Government of Western Australia
Department of Mines, Industry Regulation and Safety
Energy Policy WA

Minutes

Meeting Title:	Market Advisory Committee (MAC)
Date:	12 October 2023
Time:	9:30am –11:24am
Location:	Online (Microsoft Teams)

Attendees	Class	Comment
Sally McMahon	Chair	
Martin Maticka	Australian Energy Market Operator (AEMO)	Left at 11.15
Dean Sharafi	AEMO	Left at 11.15
Kei Sukmadjaja	Network Operator	Proxy for Zahra Jabiri
Genevieve Teo	Synergy	
Noel Schubert	Small-Use Consumer Representative	
Jacinda Papps	Market Generator	
Adam Stephen	Market Generator	
Paul Arias	Market Generator	
Peter Huxtable	Contestable Customer	
Timothy Edwards	Market Customer	
Geoff Gaston	Market Customer	Late start
Patrick Peake	Market Customer	
Noel Ryan	Observer appointed by the Minister	
Rajat Sarawat	Observer appointed by the Economic Regulation Authority (ERA)	

Also in Attendance	From	Comment
Dora Guzeleva	EPWA	MAC Secretariat
Bronwyn Gunn	EPWA	MAC Secretariat
Shelley Worthington	EPWA	MAC Secretariat
Tim Robinson	Robinson Bowmaker Paul (RBP)	Observer for Item 8
Richard Bowmaker	RPB	Presenter for Item 8
Geoff Glazier	Merz Consulting	Observer for Item 8

Apologies	From	Comment
Zahra Jabiri	Western Power	
Chris Alexander	Small-Use Consumer Representative	

Item	Subject	Action
1	**Welcome** The Chair opened the meeting at 9:30am with an Acknowledgement of Country. The Chair noted she had no new conflicts to declare. The Chair noted that that the views or advice provided by the MAC to the Coordinator do not necessarily represent the views of the Chair. The Chair noted the Competition and Consumer Law obligations of the MAC, inviting members to bring to her attention any issues should they arise. The Chair noted that MAC operates for the good of the WEM Market Objectives and members are to participate in the interests of the stakeholder group they represent.	
2	**Meeting Apologies/Attendance** The Chair noted the attendance and apologies as listed above.	
3	**Minutes of Meeting 2023_08_30** The MAC accepted the minutes of the 30 August 2023 meeting as a true and accurate record of the meeting. **Action: The MAC Secretariat to publish the minutes of the 30 August 2023 MAC meeting on the Coordinator's Website as final.**	**MAC Secretariat**
4	**Action Items** The Chair noted that there was an open action item: **15/2023:** for Western Power to provide advice about the information that it shares with AEMO in real time when loads are constrained. • Ms Sukmadjaja from Western Power noted that: ○ AEMO has real time visibility of customer load flow information via SCADA points (if applicable) that are transmitted to AEMO via the Inter Control Centre Communication Protocol link. Additionally, Western Power provides AEMO with the details of the special protection schemes via a register that is uploaded onto the AEMO/Western Power SharePoint site. • Mr Schubert noted that the intent of the question was to understand whether AEMO would have visibility when Western Power curtails a load. SCADA may change for many reasons, so load curtailment may not be apparent with this data alone.	

Item	Subject	Action

Ideally, AEMO's control room would have visibility that a load had been curtailed.

- Mr Schubert noted that flow of information from Western Power to AEMO for system operation purposes is being considered as part of the Demand Side Response (DSR) Review.
- Ms Sukmadjaja responded that she was not the subject matter expert in this area and suggested that this was best discussed within the DSR Review working group.

5 Market Development Forward Work Program

The Chair noted the updates, and the paper was taken as read.

- Mr Edwards noted that the new Wholesale Electricity Market (WEM) had commenced since the last meeting.

The Chair acknowledged the new market start on 1 October 2023 and asked if there were any comments from the MAC.

- Mr Edwards noted the volatility in pricing and noted that the discussion on flexible capacity and ramping was timely.
- Mr Sharafi noted that, from AEMO's perspective, the market start had gone smoothly, any initial issues had been resolved quickly and the overall experience was much better than expected.

6 Update on Working Groups

(a) AEMO Procedure Change Working Group (APCWG)

The Chair noted that a number of procedures had commenced.

