AEMO to calculate the availability duration requirement for each capacity cycle? AND 14(b). Do stakeholders support prorating the CRC for Capability Class 2 facilities in proportion to the availability duration requirement? AND 14(c). Do stakeholders support allowing proponents to request a 5-year fixed availability requirement?

The WEM faces a range of challenges in incentivising the 'right' mix of renewable generation and dispatchable generation and storage to enter the market. The potential for the ESR Obligation Duration to change creates uncertainty and risk for investors. While the AEC supports a fixed availability duration for Capability Class 2 facilities to address this problem, a 5-year fixed availability requirement will not create enough certainty to promote investment in these generation types.

Modelling by MJA shows that current peak demand is about 4 hours, however by 2040 the period within the day at which peak demand is experienced will increase to 5 hours and, even now, peak demand can occur for up to 6 hours. Class 2 facilities such as battery storage will not recover their costs in the proposed 5-year fixed availability window, and they will face uncertainty and considerable revenue risk after the 5-year period due to the prorating of the CRC for Capability Class 2 facilities in proportion to the availability duration requirement.[10]

[8] See p37, Reserve Capacity Mechanism Review consultation paper
[9] See p36, Reserve Capacity Mechanism Review consultation paper
[10] See p15, Triennial review of the effectiveness of the Wholesale Electricity Market 2022: Discussion paper

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083
©Australian Energy Council 2016
All rights reserved.

This approach also does not incentivise longer duration battery storage to enter the market to assist with reliability, as explained by MJA:

> *"The ESR Obligation Duration, the Capacity Price formula and linear derating method does not provide an economic return for storage facilities exceeding 4 hours. The annualised capital cost of 4-hour storage facility is $159,000 per MW per annum, whereas the annualised capital cost for an 8-hour storage facility is $275,000 per MW per annum … [because of this] an 8-hour facility will not be economic. For example, even if the ESR Obligation Duration increases to 8 hours, the facility will only receive $159,000 per MW per annum on its nameplate capacity. Additional revenue from the Balancing Market will help to cover costs, but the increased penetration of storage in the WEM will likely reduce price spreads (i.e., price arbitrage benefits) post 2031. By this time, it is likely that the ESS market is saturated with storage facilities, which implies that storage facilities will earn no income from ESS markets."*[11]

A further problem, touched on by MJA and covered by the ERA in their discussion paper on the triennial review of the effectiveness of the WEM, is that Essential System Service ("**ESS**") and energy market revenue is important for storage to be commercially viable but those revenue streams are expected to diminish quickly. The ERA's discussion paper lays out this challenge:

> *"The modelling demonstrates that the revenues from the ESS and balancing markets greatly decrease as more battery storage capacity enters the market. This indicates that the revenue opportunities from these markets are shallow, and the entry of a few competitors greatly affects expected forecast revenues. Importantly, ESS markets are a significant revenue source for batteries. However as more battery storage capacity enters the market, the revenue greatly diminishes."*[12]

This situation creates a dilemma. The facilities we will need in the future – those that can generate for longer periods for system reliability and to meet peak demand periods – are not incentivised to enter the market, face revenue risk due to the availability duration requirement, and arbitrage and ESS revenue opportunities will significantly reduce as more dispatchable generation enters the market.

The AEC suggests EPWA consider an approach where a mix of Class 2 facilities with different availabilities are stacked to meet the duration gap. There could be a combination of 2-hour, 4-hour and 8-hour facilities, and each would receive capacity payments based on the duration requirement and continue to dispatch according to an availability requirement fixed for the long-term. If priced appropriately, this would provide revenue and investment certainty, and encourage the entry of long duration facilities.

Regardless of the approach, the AEC is opposed to proponents being required to request the fixed availability period and there being conditions on when proponents will be able to receive a fixed availability period. Measures to address revenue insufficiency and the lack of investment certainty should be encouraged by policy makers wherever possible.

15(b). Do stakeholders support the conceptual design proposal for treatment of outages?

The Consultation Paper states that "where, over a three-year period, a facility has an EFORd higher than 10%, AEMO will be required to reduce its CRC by the EFORd."[13]

The AEC does not support this approach because:

- It could disproportionately penalise a facility that had a forced outage in the past but has since permanently fixed the problem;

[11] See p73, Revenue adequacy for generators in the WEM
[12] See p18, Triennial review of the effectiveness of the Wholesale Electricity Market 2022: Discussion paper
[13] See p43, Reserve Capacity Mechanism Review consultation paper

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083
©Australian Energy Council 2016
All rights reserved.

