Government of Western Australia
Energy Policy WA

Meeting Agenda

Meeting Title:	Market Advisory Committee
Date:	Tuesday 21 September 2021
Time:	9:30 AM – 11:30 AM
Location:	Level 1, 66 St. Georges Terrace (MAC members and statutory observers only) Observers who would like to attend the meeting are to seek approval from the Chair by noon on Friday 17 September 2021 by email to energymarkets@energy.wa.gov.au. Approved observers will be sent an invitation to attend the meeting online by COB on Monday 20 September 2021.

Item	Item	Responsibility	Type	Duration
1	Welcome and Agenda	Chair	Noting	2 min
2	Meeting Apologies/Attendance	Chair	Noting	3 min
3	Minutes of Meeting 2021_08_10	Chair	Decision	2 min
4	Action Items	Chair	Discussion	3 min
5	SWIS Power System, A View from the Cockpit	AEMO	Discussion	15 min
6	Update on Low Load Project	AEMO/Western Power/EPWA	Discussion	15 min
7	Scope of Works for the Reserve Capacity Mechanism Review	Chair/Secretariat	Discussion	45 min
8	Market Development Forward Work Program	Chair/Secretariat	Discussion	15 min
9	Update on Working Groups			
	(a) AEMO Procedure Change Working Group	AEMO	Discussion	5 min
10	Rule Changes			
	(a) Overview of Rule Change Proposals	Chair/Secretariat	Noting	5 min

Item	Item	Responsibility	Type	Duration
11	Approval of Changes to the Terms of Reference for the AEMO Procedure Change Working Group	Chair/Secretariat	Decision	5 min
12	General Business	Chair	Discussion	5 min
	Next meeting: 2 November 2021			

Please note, this meeting will be recorded.

MAC Market Advisory Committee

Government of Western Australia Energy Policy WA

Minutes

Meeting Title:	Market Advisory Committee (**MAC**)
Date:	10 August 2021
Time:	9:35am – 11:15am
Location:	Level 1, 66 St Georges Terrace, Perth

Attendees	Class	Comment
Peter Kolf	Chair	
Martin Maticka	Australian Energy Market Operator (**AEMO**)	
Dean Sharafi	AEMO	Videoconference
Zahra Jabiri	Network Operator	Videoconference 10:10am-11:00am
Jo-Anne Chan	Synergy	Videoconference
Paul Keay	Small-Use Consumer	
Noel Schubert	Small-Use Consumer	Videoconference
Geoff Gaston	Market Customer	
Timothy Edwards	Market Customer	
Patrick Peake	Market Customer	
Daniel Kurz	Market Generator	
Wendy Ng	Market Generator	Videoconference
Jacinda Papps	Market Generator	
Tom Frood	Market Generator	Videoconference 9:45am–10:30am
Peter Huxtable	Contestable Customer	
Noel Ryan	Observer appointed by the Minister	
Sara O'Connor	Economic Regulation Authority (**ERA**) observer	

Also in Attendance	From	Comment
Kate Ryan	Coordinator of Energy (**Coordinator**)	Presenter to 10:45am
Dora Guzeleva	MAC Secretariat	
Stephen Eliot	MAC Secretariat	Videoconference

Also in Attendance	From	Comment
Jenny Laidlaw	MAC Secretariat	Videoconference
Laura Koziol	MAC Secretariat	Videoconference
Rachelle Gill	Energy Policy WA (EPWA)	Videoconference
Dimitri Lorenzo	Bluewaters Power – observer	Videoconference to 10:40am
Oye Akindele Obe	Collgar Wind Farm – observer	Videoconference 10:20am-10:55am
Rebecca White	Collgar Wind Farm – observer	Videoconference
Rajat Sarawat	ERA – observer	Videoconference
Oscar Carlberg	Alinta – observer	Videoconference
Naomi Donohue	APA Group – observer	Videoconference

Apologies	From	Comment
None		

Item	Subject	Action
1	**Welcome** The Chair opened the meeting at 9:35am and welcomed members and observers to the 10 August 2021 MAC meeting. The Chair noted that: • this was the first MAC meeting under the new Wholesale Electricity Market (**WEM**) governance arrangements that took effect on 1 July 2021; • the MAC will play a broader market development role under the new governance arrangements; • MAC members and proxies are expected to operate in the best interests of the market; • the Chair will regularly meet with the Coordinator between MAC meetings to advise the Coordinator of any consensus views arrived at by the MAC, and of any dissenting views expressed by MAC members; and • MAC members and observers can meet with the Chair or MAC Secretariat between MAC meetings to discuss new issues or existing issues if there is insufficient time at MAC meetings.	
2	**Meeting Apologies/Attendance** The Chair noted the attendance as listed above.	

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3	**Minutes of Meeting 2021_06_08** Draft minutes of the MAC meeting held on 8 June 2021 were circulated on 28 June 2021. The MAC accepted the minutes as a true and accurate record of the meeting. **Action: MAC Secretariat to publish the minutes of the 8 June 2021 MAC meeting on the Coordinator's Website as final.**	**MAC Secretariat**
4	**Action Items** The closed action items were taken as read. Action item 5/2021 has not been completed.	
5	**Welcome from the Coordinator** Ms Kate Ryan welcomed the MAC members and indicated that the MAC will play an important role in making sure that she and the Minister, as decision-makers under the WEM Rules: • have a complete picture of any proposals; and • are aware of any emerging issues so that they can be addressed and prioritised in the evolution program. Ms Ryan welcomed the independent Chair and the new independent small-use consumer representatives to the MAC. Ms Ryan indicated that the addition of the small-use consumer representatives was important to ensure that the MAC acts in the best interests of the market, in conformance with the Wholesale Market Objectives and for good outcomes for consumers. Ms Ryan reinforced the Chair's comments that the MAC is to strive for consensus on issues where possible and that dissenting views should be captured when a consensus cannot be achieved, so that decision makers can weigh the competing interests in making decisions.	
6	**Update on WA Government Reforms and the Transformation Design and Operation Working Group (TDOWG)** Ms Ryan provided an update on the broader Western Australian Government reforms, and in particular the next stage of the Energy Transformation Strategy (**ETS**): • EPWA launched ETS Stage 2 on 14 July 2021. ETS Stage 2 is about enabling the orderly transition to renewable and distributed energy in the South West Interconnected System (**SWIS**) to meet the tripartite objectives of affordability, reliability and lower emissions. • Stage 1 of the ETS was led by the Energy Transformation Taskforce (**Taskforce**) and involved the WEM reforms, the first Whole of System Plan (**WOSP**) and the Distributed Energy Resources (**DER**) Roadmap.	

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- Other related initiatives ~~reforms~~ included the Just Transition Plan for Collie, continuing to roll out Advanced Metering Infrastructure, and other pilots and trials.
- ETS Stage 2 is grouped into four key areas of work:
  - completing the implementation of Stage 1 Taskforce decisions, including:
    - commencing the second WOSP in late 2021 for release in late 2023;
    - implementing the new market arrangements, including security constrained economic dispatch; and
    - conducting further work around Non-Co-optimised Essential System Services (**NCESS**), market information and market power mitigation;
  - integrating new technologies, including the development of an action plan for electric vehicles;
  - power system security and reliability, including:
    - planning for an orderly transition from coal-fired electricity generation;
    - maintaining our understanding of how the SWIS is changing over time and adapting to those changes, such as:
      - considering the low load issue currently affecting the SWIS; and
      - monitoring and evolving contingency planning and management arrangements, for example ensuring that Under Frequency Load Shedding (**UFLS**) and system restart still work in a high-DER environment; and
    - reviewing the Reserve Capacity Mechanism (**RCM**), including:
      - adequately valuing, assessing and rewarding the contribution of various technologies to reliability;
      - planning for the right contingencies in setting the Reserve Capacity Target; and
      - using the appropriate reference technology to set the Benchmark Reserve Capacity Price; and
  - regulating for the future, which is focused on:
    - the second stage of governance reforms, which will involve legislative change to move to a single energy code to:
      - provide clarity on the processes for code changes and on who are the decision-makers; and
      - establish a new alternative electricity services framework for registration of business models that

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do not fit the traditional licenses or exemptions; and

- a review of Western Power's access framework (to commence after completion of Western Power's fifth Access Arrangement).

