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

Minutes

Meeting Title:	Market Advisory Committee (**MAC**)
Date:	28 June 2022
Time:	9:30am –11:35am
Location:	Videoconference (Microsoft Teams)

Attendees	Class	Comment[1]
Sally McMahon	Chair	
Dean Sharafi	Australian Energy Market Operator (**AEMO**)	
Martin Maticka	AEMO	
Zahra Jabiri	Network Operator	
Angelina Cox	Synergy	Proxy for Genevieve Teo
Paul Keay	Small-Use Consumer Representative	
Noel Schubert	Small-Use Consumer Representative	
Geoff Gaston	Market Customer	
Timothy Edwards	Market Customer	
Patrick Peake	Market Customer	
Wendy Ng	Market Generator	
Jacinda Papps	Market Generator	
Rebecca White	Market Generator	
~~Patrick Peake~~	~~Market Customer~~	
Dimitri Lorenzo	Market Customer	Proxy for Paul Arias
Peter Huxtable	Contestable Customer	
Dora Guzeleva	Observer appointed by the Minister	Proxy for Noel Ryan
Rajat Sarawat	Observer appointed by the Economic Regulation Authority (**ERA**)	

Also in Attendance	From	Comment
Laura Koziol	MAC Secretariat	Observer

Also in Attendance	From	Comment
Shelley Worthington	MAC Secretariat	Observer
Richard Bowmaker	Robinson Bowmaker Paul (**RBP**)	Observer
Ajith Sreenivasan	RBP	Observer
Tim Robinson	RBP	Presenter
Grant Draper	Marsden Jacob Associates (**MJA**)	Presenter
Andrew Campbell	MJA	Observer

Apologies	From	Comment
Noel Ryan	Observer appointed by the Minister	
Paul Arias	Market Customer	
Genevieve Teo	Synergy	

Item	Subject	Action
1	**Welcome** The Chair opened the meeting at 9:30am with an Acknowledgement of Country. The Chair advised that her position as expert panel member on the WA Electricity Review Board remains current.	
2	**Meeting Apologies/Attendance** The Chair noted the attendance and apologies as listed above.	
3	**Minutes of Meeting 2022_05_17** The MAC accepted the minutes of the 17 May 2022 meeting as a true and accurate record of the meeting. **Action: The MAC Secretariat to publish the minutes of the 17 May 2022 MAC meeting on the Coordinator's Website as final.**	**MAC Secretariat**
4	**Action Items** The Chair noted there were no open action items.	
5	**Market Development Forward Work Program** The paper was taken as read and the Chair noted that the updates in red were to be reviewed and discussed. The following topics were discussed. • **The Reserve Capacity Mechanism (RCM) Review** To be discussed under agenda item 6(b). • **The Cost Allocation Review (CAR)** To be discussed under agenda item 6(c).	

Item	Subject	Action
6	**Update on Working Groups**	

(a) AEMO Procedure Change Working Group (APCWG)

The paper was taken as read. Mr Sharafi confirmed that there was no AEMO procedure change activity in June 2022.

(b) RCM Review Working Group (RCMRWG)

The MAC noted the minutes of the RCMRWG meetings on 5 May and 2 June 2022 and the actions of the RCMRWG in response to the MAC feedback from its meeting on 17 May 2022.

The papers for agenda item 6(b) were taken as read.

Ms Guzeleva outlined the current stage of the RCM Review work and noted that this was an iterative process and that decisions will only be made once further stages of the work are completed. The key challenge was to get sufficient views, material and modelling results to publish a consultation paper in August 2022.

Mr Robinson noted that the purpose of the item was to provide the MAC with the views of the RCMRWG, and to identify what is still controversial and requires further work.

Mr Robinson noted that the slides were condensed to the specific design aspects on which feedback was sought and that details were provided in the appendices. Mr Robinson asked the MAC to note:

- additional system stress modelling has been undertaken and results will inform proposals for the future of the RCM;
- the rationale for a potential new flexible capacity product; and
- Certified Reserve Capacity (**CRC**) allocation requires further work, but the RCMRWG is currently seeking buy-in from the MAC on the options to be considered.

