Energy Policy WA
Level 1, 66 St Georges Terrace
Perth WA 6000

30 November 2023

Via email: energymarkets@dmirs.wa.gov.au

Submission from Expert Consumer Panel members Chris Alexander and Noel Schubert on the BRCP Reference Technology Review Consultation Paper

Dear Ms Guzeleva,

Thank you for the opportunity to make a submission in response to the Benchmark Reserve Capacity Price (BRCP) Reference Technology Review Consultation Paper (the Reference Technology Review).[1]

As members of the WA Expert Consumer Panel (ECP), we are participating in the working group supporting the Reference Technology Review and the Market Advisory Committee (MAC). The ECP is supported by the State Government's Western Australian Advocacy for Consumers of Energy (WA ACE) funding, to engage in consumer advocacy and contribute to major decision making in the sector. Our submission is informed by feedback from our colleagues on the ECP.

The choice of reference technology for the BRCP is important for consumers because it influences the types of electricity generation and storage that is built, and accordingly, the cost, reliability and cleanliness of our electricity supplies. Whereas gas fired electricity generation has traditionally been the reference technology, advances in renewable technologies and storage and the pressing need to decarbonise, means that it is timely to review and update these settings.

The Reference Technology Review consultation paper outlines the review process and considerations and analysis to date, including feedback from working group and MAC participants during the process. Taking this into account, and for the reasons outlined, the Consultation Paper includes a number of proposals. The proposals, along with the ECP's comments, are as follows.

Proposal A:
The BRCP reference technology type for both the Peak and Flex Services is a 200MW/800MWh lithium battery energy storage system (BESS) connected at 330 kV.

We support this proposal at this time in the energy transition when additional low-greenhouse-gas-emission, peak and flexible, firming capacity is required to allow greater penetration of variable renewable energy into the South West Interconnected System to further reduce greenhouse gas emissions. This BESS technology has been identified in the review as the lowest cost technology that meets the requirements set out in the consultation paper, at sufficient scale (size and availability).

Proposal B:
The BRCP reference technology should be reviewed every 3 years.

We support the BRCP technology being reviewed at least every three years due to the pace of change in technology and energy transition. It is important to regularly ensure that the BRCP reference technology is appropriate and achieving the required outcomes, particularly

[1] BRCP Reference Technology review consultation paper - https://www.wa.gov.au/system/files/2023-11/epwa-brcp_reference_technology_review-v2.1.pdf

because the BRCP based on this technology is set by the ERA three years in advance of when market participants are actually paid for capacity credits at the reserve capacity prices (RCPs) based on the BRCP.

This 'leading' price indicator (BRCP) can also cause a 'lag' in the reserve capacity price actually reflecting system capacity needs at the time of the need. For example, the WEM was short of capacity last summer (2022/23), and is also short this summer, but the RCP is relatively low for both capacity years in part due to the lower BRCPs determined three years earlier.[2]

Proposal C:
Retain a gross Cost Of New Entry (CONE) approach to BRCP determination.

We understand the advantages and disadvantages of using gross CONE versus net CONE in determining the BRCP, as outlined in the consultation paper. It is much simpler to implement and use a gross CONE method and this method provides investors with more certainty of the reserve capacity price they will obtain when offering their facilities into the RCM.

The downside for consumers is that there will be higher capacity costs from choosing gross CONE for calculating the BRCP if it is materially higher than net CONE. The upside for capacity providers is that it would ensure higher revenue for them and improve their investment certainty - that ideally would flow on to improve electricity supply reliability and security.

The improved certainty may attract additional market participants to enter the RCM market, which could result in a more competitive market and decrease the likelihood of a capacity shortfall, which may then lower overall capacity costs. The outcome depends on the design of the BRCP price curve.

Monitoring of BESS revenue

For reference-technology-type facilities that enter service (e.g. Synergy's recently commissioned 100 MW / 200 MWh Kwinana BESS), we recommend annual monitoring (as distinct from the 3-yearly technology review) of the revenue that these facilities earn from the energy and essential system services (ESS) markets of the WEM, to allow EPWA and the ERA to understand earlier what would be the likely difference between gross and net CONE. The greater the difference, the greater the cost to consumers of retaining the gross CONE approach. Such costs need to be balanced appropriately against the need for greater investment certainty to achieve adequate reliability and security.

Distributed BESS

In section 2.4.1 of the consultation paper the scale and efficient size of BESS are discussed.[3] The paper states:

> "Consideration was given to the connection of lithium BESS at zone substations using existing 22 kV circuits used for capacitor banks. Under this proposal, the lithium BESS would provide the following services:
>
> 1. Reactive power supply.

[2] The other (perhaps more significant) cause of the lower RCPs is the lower forecast demand and reserve capacity targets produced by AEMO two years earlier, which resulted in lower BRCP multipliers being used to calculate the RCPs for those capacity years.

[3] BRCP Reference Technology review consultation paper - https://www.wa.gov.au/system/files/2023-11/epwa-brcp_reference_technology_review-v2.1.pdf

2. Active power supply to reduce the peak load on the zone substation transformers and therefore defer or remove the need for capital upgrades.

3. Active power for the Peak services.

4. Active power for the Flex service.

5. Reserve for ESS markets.

6. Provision of energy.

Under the existing framework, items 1 and 2 above are network control services procured by Western Power, and items 3 to 6 are procured or managed by the AEMO under the WEM Rules.

If the economic value of providing services 1 and 2 were realised, it is most likely that 15 MW BESS connected in this manner would be the most efficient new entrant. In a centrally planned system this would be the most efficient new investment for the provision of capacity.

However, the structure and operation of the WEM Rules do not provide a basis on which to forecast the value of the Network Control Services of items 1 and 2. Without a value for items 1 and 2, items 3 to 5 can more efficiently be delivered under the 200 MW 330 kV connection."

Since it is recognised that distributed BESS (e.g. 15 MW connected at 22 kV) can provide more services than centralised BESS, and that they are most likely to be "the most efficient new investment for the provision of capacity", we suggest that Energy Policy WA consider amending the WEM rules, plus other measures, to achieve greater adoption of distributed BESS where it is more efficient overall. More distributed BESS capacity can reduce the quantity of centralised BESS required, as well as provide the additional services described above.

We would be pleased to provide any further information to support this submission and look forward to continuing to engage with Energy Policy WA and other interested parties on these matters.

Yours sincerely,

Chris Alexander
Market Advisory Committee
Expert Consumer Panel

Noel Schubert
Reserve Capacity Mechanism Review Working Group
Market Advisory Committee
Expert Consumer Panel