- The MAC will play an important role in the ETS Stage 2 initiatives. EPWA will consult with the MAC and establish Working Groups to help inform the issues and develop the solutions.
- Work to complete ETS Stage 1 will continue through the TDOWG but the MAC will otherwise be the primary consultation forum for the WEM.

Ms Dora Guzeleva provided the following updates:

- The Minister made the *Wholesale Electricity Market Amendment (Miscellaneous Amendments No. 1) Rules 2021* (Tranche 4A Amending Rules) in May 2021 which included:
  - additional transitional rules for the new Essential System Services (**ESS**) accreditation, the new RoCoF Control Service and how the cost of that service will be allocated;
  - several changes to fill in gaps in the RCM; and
  - provision for a protocol between AEMO and Western Power so they can coordinate on system security and reliability issues.
- EPWA was close to finalising the Tranche 4B Amending Rules, which will include:
  - amendments to the System Restart Service rules;
  - new rules around UFLS; and
  - some additional changes to the RCM rules.

  Tranche 4B is expected to go to the Minister for approval in August 2021.
- EPWA was working on the Tranche 5 Amending Rules that will cover:
  - NCESS rules;
  - registration and participation, including the new taxonomy and transitional rules; and
  - market information.
- Market power mitigation would not be part of Tranche 5 because of the mixed responses that EPWA received on the consultation paper, so this issue had been moved to 2022.
  - In response to a question from Mrs Jacinda Papps, Ms Guzeleva indicated that the plan was to complete design of the new market power mitigation strategy by October 2022, but implementation of the design was now

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expected to occur after commencement of the new market arrangements.

- Significant rule changes that impact on systems would be completed by the end of 2021 and EPWA had agreed a timeline with AEMO to prioritise these changes for the systems build.

7 Market Development Forward Reform Program

The Chair noted the meeting paper for this agenda item and the recommendation to the MAC to:

- review, discuss and agree the priorities for the Market Development Forward Work Program;
- discuss and agree whether existing Rule Change Proposals related to the RCM including RC_2019_03 (Method used for the assignment of Certified Reserve Capacity to Intermittent Generators), RC_2019_01 (The Relevant Demand calculation) and RC_2018_03 (Capacity Credit Allocation Methodology for Intermittent Generators) should be put on hold and considered as part of an overall RCM market evolution review (**RCM Review**);
- confirm whether it agrees with Secretariat's recommendations on the items that should be closed; and
- indicate whether any additional issues or reviews should be included in the list.

The following key points were discussed:

MAC Issues List

- Mrs Papps considered that the recent changes to the operation of Commissioning Tests had resolved issue 39 and recommended closing the issue. Mr Daniel Kurz, Ms Wendy Ng and Mr Dean Sharafi supported Mrs Papps' recommendation. Ms Ng noted that any problems identified in future with the new Commissioning Test regime could be addressed through the Procedure Change Process.
- Mr Geoff Gaston suggested that issue 22 (prudential arrangement design issue) should not be closed.

  Mr Gaston noted that a Market Participant's anticipated maximum exposure (**AME**) calculation looks back 24 months and adds Balancing Market and STEM exposures together. Mr Gaston considered that these two exposures should not be combined in the AME and that the dynamic Outstanding Amount should truly represent the exposure to the market. It should be a relatively simple rule change to remove the AME calculation requirement and instead just require a Market Participant to maintain a positive Trading Margin relative to the dynamic Outstanding Amount.

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Mr Martin Maticka noted that an alternative solution could be to reduce the period used to calculate the AME of a Market Participant.

RCM Review

- Mr Patrick Peake noted that he considered the RCM was not fit for purpose and the following three issues should be addressed in the RCM Review:
  - the complete change in the underlying market economics since the initial design of the RCM;
  - the question of when the SWIS is facing a mismatch between supply and demand that needs to be addressed by the RCM; and
  - that passing the risk of overinvestment in capacity on to generators will inhibit the entry of generators and other providers of dispatchable capacity.

  Mr Maticka agreed that the RCM needs a full review but suggested that it should be considered how cumbersome the review should be and which issues should be included in the scope.

  Mrs Papps noted her concern about how long the RCM Review could take. Mrs Papps considered it would be important to set the scope of work upfront. Ms Jo-Anne Chan agreed that the scope of work should be set first.

  Mr Oscar Carlberg agreed with Mr Maticka and Mrs Papps that too broad a scope for the RCM Review risks creating uncertainty and disincentives for investment and that the market would benefit from the scope of the review being refined as soon as possible.

  Ms Ryan noted that the intent was to set the scope of work at the beginning of the review.
- Mr Sharafi noted that there were upcoming issues with power system security, reliability and resiliency that needed to be addressed in the near future. Mr Sharafi considered that trying to address everything through the RCM Review could delay the implementation of important reforms, but there were other ways of achieving these reforms. For example, Mr Sharafi suggested that the current issue of firm capacity could be addressed through the RCM or through other rule changes that have a shorter timeframe.
- Mr Peake considered that it would take a long time for any results from the RCM Review to be implemented. However, currently there was no shortage of capacity and therefore it did not appear to be urgent. Mr Peake suggested that there will be a point where there is insufficient capacity in the SWIS and that delaying action until then would cause real issues because of

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the lead time required for investments. Therefore, Mr Peake considered that the review should be commenced quickly.

- Mrs Papps considered that the suggested high-level staging of the review was appropriate.
- Ms Guzeleva noted that the review was planned to take two years, roughly one year for the review and one year for rules and systems development.
- Mr Sharafi suggested making the timeline flexible because some issues that affected power system security and resilience would need to be addressed earlier.
- Mr Noel Ryan considered that the scope of work for the RCM Review could be presented at the next MAC meeting and the work could be completed in two years.

  Ms Guzeleva confirmed that the intent was to discuss a draft scope of work at the next MAC meeting.
- Mr Peake asked whether MAC members should privately provide feedback on what should be addressed in the RCM Review and to whom this advice should be sent.

  The Chair agreed that MAC members should provide him with their thoughts on the scope of the RCM Review.
- Mr Peter Huxtable asked whether the RCM Review would be resourced appropriately if it was made a priority.
- Ms Ryan confirmed that this was the intention and Ms Guzeleva noted that the intention was to also establish a MAC Working Group.

RC_2019_03

- Mrs Papps noted that Alinta has concerns about the current Relevant Level Methodology (**RLM**), as did the ERA.

  Mrs Papps noted that Alinta was concerned that the current RLM would disincentivise future investment. However, Alinta considered that the proposal to use the delta method in the Draft Rule Change Report for RC_2019_03 was an abrupt shift away from what was agreed over the three-year ERA review process. Mrs Papps noted that Alinta had no recommendation on whether RC_2019_03 should be assessed as part of the RCM Review but suggested that the delta method needed a lot more consultation.

  Mr Carlberg concurred with Mrs Papps and considered that further work on the RLM should not be delayed.
- Ms Rebecca White raised concerns that delaying the progression of RC_2019_03 would result in the current RLM being used to allocate initial Network Access Quantity (**NAQs**) to Intermittent Generators.
- The Chair asked whether Mrs Papps was agreeing to incorporate RC_2019_03 into the RCM Review. Mrs Papps

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expressed concern that including RC_2019_03 in the RCM Review would delay its progression and considered the options should be discussed further with the MAC.