Mr Robinson noted that the system stress modelling so far has focused on the potential for lost load and did not account for economics. The next stage will be a dispatch model looking at the economics of the various types of technology and retirement. This second stage will test:

- the economic implications on particular technology types;
- what this might mean for the future of the fleet and retirements; and
- whether multiple capacity products are required.

Mr Robinson noted that the recent government announcement regarding Synergy plant closures falls within the bounds of the current scenarios (slide 7) and noted that the announced closures will be incorporated into the next stage of modelling.

Mr Sharafi noted that there appeared to be a capacity shortfall in 2027-28 and asked whether this was being explored. Mr Robinson advised that there was no specific modelling for 2027-28.

Mr Robinson noted the first principles for the RCM are to ensure acceptable reliability of electricity supply at the most efficient cost. The RCM was originally designed to address peak demand, but by 2050 the question of minimum load and other aspects of reliability of supply will start to matter more.

- Mr Robinson sought feedback on whether the MAC agreed with the RCMRWG recommendation to retain the two existing limbs of the planning criterion: peak load and expected unserved energy (**EUE**) % (slide 11).
    - Mr Sharafi confirmed support in retaining both limbs of the planning criterion and expected further details to explore the interaction between effective load carrying capability (**ELCC**) and planning criteria.
    - The Chair noted retaining two limbs in the planning criterion appeared to be a non-controversial issue.
    - Mr Edwards requested to see more detail.
    - Ms Guzeleva (as Chair of the RCMRWG) confirmed that this was not a controversial issue. The remaining issue was to further analyse the level of the EUE, currently at 0.002% and noting that the Reliability Panel in the National Energy Market (**NEM**) had issued a draft paper that suggested it may be revised in the NEM and that more modelling needs to be undertaken.
    - The Chair noted that the two limbs are non-controversial, but the level at which they are set may require more discussion.
    - Mr Schubert noted that, out of all the options the RCMRWG was presented with, retaining both limbs was the best option.

Mr Robinson compared the NEM reliability review and the work done to date for the Wholesale Energy Market (**WEM**) (slide 12).

- Mr Robinson noted that the WEM seems to have shorter and shallower outages.
- The Chair noted that there was support for changing the standard in the NEM and asked if this might be an option in the WEM.
- Mr Robinson noted that one of the core principles of the reform was to *not* make it less reliable than it is today. Based on this principle, the 0.002% standard would be retained even if the analysis suggested that it could be reduced to 0.004% or 0.005%. If the analysis indicates that there is economic benefit to a lower standard, then it is a policy call on whether that trade-off has been well enough justified. RBP's recommendation from a consulting perspective would be if there is a benefit and we are confident in the modelling, that will be sufficient to support change.

Mr Robinson noted the planning criterion includes a buffer to account for the spinning reserve at the size of the largest unit, but that the RCMRWG agreed that the planning criterion should instead be tied to

the size of the largest contingency, and that the RCMRWG agreed that the change to the planning criterion should be made prior to completion of the RCM Review so that it can be implemented for the next capacity cycle (slide 13). Mr Robinson asked the MAC whether it agrees with the RCMRWG's recommendations.