Mr Maticka confirmed that AEMO had developed and updated 57 procedures in the lead up to the new market start, with another 12 procedures still requiring finalisation, and thanked those who had provided comment. He noted that the gaps in procedure development were communicated through WRIG.

Mr Maticka advised that further changes to procedures may be required in the next 12 months.

(b) Reserve Capacity Mechanism Review Working Group (RCMRWG) Update

The Chair noted that the minutes from the previous RCMRWG meetings were included in the papers and that the Exposure Draft of the WEM Amending Rules implementing the outcomes of the RCM Review was published on 14 September 2023.

The Chair reminded MAC members of the need to receive updates from members of the MAC working groups in their organisations.

Ms Guzeleva noted that:

- the consultation on the RCM WEM Amending Rules Exposure Draft closes on 19 October 2023;
- discussions were ongoing with stakeholders;

- EPWA is open to informal feedback;
- submissions should be made as soon as practicable; and
- the Amending Rules will be submitted to the Minister by the end of November.

Ms Guzeleva noted that the commencement of the Amending Rules would need to be staged, as some aspects are more urgent than others. She noted that an RCMRWG meeting is scheduled for 19 October 2023 to discuss sequencing of the RCM Amending Rules and the second stage of the BRCP Reference Technology Review.

(c) Cost Allocation Review Working Group (CARWG) Update

The Chair noted that the minutes from the previous CARWG meetings were included in the papers and the next step is to release the Exposure Draft of the WEM Amending Rules implementing the outcomes of the CAR in mid-October. This had been delayed post new WEM commencement as requested by stakeholders.

(d) Demand Side Response Review Working Group (DSRRWG) Update

Ms Guzeleva noted that the Demand Side Response (DSR) Review Consultation Paper was also delayed slightly and submissions close on 2 November 2023. Ms Guzeleva noted that EPWA is looking for participants to advise if anything has been overlooked in the review.

(e) WEM Investment Certainty Review Working Group (WICRWG)

The Chair noted that the minutes from the previous WICRWG meeting were included in the combined papers and MAC was asked to note the updates.

Ms Guzeleva noted that a more comprehensive paper will be presented at the next MAC meeting on 23 November 2023 on the following three items:

- the emissions thresholds;
- the proposed exemptions for existing flexible technologies from the emissions thresholds; and
- a 10-year guarantee for new longer duration technologies.

Ms Guzeleva noted that:

- Concerns had been raised about the previous proposal to base the emissions threshold for existing facilities on the quantum of emissions, which is directly linked to the output of the facilities.
- Following analysis by RBP on plant performance and national data, the proposal has been changed to base the threshold on the emissions rate of an existing facility.
- This was widely accepted at the 11 October 2023 WICRWG meeting. At this meeting there was discussion on whether the rate of emissions for individual facilities will continue to be

assessed over time, and concerns were raised about how that impacts investment certainty.

Next steps for the WICRWG were to look at the remaining two initiatives (the Reserve Capacity Price curve and the wholesale energy price guarantee for renewable generators).

Ms Guzeleva noted that the paper for Agenda item 6(e) did not cover the 11 October 2023 meeting as this was held on the day before the MAC meeting.

- Mr Edwards noted that much of the discussion was around the rationale for the emission set point of 0.55, and to make sure that high emission generators do not exit too quickly before new efficient facilities come in to replace them.
- Mr Edwards noted that, due to the depth of discussion, the meeting did not cover everything that it intended but that it was successful in reaching consensus, despite opposing views. and a reasonable and pragmatic way of moving forward.

Ms Guzeleva agreed that the discussion was very well considered and balanced despite strong stakeholder views on each side and noted that the next WICRWG meeting would cover those matters that were not discussed. Mr Peake supported Mr Edwards comments, noting that the different elements of the energy trilemma were well considered.

The Chair noted that the WICRWG had a slightly broader range of membership compared to other MAC working groups. The Chair noted that this had proven to be beneficial for all views to be represented.

- Mr Edwards noted that he had highlighted to people, commenting on the MAC on LinkedIn, that stakeholders with relevant views were encouraged to apply for a membership on the working groups because membership was open to all.

7 Rule Changes

(a) Overview of Rule Change Proposals

The Chair provided an overview, and the paper was taken as read.