- Mr Maticka suggested that it may be worthwhile to complete RC_2019_03 before the RCM Review.
- Ms Ryan gave a presentation about the relationship between RC_2019_03 and the RCM Review and made the following key points:
  - the current RLM has deficiencies;
  - the challenge of assessing RC_2019_03 outside of the RCM Review was that the ERA's RLM Review was undertaken in a particular context – the ERA did not try to design an RLM for the transition to a higher level of renewable penetration, which was what EPWA wanted to do under the RCM Review;
  - it was preferable not to change the RLM every three to five years; and
  - based on EPWA's estimated timeframes for processing RC_2019_03, a final decision was not achievable before the first quarter of 2022, so a new RLM could not be applied before the 2023 Reserve Capacity Cycle.
- Mr Timothy Edwards noted that the MAC had prioritised addressing the problems with the RLM over the previous year. Mr Edwards noted that he had supported the draft decision on RC_2019_03 and suggested that a final decision had been delayed because other Market Participants had requested more work. Mr Edwards suggested that, as a result, the current RLM would be used for the 2022 Reserve Capacity Cycle and RC_2019_03 may be relegated into a broader new policy.
- Mrs Papps suggested that the issue with RC_2019_03 was that the method proposed by the ERA had been completely overturned and replaced by the draft decision. Mrs Papps suggested that the method proposed in the draft decision was too volatile because it was based on three data points, and therefore presented a risk to Market Participants.
- The Chair agreed that the draft decision on RC_2019_03 presented a dramatic change to the ERA's proposal and needed further work. However, the Chair noted that the draft decision highlighted that the ERA's proposal had not considered the important aspects of saturation and interaction effects, and considered that the RLM needs to account for saturation and interaction effects to send the right investment signals.
- Mr Carlberg disagreed that the "interaction effect" can be measured by the delta method as the outputs of the delta method have been determined by three observations. Such few

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observations cannot accurately determine the interaction effect and won't send accurate signals to where to locate capacity as they will be far too volatile.

- The Chair responded that it was quite likely that the delta method was not perhaps entirely the basis upon which you would measure the interaction effect, and that there may be a need to consider a more complex method. The Chair noted that the delta method was not yet used in any jurisdiction, although it was proposed for use in the PJM system.

  However, the Chair reiterated his view that the interaction and saturation effects identified in the RC_2019_03 draft decision were very important and needed to be appropriately accounted for within the RLM
- The Chair asked the MAC for advice on whether this further assessment of RC_2019_03, as well as RC_2019_01 and RC_2018_03, should be considered as part of the RCM Review or separately.
- Ms Ryan noted that if RC_2019_03 was processed before the RCM Review there was a risk that the outcomes of the RCM Review would lead to further changes to the RLM.
- Mr Maticka suggested that the decision on whether to include RC_2019_03 in the RCM Review should be based on the review's scope of work.
- Mr Peake raised concerns that the proposed RLM under the draft decision allowed for new entrants to affect the Relevant Level of incumbent Facilities. There was some discussion about whether the RLM should provide investment certainty to Market Participants.
- Mr Noel Schubert considered that the extent to which Intermittent Generators rely on Capacity Credits ~~should~~ could be considered to determine the priority of RC_2019_03.
- Ms White suggested that investment certainty was critical for Intermittent Generators and delay of RC_2019_03 would delay investment certainty and therefore investment decisions for future projects.
- Ms White asked if the downside of delaying the progression of RC_2019_03, and hence allocating NAQ based on a flawed RLM, would exceed any benefits of the delay.
- Ms White and Ms Ng asked if a delay of RC_2019_03 would result in a delay of the commencement of the NAQ framework. Ms Ryan answered that the commencement of the NAQ framework would not be delayed.

RC_2018_03

- Mr Schubert asked whether RC_2018_03, which was proposed by Collgar, could be combined with RC_2019_03.

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	Ms White noted that Collgar would have no issue with combining the two Rule Change Proposals. Ms Guzeleva noted that if one of the Rule Change Proposals was resolved the other would be rejected. **General Rule Change Process** • Mr Edwards noted that the policy and technology in the SWIS are constantly changing. Mr Edwards suggested that processing a Rule Change Proposal should not take more than two years, but often took longer because proposals were put on hold due to upcoming policy changes or insufficient resources. Mr Edwards considered it unsatisfactory to delay RC_2019_03 further into the future by including it in the RCM Review. Mr Edwards suggested that a Rule Change Proposal should be considered and either discarded or acted upon. Mr Edwards considered that if stakeholders expected the processing to take up to seven years, they would not bother to submit any proposals. • Mr Kurz noted that long processing times for issues were not unique to the RLM. • Mr Gaston noted that he hoped that as a result of the amended role of the MAC, issues identified by the MAC would result in the development of Rule Change Proposals. Ms Ryan agreed that this was the intent. **Other Market Evolution Reviews** • Mrs Papps sought clarification on the meaning of replacement capacity in the paper for this agenda item. Ms Guzeleva clarified that this referred to facility technology changes and upgrades. Mrs Papps suggested that the assessment of replacement capacity would need to be undertaken earlier than the more general review of the NAQ framework. **Other matters** • Mr Peake asked whether the Chair wanted to be advised if MAC members sent details of any matters to the MAC Secretariat. The Chair noted that he would like to be copied into any emails sent to the MAC Secretariat. Ms Guzeleva noted that the MAC Secretariat would provide the Chair's email address to MAC members and statutory observers.	
	Action: MAC Secretariat to provide the Chair's email address to MAC members and statutory observers.	**MAC Secretariat**
	Action: MAC members and statutory observers to provide the Chair and MAC Secretariat with feedback on what should be assessed in the RCM Review.	**MAC**

Item	Subject	Action
8	**Update on Working Groups**	
8(a)	**Update on AEMO Procedure Change Working Group (APCWG)** Mr Maticka advised that APCWG meetings were held on: • 19 July 2021 to discuss Procedure Change Proposal AEPC_2021_01: Reserve Capacity Testing; and • 2 August 2021 to discuss Procedure Change Proposals AEPC_2021_02: Capacity Credit Allocation and AEPC_2021_03: Settlements. The submission period for AEPC_2021_01 closed on 24 August 2021 and the submission periods for AEPC_2021_02 and AEPC_2021_03 closed on 6 September 2021.	
9	**Rule Changes**	
9(a)	**Overview of Rule Change Proposals** The MAC noted the overview of Rule Change Proposals. Mr Sharafi commented that AEMO would provide input on any Rule Change Proposals before the next MAC meeting if details were provided. Regarding RC_2014_05 (Reduced Frequency of the Review of Energy Price Limits and the Maximum Reserve Capacity Price), Ms Guzeleva commented that the Tranche 4B Amending Rules will transfer responsibility for the annual review of Energy Price Limits from AEMO to the ERA and that the forthcoming work on market power mitigation measures will further address the issues covered by the proposal. Mr Peake indicated that Perth Energy will not develop a Rule Change Proposal to address the issues it had identified with Reserve Capacity Testing.	
10	**Changes to the MAC Constitution** The Chair noted the proposed changes to the MAC Constitution (**Constitution**) and indicated that most of the changes are to bring the Constitution in line with new market governance arrangements. The Chair also noted that the Coordinator would soon publish an invitation for submissions regarding the proposed amendments. Mrs Papps noted that the most substantive change was in clause 4.8 of the draft Constitution, which places a six-year limit on the time that a person can be a MAC member after January 2021. Mrs Papps noted that there was only a small number of people with a regulatory background in the Western Australian electricity sector and questioned whether the intent was that a person can never again be on the MAC if they have served six years or if there must be a gap in their service. Ms Guzeleva responded that the intent was that a person could never be reappointed after serving six years, but recognised the	

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point about qualified persons, and indicated that consideration could be given to only requiring a gap in service. Ms Guzeleva indicated that a six-year period was selected because it aligns with the two-year term for membership and was consistent with the maximum term for the Chair.

Mrs Papps also pointed out that, depending on how clause 4.8 was interpreted, there was a risk that the entire MAC may need to retire at the same time.

The Chair agreed that there was a limited number of suitable candidates for the MAC in Western Australia, but considered that there was also a need to give new people an opportunity to serve on the MAC and have their say.