- The forced outages could have occurred in periods outside system stress events and not impacted the ability to meet peak demand;
- It disadvantages facilities that operate more frequently;
- The fault could have been resolved years ago but this change will mean that a facility's CRC will be reduced in the future. This will have a significant long-term impact for the revenue of the facility despite the problem being fixed and may lead to early retirements.

For the above reasons, the AEC considers that AEMO should have some discretion, as is currently the case, in considering whether a facility's CRC should be adjusted where their forced outage rate exceeds the threshold.

16. Do stakeholders support requiring AEMO to procure expert reports on behalf of participants?

The AEC does not support AEMO procuring expert reports on behalf of participants.

Expert reports are a key part of the project approval and financing process. Investors need a high degree of confidence in the consultants preparing the reports, the scope of the reports and the outcomes. Expert reports are already required to be provided by an AEMO accredited consultant[14], and there is nothing to suggest that AEMO is better or uniquely qualified to procure these reports on behalf of participants. Furthermore, there is no reason to believe that AEMO's involvement will lead to the expert reports being more 'accurate'. In fact, AEMO's role in procuring the expert reports create a range of new issues to address, including:

- How will AEMO assess and engage potential consultants?
- How will AEMO manage the cost of producing the reports given they don't have the same financial drivers as investors?
- Will there be a dispute mechanism?
- How will AEMO handle legal disputes if the expert's work is challenged or leads to incorrect investment decisions?
- Is AEMO liable if the consultant does not prepare the report within the required timeframe and the participant does not meet the CRC application deadline?
- How will AEMO deal with conflicts of interest, and how will project information remain confidential?
- Who holds the intellectual property rights on the basis that the participant pays for the report?

The AEC considers that AEMO's procurement of expert reports will create more issues and not lead to the reports being any more 'accurate'. To address this perceived problem, it may be more practical for AEMO to liaise directly with participants about questions they have on the expert report and deviations in performance.

17(b). Do stakeholders support the proposed methodology to assign CRC to facilities in Capability Class 1?

Yes. However, further to the above response to 13(c), the AEC does not support retaining the 14-hour fuel requirement for Capability Class 1 facilities.

[14] See Section 3.1 of the AEMO document information-guide-for-independent-expert-reports-in-the-reserve-capacity-mechanism.pdf (aemo.com.au)

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083
©Australian Energy Council 2016
All rights reserved.

17(c). Do stakeholders support the proposed methodology to assign CRC to facilities in Capability Class 2?

Further to the above response to 13(a) and 13(b), the AEC considers that each product should receive a capacity price based on their reliability and value to the market. Additionally, further to the above response to 14(a)(b)(c), Class 2 facilities could be separated based on their availability duration and receive a different capacity price.

17(d). Do stakeholders prefer one of the three identified methodologies for assigning CRC to facilities in Capability Class 3 and what are the reasons for the preference?

The challenge with assigning CRC to facilities in Capability Class 3 is finding an acceptable trade-off between capturing the few peak stress events and ensuring that volatility for existing facilities is minimised to give sufficient certainty to investors. Using too few intervals will put disproportionate weighting on a small number of individual events and create more volatility, and is not an accurate reflection of facility performance in periods of system stress.

The previously proposed Delta method does not appropriately balance the above principles and the AEC agrees that an alternative method is appropriate for Capability Class 3 facilities.

Members of the AEC have proposed alternative methods through the Market Advisory Committee and will be making comments on this matter in their submissions. Moreover, the AEC and our members will be presenting some further modelling to EPWA in a virtual meeting with Mr Jai Thomas and Ms Dora Guzeleva on 4 October 2022.

The AEC is concerned that the three identified methodologies in the Consultation Paper do not reflect the preferred approach of many participants. The Consultation Paper indicates that EPWA will be undertaking further modelling and quantitative analysis of the methods. The AEC strongly encourages EPWA to include the hybrid method (without EPWA amendments) in the modelling so that it can be compared with the three methods included in the Consultation Paper.

Conclusion

The AEC appreciates this opportunity to provide feedback on the Consultation Paper and encourages EPWA to consider the issues raised above.

Please do not hesitate to contact Graham Pearson, Western Australia Policy Manager by email on graham.pearson@energycouncil.com.au or by telephone on 0466 631 776 should you wish to discuss this further.

Yours sincerely,

Graham Pearson
Policy Manager, Western Australia
Australian Energy Council

Level 14, 50 Market Street
Melbourne 3000
GPO Box 1823 Melbourne Victoria 3001

Phone +61 3 9205 3100
Email info@energycouncil.com.au
Website www.energycouncil.com.au

ABN 98 052 416 083
©Australian Energy Council 2016
All rights reserved.