8 Benchmark Reserve Capacity Price (BRCP) Reference Technology Review

The Chair noted that the MAC was asked to note the presentation and provide views on the analysis.

Ms Guzeleva outlined the agenda and presented slide 3.

Ms Guzeleva reminded members that Review Outcome 9 of the RCM Review required the Coordinator to review the reference technologies, but that the ERA was still required to update the full BRCP methodology. This work on the reference technology has commenced ahead of the rules being amended as the ERA must commence its methodology review by early 2024.

Ms Guzeleva noted that assumptions had to be made in order to undertake the economic analysis in this project, but it was still the ERA's prerogative to determine parameters such as economic life when it reviews its BRCP methodology.

Mr Bowmaker outlined the review approach in Slide 5. He noted that the review is currently up to step 4.

Mr Bowmaker presented Slide 6.

Mr Bowmaker presented slide 8. He noted that the proposed carbon emissions intensity of 0.55 tonnes per MWh excludes diesel fuels and many gas turbine technologies and this has a significant impact on the assessment.

Mr Robinson presented Slide 9.

Mr Bowmaker presented Slide 10 and noted that questions had been asked about the requirements for the flexible service in the 11 October WICRWG meeting. He noted that some assumptions had to be made for this project, but that the establishment of the actual requirements is the responsibility of AEMO under the rules.

Mr Bowmaker presented Slide 11 and noted that the current reference technology is excluded from the shortlist as it does not meet the emission threshold but was included for comparison in the analysis.

Mr Bowmaker presented Slide 12.

Mr Bowmaker presented Slide 13. Mrs Papps noted that Western Power's recently released Registration of Interest was asking for $100,000 per MW. Mrs Papps stated that the BRCP methodology developed by the ERA would need to reflect these connection costs.

Mr Bowmaker presented Slide 14.

Mr Bowmaker presented Slide 15.

The Chair asked whether the team considered what the ERA's view on economic life might be.

Mr Robinson advised that the ERA had not provided a view but noted that there was discussions on this in the working group and there was agreement that a 25 year life for gas plant would be reasonable.

Ms Guzeleva noted that, if gas was chosen as the technology type, it could be converted to hydrogen in the future, and this had been discussed during the initial stages of the analysis.

- Mr Sarawat noted that, while the ERA is a member on the working group, the methodology review would consider the economic life together with everything else.

Mr Bowmaker presented Slide 17. He noted that:

- what was presented was the relative costs not actual cost; and
- all shortlisted technologies were more expensive than the current technology, which is a result of the carbon intensity constraint that has been applied.

Mr Bowmaker presented Slide 18.

- Mr Stephen asked how the gas transport reservation charge was arrived at as he hadn't seen contracting arrangements like that before.

Mr Bowmaker responded that there was an assumption that a gas lateral would be providing that, and that a facility would use its 14 hours of fuel on a day but then build up the line pack over two days and that was the lowest cost way to meet the 14-hour fuel requirement rather than having a 14 hour a day reservation charge.

Ms Guzeleva added that this was replicating how the current requirements for an on-site liquids tank work.

Mr Bowmaker presented Slide 19.

Mr Bowmaker presented Slide 20.

Mr Edwards noted that:

- this is not comparing like for like technologies, i.e., storage and generators, and it is a fundamental flaw to compare the two that way;
- while capacity at time of need can be delivered by the discharge of storage or by generation, AEMO has stated that a strong grid is a diverse grid, and this review was pointing to storage only;
- a 25-year asset life cannot be assigned to lithium storage. In reality, cells will not be replaced when they fail, instead the owners will retire the asset and replace it with newer technology;
- there is a significant risk that the price of storage will drop quickly, thereby dropping the BRCP, making it uneconomic for generation to connect to the grid; and
- at some point gas will be replaced by hydrogen and there is a chance the system will be in the same situation it is in now, with very little renewable firm generation.

Ms Guzeleva noted that:

- The reference technology has been the same for the last 20 years and a range of technologies have come in over that time.
- The BRCP is supposed to capture the top of the load duration curve and the most efficient new entry that can service that one-in-ten peak load. It is not supposed to determine what technology should enter the market, otherwise there would have only been Siemens 160 MW OCGTs entering in the last 20 years.
- Over time, the duration of the peak will increase and the reference technology will be reviewed accordingly. What is currently required is a technology to cover the 4 hour peak and the analysis shows that storage is the most efficient new entry to service this.