Mrs Papps suggested that the appointment methodology also needed to be considered because it was currently heavily weighted towards people with experience in groups like the MAC.

Mr Huxtable and Mrs Papps noted that clause 3.1 of the draft Constitution indicated that several classes of members are to have 'at least X and not more than Y' members, but that small-use consumers are to have 'at least two' members with no maximum limit. Ms Chan indicated that Synergy had also raised this concern previously.

Ms Guzeleva indicated that EPWA had received submissions during the consultation period for the recent governance changes suggesting that the MAC could be overwhelmed by consumer representatives but had concluded that there was virtually no risk of this happening. The Chair indicated that the Minister would likely take into consideration the balance of the MAC when nominating small-use consumer representatives.

Mrs Papps noted that Alinta had raised a question in its submission on the governance changes about whether Synergy should retain its compulsory MAC membership. Mrs Papps considered that compulsory Synergy membership was appropriate in the past because of Synergy's role as default balancer and as retailer to franchise customers, but that this may not be appropriate going forward, because Synergy will face the same rules as other Market Participants. Giving Synergy compulsory membership allows it to represent itself, whereas other members were required to represent the class that they were appointed to.

Ms Guzeleva indicated that EPWA had received this submission but that a conscious decision was made to leave Synergy with a compulsory position for now, and that this could be further considered when changes are made to streamline operation of the MAC and the WEM Procedure Change Process. The Chair agreed that it would be appropriate to consider the Synergy position at that time.

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	Mr Sharafi indicated that AEMO agreed with the proposed changes to the Constitution.	
11	**Approval of Changes to the Terms of Reference for the AEMO Procedure Change Working Group** The Chair noted the proposed changes to the Terms of Reference for the APCWG. Mr Maticka indicated that AEMO has no concerns with the proposed changes.	
12	**MAC Schedule for 2021** The Chair noted proposed dates for the next three MAC meetings: • 21 September 2021; • 2 November 2021; and • 14 December 2021. MAC members did not raise any concerns regarding these dates.	
13	**General Business** Mr Sharafi raised the issue of resourcing and indicated that: • AEMO's resources were stretched and that the reform program was a huge body of work; and • AEMO was identifying its resourcing requirements to deliver the reform program and would seek budget approval from the ERA. Mr Kurz noted that the intent was to go back to virtual MAC meetings and expressed a view that there may be better outcomes from face-to-face discussions and having a wider audience join online. The Chair agreed but suggested that virtual meetings may be needed while COVID protocols are in place and that face-to-face meetings could be reconsidered later. Mr Rajat Sarawat noted that there were two types of observers – the statutory observers and those that request to join meetings. Mr Sarawat sought clarity on the role of unofficial observers – were they only there to listen or were they allowed to contribute to discussions and debate. Ms Guzeleva indicated that there were two statutory observers – one appointed by the ERA and one by the Minister. The Chair indicated that the formal observers could contribute to discussions, but other observers are only to attend virtually. Mrs Papps indicated that section 6.2 of the Constitution covers the role of observers at MAC meetings. The Chair noted that the next scheduled meeting of the MAC was set for 21 September 2021.	

The meeting closed at 11:15am

Government of Western Australia
Energy Policy WA

Agenda Item 4: MAC Action Items

Meeting 2021_09_21

Shaded	Shaded action items are actions that have been completed since the last Market Advisory Committee (**MAC**) meeting.
Unshaded	Unshaded action items are still being progressed.
Missing	Action items missing in sequence have been completed from previous meetings and subsequently removed from log.

Item	Action	Responsibility	Meeting Arising	Status
5/2021	Sustainable Energy Now (**SEN**) to provide a description of its proposed emissions-related amendment to the WEM Rules for discussion by the MAC and potential inclusion on the Issues List.	SEN	2021_04_27	**Open** SEN has not yet provided an issue for inclusion in the Issues List.
7/2021	MAC Secretariat to publish the minutes of the 8 June 2021 MAC meeting on the Coordinator's Website as final.	MAC Secretariat	2021_08_10	**Closed** The minutes were published on the Coordinator's Website on 12 August 2021.
8/2021	MAC Secretariat to provide the Chair's email address to MAC members and statutory observers.	MAC Secretariat	2021_08_10	**Closed** The Chair's email address was sent to MAC members on 10 August 2021.

Item	Action	Responsibility	Meeting Arising	Status
9/2021	MAC members and statutory observers to provide the Chair and MAC Secretariat with feedback on what should be assessed in the Reserve Capacity Mechanism (**RCM**) Review.	MAC members	2021_08_10	**Closed** The Chair and MAC Secretariat received five submissions from MAC members and two submissions from other stakeholders. Energy Policy WA considered these submissions in developing the draft Scope of Works for the RCM Review that is to be discussed under Agenda Item 7. Copies of the submissions are available under Agenda Item 7.

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

SWIS Power System
A view from the Cockpit

Market Advisory Committee – Dean Sharafi September 2021

What's on the horizon at a Glance

- Some system security risks are continuously becoming more prevalent
- Low demand conditions are a permanent feature of the SWIS; we are working with Western Power and Energy Policy WA on immediate and longer-term actions
- We are working on new low demand MW limit; limiting factors expected to be frequency stability, voltage stability, UFLS availability and system strength.
- AEMO has developed better tools and insights to manage system security
- A great deal of work has been done, but there is a need to do more than Reform, DER Roadmap. ETS Stage 2 reforms are critical.
- MAC should be used as a vehicle to deliver some of the security objectives.

SWIS Power System Security - Overview

- Security Risks/issues have evolved:
  - Whilst some risks/issues have increased, some key actions have already been implemented to mitigate pressing issues (eg Western Power reactors, AEMO control room tools, new load on the power system)
  - New issues have emerged
  - Non-scheduled intermittent generation capacity will soon exceed scheduled and firm generation, creating a new paradigm
  - Medium-term issues/risks likely to emerge requiring additional immediate actions given implementation timeframes
  - Modelling and further analysis is required to confirm actions are sufficiently timely

System Security Risks and possible solutions at a Glance

Risk	Potential Solution
DER related risks (volatility, tripping, low demand…)	DER Roadmap, Inverter Standard, DER Control and Visibility
DER volatility	DER management, Behind-the-meter storage
Reducing resiliency (inertia, stability)	Grid forming inverters, grid-scale storage
Reducing resiliency (system strength)	Market interventions, synch cons
Wind and Grid solar (volatility)	Storage, improved forecast, Causer Pays
High share of intermittent generation	Firm capacity
Ramping	Flexible resources, new technologies
Voltage and Reactive Power	Reactors and MVAR management equipment
UFLS availability	DER management, contracting load, Dynamic UFLS, Change in technology
System Restart functionality	DER management, new technology