- Mr Schubert, noted this was also discussed by the Expert Consumer Panel and he understood the reason for the largest contingency in the reserve margin, but that he considered the reserve margin should be the biggest contingency at the time of the peak demand. Mr Robinson agreed that was correct.
- Mr Sharafi noted that AEMO agreed that planning criteria should consider network contingency as a priority action. AEMO would like to know the timing of any rule changes to address this matter.
- Ms Guzeleva indicated that, if MAC agreed to changing the planning criterion as soon as possible to reflect the largest contingency, then it would be included in Tranche 6 changes to the WEM Rules for consultation and then provided to the Minister for approval in November 2022.
- Ms Jabiri advised that she was expecting to receive internal feedback and requested to reserve the right to come back with Western Power's position.
    - The Chair advised that what the MAC decides today is the way in which the work will move forward and asked Ms Jabiri to provide the feedback as a matter of urgency. Ms Jabiri agreed to provide the feedback by the end of the day.
- Mr Robinson advised that feedback would be appreciated sooner rather than later, noting that he would be surprised if it would affect Western Power, other than the processes Western Power already have in place to work with AEMO on working out what the contingencies are.
- Ms Ng noted that she had no issue with the reserve margin or with making the changes ASAP, and asked if spinning reserve is still going to be procured at 70% of the largest contingency.
    - Mr Robinson noted that this will be the case until the start of the new market, but it will change after that.
    - Ms Guzeleva indicated that there would be a refresh of the planning criterion for the 2023 reserve capacity cycle so that margin become the largest contingency, at peak.

Mr Robinson noted that the modelling indicated the need for a flexible capacity product because significantly higher ramping would be required – greater than 2,000 MW per hour, which is three times the current rate, and that AEMO has voiced concern that the ramping requirement could be even higher by 2050. Mr Robinson indicated that, with the planned closure of coal and gas plants, it is more of a

challenge to be confident that the types of technology required to meet that ramp will be in place when needed.

Mr Robinson noted that the RCMRWG discussed three options:

- retaining the existing planning criteria;
- introducing a specific flexibility capacity product with a new limb to the planning criterion to explicitly allow for payment for a different type of capacity, if needed; and
- introduce a new capacity service for each of the Frequency Co-Optimised Essential System Services (**FCESS**) to make certain that the capacity to provide each services is available in real time.

Mr Robinson indicated that the first two options would be explored in the next stage of modelling. The third option was ruled out due to its complexity.

- Mr Sharafi noted that a reserve capacity megawatt could no longer be defined as it had been previously and agreed that incentivizing the entry of flexible capacity should be a critical part of the review and asked what modifications were expected. Mr Sharafi indicated that AEMO's recommendation is that the complexity of any flexible capacity products should be considered carefully and advised that AEMO would like to be closely involved in considering the design options. Mr Robinson agreed, noting there would be more detail to come in the next stage.
- Ms Guzeleva noted three points that need to be considered:
  - if a second capacity product is required;
  - if so, would it need to be remunerated separately; and
  - how to avoid gaming in the market.

  Obligations, certification and requirements for that capacity product would need to be developed in the second stage of the review.
- The Chair noted the MAC supported moving ahead with economic modeling of a scenario with a single capacity product and a scenario with two capacity products, and considering the design for the new product in the next stage of the review.

Mr Robinson noted that consideration would be given to defining the new product and how the requirement would be set, and indicated that the RCMRWG had discussed two options (slide 17):

- the difference between the minimum load and the peak load (e.g. the total size of the afternoon ramp); and
- an option to find the steepest part of the ramp, although the details of how to define this still need to be determined.

Mr Robinson noted that:

- operational load is key because it represents what you do not have control over; and

- it is important to use the 10% POE load forecast to be consistent with the measure used for the peak capacity product.

Mr Robinson noted the target for the flexibility product would need to be defined to exclude any intermittent generation that had been curtailed in the middle of the day, but that the RCMRWG had not discussed this matter.