The Chair sought to clarify whether Mr Edwards concern was that if the BRCP price incentivises the lowest cost alternative and the price of storage drops such that the BRCP becomes too low for generation

to enter, then there will be issues with having enough generation to charge the storage facilities.

- Mr Edwards agreed noting that at some point we will need new generation to service predicted load growth, not just storage that can shift load.
- Mr Sharafi concurred with Mr Edwards, noting the need to consider the circumstances when the system experiences scarcity besides during the peak, such as winter days with no wind and little solar when there is a longer duration gap.
- Mr Schubert noted the need to account for other available sources of revenue for generators. Mr Schubert noted that the last 10% – 20% of emitting plant would be difficult to remove from the system and as such there will be conventional generation in the mix for some time to come. While in the future the reference technology may need to change, at this point in time batteries appeared suitable.

The Chair noted that it might be beneficial for the review to capture assumptions about:

- where the energy stored by batteries will come from in the short, medium and long term and whether that has any implications for using storage as the reference technology; and
- any other additional revenue generators may earn from providing other services that might incentivise them to enter regardless of what the BRCP is.

Ms Guzeleva noted that this discussion assumed there was no growth in renewables and pointed out that the WIC Review was also looking at what incentives renewables would require in the future.

The Chair added that Ms Guzeleva's point highlights the importance of articulating in the review what is been assumed when selecting a BRCP Reference Technology.

Mr Bowmaker presented Slides 21 to 25.

Mr Guzeleva presented Slide 27.

Ms Guzeleva noted that with the technology change, the BRCP would go up considerably for the reasons outlined on the slide. She asked MAC members if they are comfortable to proceed with the introduction of this new technology type ahead of the emissions threshold coming in. She also asked whether liquid storage on site for gas generators should be allowed under the emission thresholds to mitigate some of the concerns around reliability.

- Mr Peake noted that higher prices are a concern but system security is as well. Higher prices would encourage battery storage, which would firm up renewables, counteract residential solar output, and connect generation facilities faster than having to wait for transmission investment. It may also encourage more efficient gas firming plant to come in.

- Mr Schubert supported the early introduction of the new reference technology. He noted that, as a consumer representative, he had concerns with increasing costs, adding that the BRCP based on the existing technology was already increasing. However, as there was a need to incentivise the right sort of generation, he supports proceeding with the new reference technology as soon as practical.
- Mr Arias supported introducing the new reference technology as soon as possible.
- Mrs Papps supported the above comments and noted that, if the change did not proceed, there is a risk that AEMO will need to call Non-Co-Optimised Essential System Service (NCESS) or Supplementary Reserve Capacity (SRC) which could result in a higher cost to consumers.
- Mr Maticka noted his support for anything that encourages more capacity to come in earlier. A delay may mean projects are deferred in the hope of a higher price in future years. A delay may encourage high emitting generators to enter before the implementation of the emission thresholds.
- Mrs Papps noted that the Environmental Protection Authority's new guidelines would deter the entry of high emitting technologies.
- Mr Stephen supported the introduction of the new reference technology as soon as possible but questioned whether 200 MW was actually the right size. He stated that, given the way WEMDE has been functioning, there is no certainty that a generator would be dispatched for 200MW.

Ms Guzeleva noted that AEMO is addressing the issue of generators being dispatched at lower levels, so time needs to be allowed to rectify this before drawing conclusions.

Mr Bowmaker noted that some modelling had already been done for the next stages of the review, which showed a 200MW battery as being profitable.

- Mr Huxtable provided general support, noting that while there would be an increase in cost for new facilities, this was countered by the fact that there was a transitional Reserve Capacity Price and the need for regular reviews.

Ms Guzeleva summarised that the majority of views indicated that the new reference technology should be introduced sooner rather than later and noted that Mrs Papps earlier comments regarding avoiding NCESS and SRC were valid. Ms Guzeleva also requested that MAC members continue to consider the issue of liquid storage.

Ms Guzeleva noted that the issues raised around generation sources for storage are acknowledged, but that net zero by 2050 is still the target. There had been strong views put forward in the WICRWG that introducing gas in this intervening period is not consistent with that.