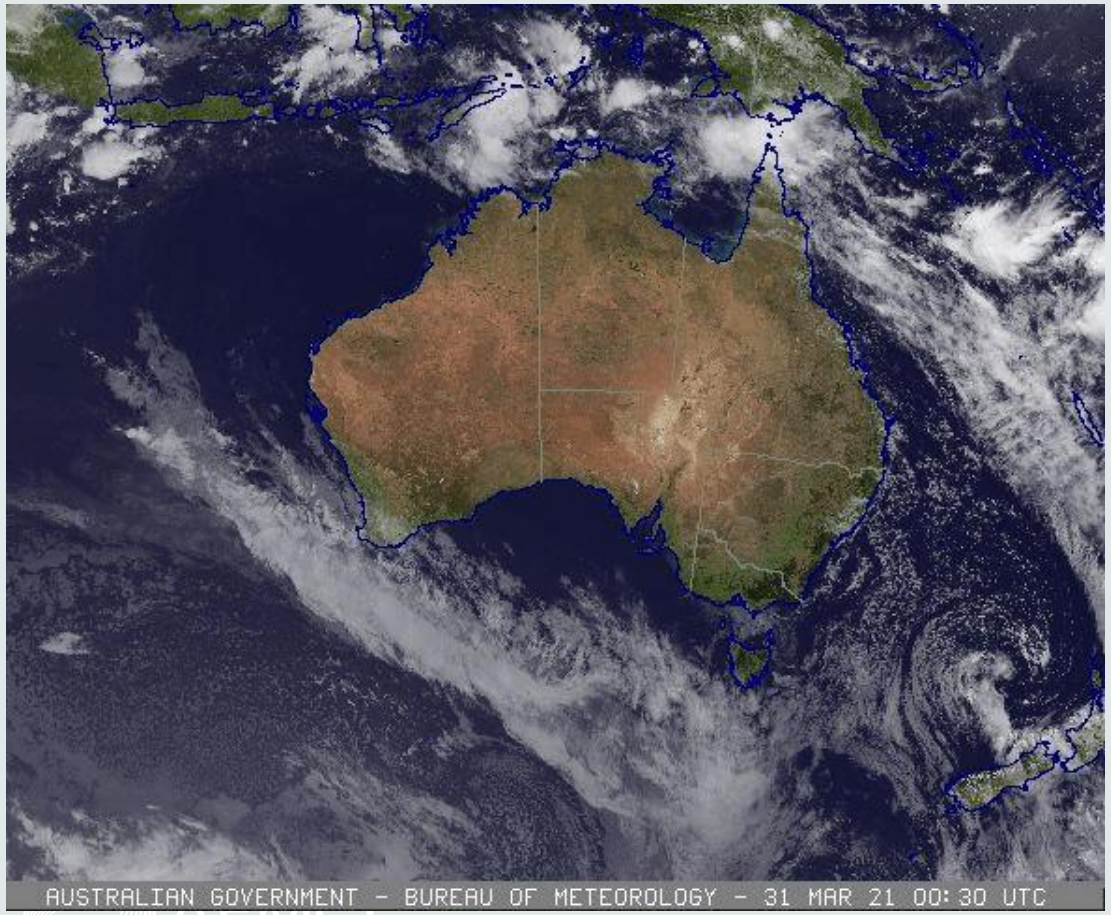
Outlook for minimum operational demand

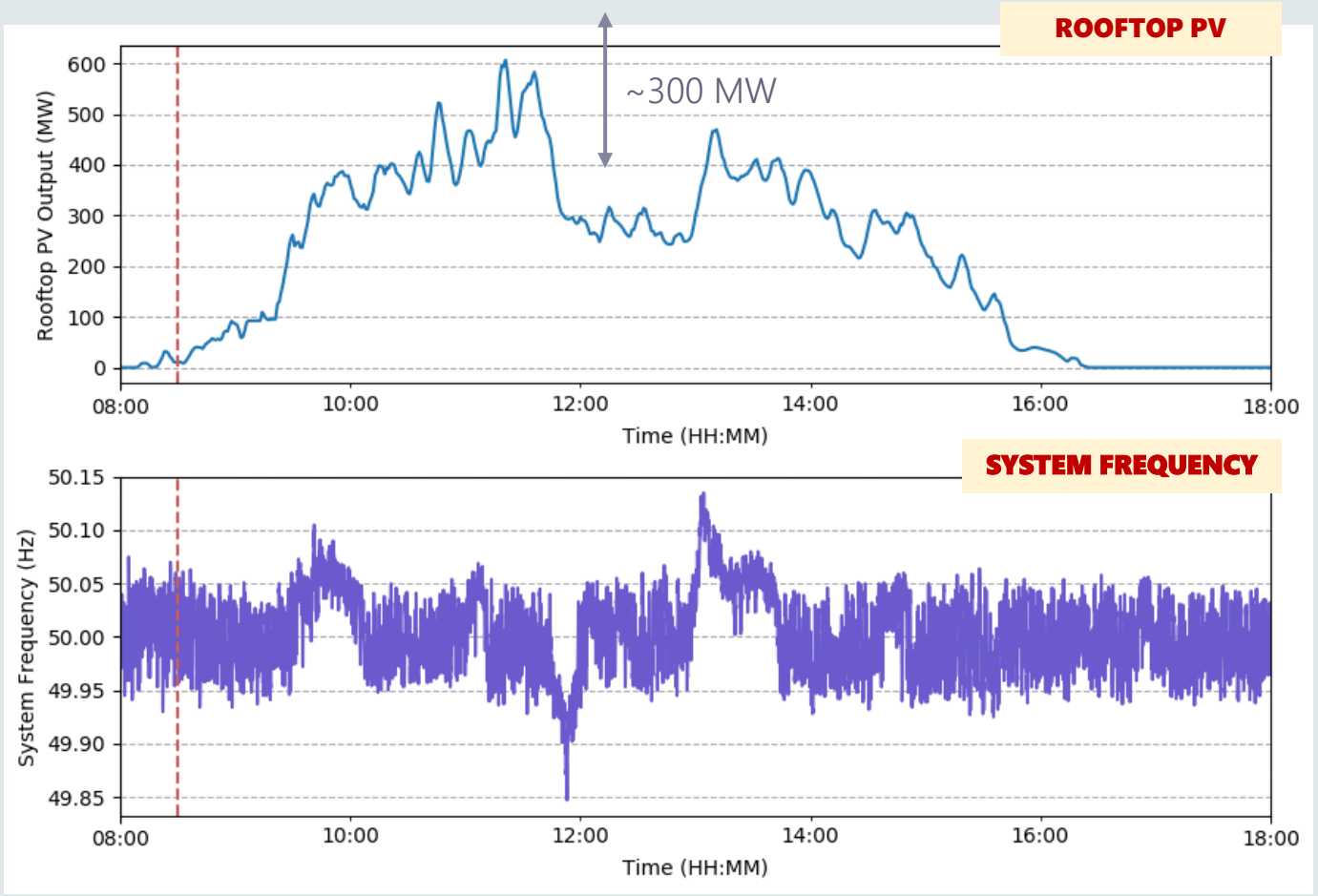
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Actual	1,309	1,419	1,443	1,397	1,451	1,282	1,179	1,138	954	866				
10% POE										787	615	480	366	267
50% POE										734	574	442	331	232
90% POE										683	520	386	271	168

- Minimum operational demand is forecast to decline sharply in the next few years creating system security risks
- Range of issues/risks have been identified and AEMO is undertaking the required modelling