- Mr Sharafi noted that AEMO provides a single 10% or 50% POE from which the historical load profiles are scaled up to match peaks and that careful consideration will need to be given to construction of the load profile that sets any target for flexible capacity product, which will be sensitive to the method used to construct it. Mr Robinson agreed and noted that this is the same issue with the overall load forecast.
- Mr Schubert supported the proposal and noted the difficulty in defining the steepest ramp because the minimum demand may be in a different part of the year from the maximum demand.
- Mr Edwards supported exploration of flexible capacity product because it might incentivize projects to add more solar and storage at a larger scale, which will add diversity over the large amount of wind generation that is expected in the future.
- Mr Edwards also noted that simplicity for the product will help preventing gaming of the system.
- Mr Maticka noted that there is volatility within the day and that the steepest ramp may be at different times in the day, and asked if this is being considered. Mr Robinson indicated that analysis will be done to determine whether procuring capacity to meet the ramp capability being discussed here would also be sufficient to meet wind/solar volatility at other times.
- Regarding treatment of curtailed intermittent generation, Mr Sharafi noted the approach to intermittent facilities relies on foresight of capacity associated with intermittent generation, and that this is not known when AEMO develops the ESOO.
  Mr Sharafi noted two options:
  - direct participation of intermittent resources as flexible capacity providers (e.g. de-rating according to how much they may be capable of curtailing); or
  - the response of curtailed intermittent resources subtracted from the ramping requirements.

  Mr Robinson agreed that there is a timing question of whether AEMO will have the information it requires at the time it is needed.

  Mr Robinson noted that facilities could be certified without knowing the targets but that defining the target should be done contemporaneously with allocating capacity credits. Mr Robinson noted that direct participation by intermittent generation in providing the flexibility product is possible – the CRC for those

facilities in terms of the peak product should have already de-rated them for what their reliable output is likely to be at peak.

- Ms Guzeleva noted that, if capacity certified for the peak product provides the AEMO with sufficient flexibility, then AEMO would not need to procure more flexible resource. Ms Guzeleva noted it was to be determined how the flexibility product is to be remunerated to avoid gaming opportunities.
- The Chair noted the MAC was in agreement with the recommendation for the flexible capacity target to be based on the steepest ramp.
- Mr Robinson noted two main feedback points from the MAC that need to be addressed:
  - the need to make sure that the timing works; and
  - allowing the intermittent generation to participate in the flexibility product to provide incentive for them to use that capability.

Mr Robinson noted that the current availability classes do not capture the capabilities that will be important in the future. It is proposed to replace availability classes with capability classes based on firmness of the capacity, such as:

- Class One: unrestricted firm capacity (no fuel/availability limitations – this would include current scheduled generators);
- Class Two: restricted firm capacity (with fuel/availability limitations – this would include batteries and DSPs); and
- Class Three: non-firm capacity (intermittent generators with no firming components).

Mr Robinson noted the RCMRWG supported this proposal but had some reservations that still need to be addressed about:

- the detail regarding the impact of new entrants in Class One on the capacity credits for existing Class Two or Three facilities. Mr Robinson noted that Ms Guzeleva acknowledged the need to provide Market Participants some certainty for investment in Class Two facilities.
- Providing priority to Class One over Classes Two and Three, given that Class One is likely to be fossil fueled and Classes Two and Three are likely to be intermittent, which may lead to under-procuring renewable energy.

Regarding the capability classes:

- The Chair sought to clarify that renewables plus storage could fit into Class One or Class Two. Mr Robinson agreed that was correct.
- Ms White supported the proposal but indicated that it should be clear that the classes are not just about procuring more firm

capacity but also about not limiting participation of renewable energy facilities.