EPWA, along with AEMO and the ERA, will in future be required to balance reliability, cost and emissions in their decision making.

Mr Robinson added that the modelling to date indicates that historic levels of intermittent generation output are sufficient to charge the amount of battery storage required in the next few years.

Ms Guzeleva noted that the consultation paper would ask whether the BRCP Review should happen every three years.

- Mr Sharafi asked Mr Robinson whether the modelling included June 2023 when some of the generators were on outage and renewables were not sufficient and as such diesel generation was required to run.

Mr Robinson replied that 2023 had not yet been modelled.

- Mr Sharifi suggested including it.

Ms Guzeleva noted that there was unusual number of outages in June 2023 and the majority of these were forced outages, and an outcome of the RCM Review is to strengthen the forced outages regime. Ms Guzeleva noted that there is a draft rule that would require AEMO to remove Capacity Credits from underperforming generators which will help with this problem.

Ms Guzeleva noted that concerns had been raised by proponents that if the same technology is set for both Peak and Flex capacity, there may not be incentives for facilities to offer the flexible capacity service, given that the way the rules are currently structured means there are obligations but no additional revenue in this circumstance.

Ms Guzeleva noted that the WIC Review would be looking into the price curve for peak and flexible capacity and this would again consider if they needed to have different shapes.

The Chair summarised that this appeared to be an economic issue of providing sufficient incentives generally.

- Mr Edwards asked where the price may sit for Flexible Capacity.

Mr Robinson noted that the price will be driven by the BRCP and the amount of flexible capacity required relative to what is currently available. Currently there a peak capacity shortfall and it's likely the flexible capacity price will be lower than the peak.

Ms Guzeleva added that the more storage is introduced into the system, the less of a problem the midday trough becomes. As a result, the afternoon ramp is lower and the need for flexible capacity may end up reducing over time.

- Mr Schubert asked what forecasts were used for the modelling.

Mr Robinson advised that the modelling started with the 2022 Electricity Statement of Opportunities (ESOO) forecasts adjusted for projected behind the meter solar growth.

- Mr Schubert noted that if the modelling were to use the South West Interconnected System Demand Assessment (SWISDA) forecasts (with the significant increase in demand) this would

change the results quite considerably, suggesting that a sensitivity analysis may be required.

Ms Guzeleva noted that the 2023 ESOO forecasts were based on SWISDA and if the analysis was updated to the 2023 ESOO this would align it with the SWISDA.

The Chair sought the views of MAC members who had not yet commented.

- Ms Teo supported the comments from other members and the need to look into prices as soon as possible.

Ms Guzeleva noted that the consultation paper would be sent to the MAC out of session and summarised the outcomes from this meeting as follows:

- the paper would include analysis to demonstrate whether system adequacy would be maintained under low renewables conditions with 4-hour battery storage and, while acknowledging that the purpose of the RCM is to address the system peak requirements, the comments by Mr Edwards and others will be considered;
- a majority of MAC members support the introduction of the new BRCP Reference Technology as soon as practicable;
- there is concern about the future mix of technologies; and
- the BRCP reference technology reviews need to happen frequently due to the pace of technology change.

The Chair noted that if the BRCP is to be set on the basis of 4 hour storage, the paper could state the assumptions that are made about the ability of existing generation to charge storage and the incentives for sufficient generation to enter in the future.

The Chair also suggested capturing:

- the reasons for the support to make the change sooner rather than later. This could include both the concerns about the impact on consumers and the need to provide incentives for entry of low emission technologies to lower emissions, while acknowledging that, if there isn't sufficient low emissions generation and storage entering the market, the intervention costs and impact on consumers could be worse.
- The comments about 200MW being the right size.
- Some assumptions about what is expected for the mix of technologies given the proposed reference technology.

Ms Guzeleva noted that the analysis will demonstrate whether there is sufficient generation to charge the storage.

Ms Guzeleva noted the next steps as per Slide 29, noting that the decision regarding the reference technology needed to be published by mid-December to allow the ERA to commence its methodology review in early 2024.

Item	Subject	Action
11	**General Business** There was no general business. The next MAC meeting is scheduled for 23 November 2023 for an in-person meeting starting from 9:00am with a cup of tea.	

The meeting closed at 11:24am.