Emerging Challenges: System DPV Volatility

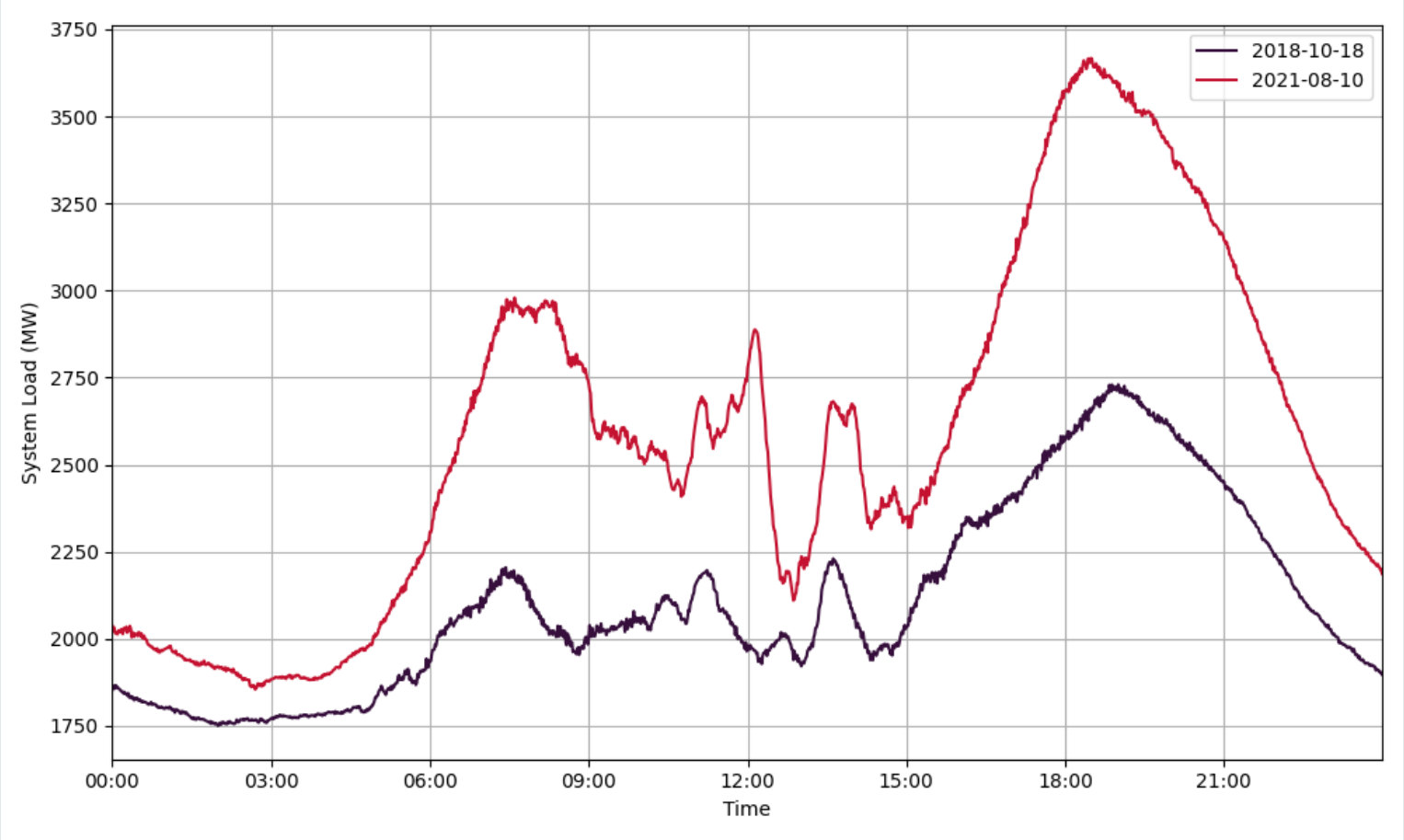
Whilst AEMO continues to invest in its forecasting systems to address increasing variability, ability to forecast timing and scale of large swings is difficult:





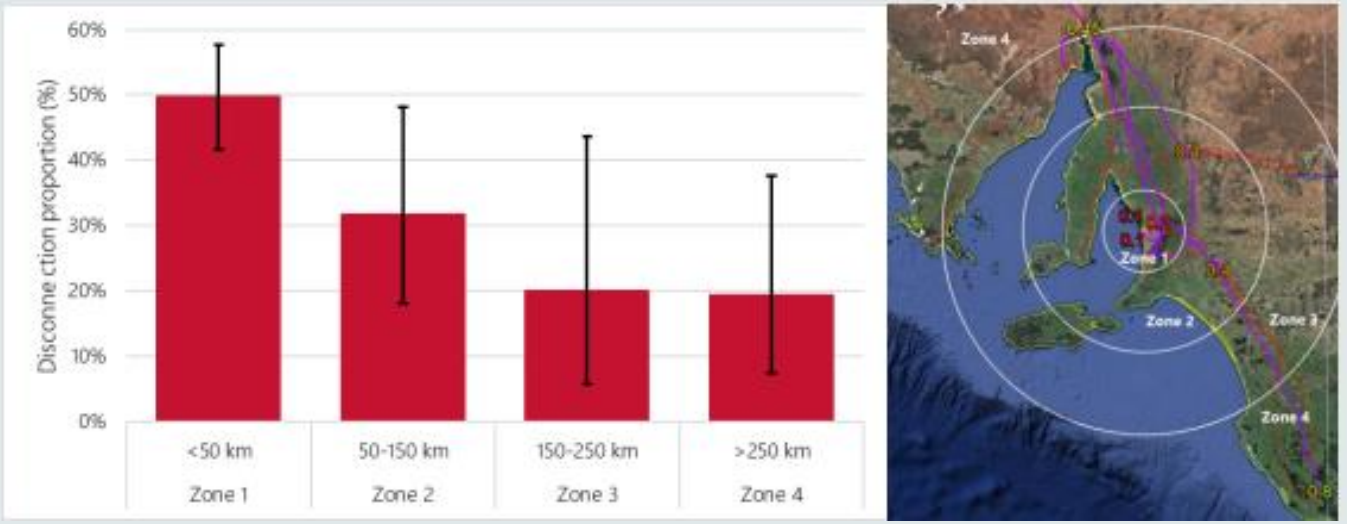
DPV Volatility is Growing

- The number of times we call for backup LFAS is rapidly increasing due to NSG volatility
- More recently, on 10th August 2021, we have moved from 50 MW backup LFAS to 80 MW.
- The PV ramps are now close to 800 MW.
- Question: Do we need to require the DPV to provide support to the power system (such as managed ramping, ESS, etc), now that they are the largest generation?



DPV tripping During Contingencies

- A considerable capacity of DPV inverters is seen to trip off for remote system disturbances such as transmission line or generator faults.
  - This is now at a level which is greater than the amount of load that trips off for the same fault. A net increase in demand is occurring for faults during daylight hours.
- Significant work is being done between AEMO and Western Power to consider different ways in which the net impact can be estimated for various system disturbances.
- Detailed dynamic models are under development that will enable system performance analysis with these responses, that will define efficient essential system services procurement.



NEM DPV Tripping Figures

Current, Emerging and Medium-term Risks

- DPV tripping (DPV inverters tripping for voltage and/or frequency dips)
- Insufficient firm generation (to meet peak demand and undertake dispatch planning)
- Intra-day and inter-day ramping (sufficient generator or load control to manage trough to peak and reduced utility scale renewable output)
- Volatility and speed of ramping of variable utility scale generation
- Insufficient load for minimum synchronous generators (leading to issues with voltage or frequency control or system strength)
- Inability to manage Voltage and Reactive Power

Mitigations

- Following shorter-term mitigations have been put forward and will continue to be enhanced:
  - Western Power's investment in reactors (that absorb reactive power)
  - The Real-Time Frequency Stability (RTFS) tool
  - The dynamic load rejection reserve (LRR) requirement
  - Revised inverter standard AS/NZ 4777.2
  - Generator Performance Standard Framework
  - Innovative approaches from Market Participants to increase load during the low demand period
  - Direct facilities to have certain outputs
  - DER Register

Potential Additional System Security Mitigating Reforms

- Review reliability standard and incentives for sufficient generation to be available at peak as well as other times.
- Review reliability standard and incentives for sufficient generation to be available in all intervals; Consider ahead markets
- Requiring (or strongly incentivising) intermittent generation to bid their generation to a degree of certainty and accuracy and to ramp to a pre-defined level (both upwards and downwards)
- Ramping service
- Causer pays for ESS
- Investing in Power System Resiliency

How Can MAC Help?

- MAC working with EPWA to add detail to ETS Stage 2 scope and then implement where appropriate
- Comprehensive review of RCM in light of changing supply mix (likely to include Planning Criterion review)
- Review of Cost Share Methodology for ESS to drive more efficient power system operations (i.e. stronger causer pays linkages)
- Prioritising rule changes that focus on power system security, while Reform1 and 2 and DER Roadmap are progressing.

Q & A

Government of **Western Australia**
Energy Policy WA

Low Load Project

Energy Policy WA, AEMO and Western Power

Market Advisory Committee - 21 September 2021

Noel Ryan

Teresa Smit

Nathan Kirby

Working together for a **brighter** energy future.

Problem, scope, objective

Low load in the South West Interconnected System

Problem:

- SWIS system low load events are increasing in frequency and magnitude.
- This is primarily a result of increasing rooftop solar PV capacity, reducing grid electricity demand.
- The implications of increasingly lower SWIS demand events need to be determined.
- An understanding of when significant system risks may be expected to occur is required to inform the development and implementation of efficient responses.