- Mr Sharafi noted that AEMO was supportive of updating the capacity classes to reflect the capabilities but was concerned about the potential complexity. Mr Sharafi sought to clarify:
  - how the classes would apply to peak capacity and what target would need to be met by each capacity class
    - Mr Robinson indicated that there would be one target for the peak capacity product and the classes would form a queue and facilities in each class would be allocated credits in order, with no credits being provided to Classes Two or Three if Class One met all of the peak capacity requirements.
  - how the classes would be applied to the components of hybrid facilities.
    - Mr Robinson noted that this still needs to be addressed, but the options are to certify each component or to certify the facility as a whole, and that this may come down to the choice of the participant depending on which option provides them with the best financial outcome.
- Mr Peake noted that it was indicated at the 24 June 2022 Transformation Design and Operation Working Group (**TDWOG**) that the obligation hours for storage could be increased from four hours, which could destroy incentives for investment in storage.
  - Mr Robinson noted that this was a fair point and that the next slide referred to availability obligations and that they do need to be set in advance.
  - Ms Guzeleva noted that the four hours obligation for storage is set in the Rules and cannot be changed without a rule change, but that AEMO can change the time of day for the four hour period by publishing a notice. Ms Guzeleva noted that the Coordinator is required to review the obligation period and the linear de-rating methodology for storage within five years.
  - Ms White supported Mr Peake's comments.
- Ms Guzeleva noted Mr Sharafi's comment about complexity and indicated that this may lead to describing the facilities that fall within each class rather than having another dimension of assessment in the certification process based on firmness.
- Mr Schubert noted that we should not limit thinking about storage as being only four or five hour batteries, because there is longer term storage like pumped hydro. Mr Robinson noted there may be ways to order capacity within the classes as well.
- The Chair noted that the MAC supported the capability classes and that there is a need to continue to think about the incentives

sent by the changes, to ensure the delivery of the lowest cost product and not artificially preventing new technologies from participating in a market.

Mr Robinson noted that changes can be made to the availability obligation hours, from the current 24/7 obligation, to more targeted hours, signalled in advance, covering the evening and morning peak, and with different obligations for the peak and flexibility products (slides 20 and slide 77). Mr Robinson sought support for working on these changes, but noted that work needed to be done on what the obligations would be.

- Mr Schubert supported the view.
- The Chair noted that the NEM is looking at a 24/7 obligation and asked why we would use a different approach for the WEM.
- Ms Guzeleva noted that the obligation hours would be linked to the capability classes, and that firm capacity would need to be available all the time, and that we need to be very careful not to water down obligations for fuel requirements.
- Mr Sharafi noted that it is becoming harder to understand when the load is participating more actively, which impacts AEMOs ability to manage these obligations, and the increasing uncertainty will add risk for the accuracy of obligation hours. Mr Robinson agreed that this would suggest a wider obligation.

Mr Robinson noted that CRC allocation methods will continue to be controversial (slide 22) and that the RCMRWG was concerned with the complexity and volatility of some options. Mr Robinson indicated that, following RCMRWG discussions, three options are being assessed:

- Option One: ELCC for intermittent generation only;
- Option Two: a probabilistic approach for all capacity; and
- Option Three: a deterministic approach for intermittent facilities and DSPs based on a predetermined set of intervals.

Mrs Papps provided a slide presenting Alinta's view that the Delta Method is complex, is volatile because it relies on a small sample size, and does not accurately measure reliability of intermittent generators. Ms Papps supported considering the third option.

- Mr Sharafi indicated that AEMO supports the ELCC approach and would like the design to be simple and transparent.
- In response to a question from Ms White, Mrs Papps advised that Alinta is modelling option three and would share the results in the near future.
- Ms Cox noted that Synergy agrees that alternative approaches need to be considered and that Synergy had provided comments to EPWA by email.
- Ms Guzeleva encouraged stakeholders to come up with credible alternatives because time was of the essence.