Scope

- Identify the issues and potential risks associated with power system security during periods of low demand.
- Quantify the consequences associated with these risks.
- Anticipate how often these risks may present in the power system in future.
- Forecast when potential risks of different magnitude may occur.
- Identify “quick wins” (low effort, low regrets) that could be fast tracked for implementation.

Note: While this project is focused primarily on power system risk, other risks that become apparent will be identified and flagged.

Objective

- Promote the economically efficient, safe and reliable production and supply of electricity and electricity-related services in the SWIS, during periods of low demand.
- Minimise the long-term cost of electricity supplied to customers from the SWIS, during periods of low demand.
- Encourage the taking of measures to manage the amount of electricity used and when it is used.

Work phases

Work will occur in two key phases across the businesses

1

- Technical Modelling
- In progress, expected to be complete early 2022

2

- Policy responses to address Stage 1 findings
- Complete by mid 2022

Quick wins that are identified from this work plan may be fast tracked for implementation ahead of completing either phase

- Detail on workstreams provided in the following slides focuses on outputs from phase 1

Identifying the issues

Each topic (work package) subject to own workplan and timeframe

Low load projections
Issue:
Increasingly low load due to increase of DER penetration is causing risks to the security of the power system.
Analysis occurring:
Forecasting the minimum demand (and installed PV) for a number of scenarios.
Will include relevant sensitivities/contingencies.

AEMO, westernpower

PV and inverters at risk
Issue:
DER disconnections occurring (and at risk of increasing) in response to power system disturbances. Disturbances are mainly due to voltage and frequency changes.
Analysis occurring:
Model and estimate the amount of PV tripping. Will make use of NEM experience and Powerfactory modelling.
Undertake survey of inverter manufacturers.

AEMO, westernpower

Frequency, stability and inertia
Issue:
Ensuring that a single contingency event does not result in underfrequency load shedding.
Analysis occurring:
Calculating an estimate of the frequency nadir if the largest contingency event occurs. This modelling will take into account likely dispatch at these lower load levels.

AEMO, westernpower

System strength
Issue:
Assessing the systems strength relates to the ability to withstand changes in generation output and load levels while maintaining stable voltage.
Analysis occurring:
Conduct PSCAD model and system strength modelling.

AEMO, westernpower

Underfrequency Load Shedding
Issue:
DER reduces net load on UFLS circuits, reducing the ability to arrest a severe frequency decline.
Analysis occurring:
1. Development of models, assessment method and performance criteria
2. Review of UFLS industry best practice
3. Performance review of existing UFLS system
4. Proposed improvements to the existing UFLS system.

AEMO, westernpower

System operability
Issue:
Ensuring there is adequate capability to manage the ramp between minimum demand to daily peak.
Analysis occurring:
Determining maximum ramp requirements and required generation plant on line to meet it, while ensuring appropriate plant can be dispatched to meet energy/ESS requirements.

AEMO

System restart
Issue:
Inadequate load to support minimum generation levels of large synchronous units required for system restart.
Analysis occurring:
Initial mitigation measures have been implemented however further work is required. Workplan to be developed.

AEMO, westernpower

Voltage management
Issue:
High voltage in the transmission network during periods of low load.
Analysis occurring:
Planning assessment of reactive power shortfall.
Operational assessment of voltage compliance.

westernpower

Wide Area Monitoring Protection and Control
Issue:
The SWIS lacks real time system visibility for capturing network data. WAMPAC provides near real time network data for modelling improvements.
Analysis occurring:
East Region: Finalise draft scopes for each site, develop functional requirements and cost-estimate, develop WAMPAC Trial strategy document.
Capture East learnings and commence North and South Regions.

westernpower

We're working for Western Australia.

Government of Western Australia
Energy Policy WA

Agenda Item 7: Scope of Works for the Reserve Capacity Mechanism Review

Market Advisory Committee (**MAC**) Meeting 2021_09_21

Recommendation

The MAC Secretariat recommends that the MAC:

- discusses the proposed scope of works for the review of the Reserve Capacity Mechanism (**RCM**) in Attachment 1 and provides:
    - suggestions for any specific markets that should be assessed as part of the literature review recommended under Stage 1 (section 2.3.1 of Attachment 1) and reasons why these markets are relevant;
    - feedback on the proposed approach to analysis and modelling for Stage 1 (section 2.3.1 of Attachment 1); and
    - feedback on the proposed timeline (sections 3 and 4 of Attachment 1);
- notes the submissions from stakeholders (Attachments 2 to 8) on the scope for the RCM Review and its priority;
- endorses the immediate commencement of the RCM Review;
- endorses putting the following Rule Change Proposals on hold until the RCM Review is substantially complete:
    - RC_2019_03 (Method used for the assignment of Certified Reserve Capacity to Intermittent Generators);
    - RC_2019_01 (The Relevant Demand calculation); and
    - RC_2018_03 (Capacity Credit Allocation Methodology for Intermittent Generators); and
- endorses establishing a MAC Working Group, as proposed under section 3 of Attachment 1, noting that the MAC Secretariat will prepare Terms of Reference for the Working Group for consideration and approval by the MAC at its meeting on 2 November 2021, and that participation in this Working Group will not be limited to MAC members.

Background

The Coordinator of Energy (**Coordinator**) plans to review the RCM under clause 2.2D.1 of the WEM Rules in 2021/22 and to develop any Wholesale Electricity Market (**WEM**) Rules resulting from the review in 2022/23. Clause 2.2D.1(h) confers the function on the Coordinator to consider and, in consultation with the MAC, progress the evolution and development of the WEM and the WEM Rules.

In addition, clause 4.5.15 of the WEM Rules requires the Coordinator to review the Planning Criterion at least every 5 years. The RCM Review will incorporate the Coordinator's first review of the Planning Criterion.

A high-level scope for the RCM Review was presented at the 10 August 2021 MAC meeting as part of the Market Development Forward Work Program. MAC members and statutory observers were asked to provide the Chair and the MAC Secretariat with feedback on what should be in the scope of the RCM Review (MAC Action Item 9/2021).

The MAC Secretariat received five submissions from MAC members and statutory observers and two from other stakeholders (the submissions are provided in Attachments 2 to 8).

Energy Policy WA has developed the attached draft Scope of Works for the RCM Review, incorporating comments from the submissions as appropriate, for consideration by the MAC.

Discussion

The MAC Secretariat recommends deferring RC_2019_03, RC_2019_01 and RC_2018_03 until the RCM Review is substantially complete because:

- progressing the above rule changes before the RCM Review will not provide investment certainty as there is a risk that the outcomes of the RCM Review would lead to further changes to the Relevant Level Methodology (**RLM**) or Relevant Demand;
- any new RLM or Relevant Demand resulting from the rule changes may be replaced again as a result of the RCM Review;
- a challenge of continuing to progress the rule changes outside of the RCM Review is that the ERA's RLM Review was undertaken in a particular context (i.e. the ERA did not design an RLM for the transition to a high level of intermittent and low-emissions penetration), which is what the RCM Review is intended to do;
- based on the estimated timeframes for processing the rule changes, final decisions will not be achievable before the first quarter of 2022, so a new RLM or Relevant Demand could not be applied before the 2023 Reserve Capacity Cycle and the commencement of the Network Access Quantity framework cannot be delayed.

Government of Western Australia
Energy Policy WA

Draft Scope of Works for the Review of the Reserve Capacity Mechanism

1. Introduction

1.1 Review Requirements

The Coordinator of Energy (**Coordinator**) plans to review the Reserve Capacity Mechanism (**RCM**) under clause 2.2D.1 of the WEM Rules in 2021/22 and to develop any WEM Rules resulting from the review in 2022/23. Clause 2.2D.1(h) confers the function on the Coordinator to consider and, in consultation with the Market Advisory Committee (**MAC**), progress the evolution and development of the Wholesale Electricity Market (**WEM**) and the WEM Rules.