Item	Subject	Action
	Mr Robinson indicated that work is still underway to decide on the installed capacity (**ICAP**) or unforced capacity (**UCAP**) approach, and invited MAC members to advise whether they had a preference. • Ms Ng and Mrs Papps indicated that they do not support UCAP. The Chair noted that RBP will investigate the pros and cons of ICAP and UCAP to address the specific concerns raised and will consider this against the WEM objectives. Mr Robinson noted that the Benchmark Reserve Capacity Price (**BRCP**) will be discussed at the RCMRWG meeting in July 2022, and Ms Guzeleva indicated that the consultation paper will be discussed with the MAC in August before it is released for consultation. The Chair noted that the MAC generally supported the recommendations in the paper for agenda item 6(b) and that: • further work is to be done on the following items based on feedback from the MAC: o how to specify the ramping requirement; o how curtailment of intermittent generators should be taken into account; o the arrangements for the capability classes; o the options for CRC allocation; • there is a need to be clear about accuracy when we are looking at targeted availability assessment; • Ms Papps will provide further information on an alternative for CRC allocation; and • the pros and cons of ICAP versus UCAP and their impact are to be explained in the consultation paper.	
	ACTION: Ms Jabiri to advise whether Western Power agrees with the RCMRWG's recommendation that changes should be made to the reserve margin before the rest of the change to the RCM.	**Ms Jabiri (29/06/2022)**
	(c) CAR Working Group (CARWG) The MAC noted the minutes of the CARWG meeting and the further updates in the papers for agenda item 6(c), and the Chair indicated the items for which feedback is sought from MAC. As Chair of the CARWG, Ms Guzeleva noted that the CARWG is still in its early days, that no conclusions have been reached, and there will be further discussion with the MAC in October. Mr Draper noted that the next stage for the CARWG is to quantify the impact of the allocation options on market participants and to ascertain the efficiency consequences and equity issues, so guidance is sought on the options to analyse. Mr Draper noted the proposed assessment priorities as follows: • Market Fees was deemed a high priority because the current allocation methodology is only partially aligned with the causer	

pay principle and because it has not been reviewed for a long time.

- Frequency Regulation was deemed a high priority because the current practice is not aligned with the causer pays principle, which will have consequences from not driving reductions in the costs of providing regulation services.
- Contingency Reserve Raise was deemed a low priority because the runway method reasonably aligns with the causer pays principle.
- Contingency Reserve Lower was deemed a medium priority because costs are allocated to loads, but not necessarily to large loads, which could be the biggest causers (this will be an emerging issue with the amount of storage coming into the WEM to firm up intermittent energy resources), so consideration could be given to applying a runway method.
- Rate of Change of Frequency (**RoCoF**) has not been ranked because the magnitude of this service and its consequences are unknown, but this will not be a focus because it has been recently reviewed by the Energy Transformation Strategy Taskforce.
- Black Start was deemed to not require any further assessment.
- Non-co-optimised Essential System Services (**NCESS**) for network purposes was deemed to not require review because it is aligned with the causer pays principle.
- Fast Frequency Response (**FFR**) is a temporary service, so it will not be assessed at the current time.

Mr Draper indicated that analysis of Market Fees would consider the existing methodology, the NEM methodology, and a hybrid approach based on MW and MWh.

- Ms White raised concerns with an allocation based on NMIs because this would be inequitable for generators with multiple connections, and would be complex for embedded networks.
- The Chair noted that the outcomes of the analysis are important, but recommendations need to consider efficiency principles. Ms Guzeleva noted that CAR has a set of guiding principles that will provide the basis of the analysis.
- The MAC supported the options for analysis of Market Fees.

Mr Draper sought support from the MAC for prioritisation of the assessment of ESS charges.

- Mr Schubert noted the Runway Method for Contingency Raise should include network contingencies.
- Ms White noted that the Energy Transformation Taskforce reviewed Frequency Regulation and Contingency Lower in its paper on market settlement in 2019 (Market settlement (www.wa.gov.au).

Item	Subject	Action
	• Mr Maticka supported the high priority for Market Fees and Regulation, agreed that Contingency Reserve Lower should be next, and agreed that more data was required for RoCoF. • The Chair noted that the MAC generally supported the proposed priorities for analysis of ESS cost allocation. Mr Draper noted that the next steps are moving into the practicality assessments. Ms Guzeleva, noted the next related MAC meeting was in October 2022 where the consultation report would be discussed.	
7	**Rule Changes** **(a) Overview of Rule Change Proposals** The Chair noted one update to the *Wholesale Electricity Market Amendment (Network Access Quantities Procedure) Rules 2022* that will commence on 1 September and 23 March 2023.	
8	**General Business** No general business was raised. The next MAC meeting is scheduled for 23 August 2022.	

The meeting closed at 11:35 am.