In addition, clause 4.5.15 of the WEM Rules requires the Coordinator to review the Planning Criterion at least every 5 years. The RCM Review will incorporate the Coordinator's first review of the Planning Criterion.

The WEM Rules also require the Economic Regulation Authority (**ERA**) to undertake the following reviews, which may be affected by the Coordinator's RCM Review:

- review of the methodology for setting the Benchmark Reserve Capacity Price and the Energy Price Limits (clause 2.26.3);
- review of the Reserve Capacity Price Factors (clause 2.24.3A); and
- review of the Relevant Level Methodology (clause 4.11.3C).

The MAC maintains an Issues List to track and progress issues that have been identified by WEM stakeholders. Several open issues on the current MAC Issues List relate to the RCM. Appendix 1 to this paper lists the issues related to the RCM and provides comments from Energy Policy WA on how they will be addressed by the RCM Review.

1.2 Background

The RCM was implemented in 2004 and commenced in 2005. At that time:

- the high-level objective of the RCM was to ensure that:
    - there would be sufficient generation capacity to:
        - cover a 1 in 10 year peak demand with a given likelihood; and
        - ensure unserved energy does not exceed 0.002% of annual energy consumption (including transmission losses);
    - any demand lower than the 1 in 10 year peak demand would be covered with an even higher certainty; and
- the generation capacity in the SWIS was mainly thermal generation with very little penetration of intermittent generation and behind the meter PV.

1.2.1 The current RCM

The current RCM was implemented in the SWIS in 2005 to ensure sufficient capacity for system reliability. The RCM has subsequently been amended to address issues with the initial mechanism and to account for market and system changes. However, the overall concept of the RCM has remained unchanged, as follows:

- the purpose of the RCM is to ensure that there is sufficient capacity available in the SWIS to maintain acceptable reliability of supply;
- the minimum number of Capacity Credits procured is based on the greater of:
    - an expected 1 in 10 year peak demand plus a reserve margin, plus an allowance for Intermittent Loads, plus an allowance for Essential System Services (**ESS**); or
    - the capacity required to ensure unserved energy does not exceed 0.002% of annual energy consumption (including transmission losses).
- CRC is based on:
    - for thermal generators, the expected availability of the facility at 41°C; and
    - for Intermittent Generators and Demand Side Programmes, the expected availability of the facility during system peak demand periods.
- the monetary value of Capacity Credits is not affected by the technology of a facility, except for the period from the 2017 Capacity Year to the 2020 Capacity Year, inclusive, where a lower price was paid for Capacity Credits assigned to Demand Side Management Programmes (**DSP**s).[1]

Given the changes to the nature of the demand profile and generation in the SWIS since the RCM was implemented, and the transition to a low emissions energy system characterised by increasing levels of intermittent and distributed generation, the Coordinator and other stakeholders consider that the current RCM design may no longer be fit for purpose and requires a fundamental review.

1.2.2 Change to the RCM

The following significant changes have been made to the RCM since 2005:

- The regime for Capacity Cost Refunds has been amended several times and was last changed in 2016 (applicable from the 2017 Capacity Year) by the (then) Government's Electricity Market Review (**EMR**). The EMR changes included:
    - basing the amount of the refund payable on the system-wide generation reserve margin during the relevant Trading Interval instead of the time of day and year; and
    - redistributing the Capacity Cost Refunds to Market Generators based on the availability of their Facilities instead of to Market Customers.
- The method for assigning Certified Reserve Capacity (**CRC**) to Intermittent Generators has changed several times, with the most significant change applied from the 2014 Capacity Year (the 2012 Reserve Capacity Cycle). This change replaced the determination of CRC for Intermittent Generators based on average performance with the current Relevant Level Method that aims to account for performance during peak demand, variability, and saturation.
- The method for assigning CRC to Demand Side Programmes was last changed by the EMR in 2016 (applicable from the 2017 Capacity Year). The change amended the determination of the Relevant Demand to be based on a markedly larger set of high demand Trading Intervals (400

[1] DSPs are now paid the variable capacity price and are not protected by the price floor or ceiling that is afforded to facilities that were allocated Capacity Credits in the 2020 Capacity Year.

instead of 32) and a more stringent performance requirement (90th percentile instead of median).

- The Reserve Capacity Price regime has been amended several times, with the most recent changes including:
    - The EMR changed the Reserve Capacity Price regime in 2016 (applicable from the 2017 Capacity Year). The change steepened the slope of the price curve and introduced the DSP Reserve Capacity Price that was paid for Capacity Credits from DSPs and was based on the expected dispatch of these Facilities.
    - The Government changed the Reserve Capacity Price regime in 2020 (commencing for the 2021 Capacity Year). These changes included:
        - a modification of the formula for the Reserve Capacity Price to apply different slopes depending on the amount of excess capacity;
        - the removal of the DSP Reserve Capacity Price resulting in DSPs receiving the same Reserve Capacity Price as other Facilities; and
        - the introduction of a transitional price that applies a price floor and ceiling for incumbent Facilities that were assigned Capacity Credits for the 2020 Capacity Year (the 2018 Reserve Capacity Cycle).
- The Government's Energy Transformation Strategy (**ETS**) introduced provisions for storage and hybrid Facilities in 2020, which are to be applicable from the 2023 Capacity Year (the 2021 Reserve Capacity Cycle).
- The ETS introduced the Network Access Quantities regime in 2020, which is to be applicable from the 2024 Capacity Year (the 2022 Reserve Capacity Cycle) to account for network constraints in the RCM.

Since its introduction, the Planning Criterion has been reviewed twice (the last time in 2012) resulting only in minor changes as it was found to be appropriate overall.

1.2.3 Changes in the South West Interconnected System (SWIS)

The SWIS has changed substantially since 2012:

- the installed capacity of intermittent generation has increased from around 500 MW[2] to around 1,170 MW;[3]
- the estimated installed capacity of behind the meter PV has increased from around 170 MW to around 1,740 MW;[4]
- some of Synergy's thermal plant has exited (or will soon exit) the market:
    - 387 Capacity Credits exited the market from the 2018 Capacity Year in response to an order by the Government to retire capacity;[5]
    - the Government has announced the planned retirement of Muja 5 (195 Capacity Credits) for 1 October 2022 and Muja 6 (193 Capacity Credits) for 1 October 2024;

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2 Based on the list of Intermittent Generators taken into account for the 2021 review of the Planning Criterion, as published in the final report, and the associated nameplate capacity for the listed Facilities as published in the 2014 Electricity Statement of Opportunities (**ESOO**).

3 As published in the 2021 ESOO.

4 Installed capacity in April 2021, estimated by AEMO, as published on page 6 of the 2021 ESOO.

5 The 387 Capacity Credits was allocated to about 436 MW of nameplate capacity. About 120 MW of this capacity no longer receives Capacity Credits but is still operational under Network Control Service Contracts with Western Power.

- there has been a substantial reduction in capacity provided by DSPs:
    - around 460 Capacity Credits was allocated to DSPs for the 2012 Capacity Year and around 560 Capacity Credits for the 2016 Capacity Year;[6]
    - the subsequent change to capacity payments for DSPs caused about 450 Capacity Credits from DSPs to exit the market for the 2017 Capacity Year; and
    - 86 Capacity Credits are assigned to DSPs for the 2022 Capacity Year.

The large increase in intermittent generation capacity and behind the meter PV have:

- shifted annual and daily system peak demand to later in the day because the high contribution of behind the meter PV reduces system demand markedly in the lead up to sunset;[7]
- reduced minimum system demand as the generation of behind the meter PV markedly decreases system demand during the middle of the day;
- steepened system demand increases ahead of the evening peak because the generation of behind meter PV has reduced minimum demand and moved it from before dawn to the middle of the day, causing a much greater and steeper climb in demand to the evening peak;[8]
- increased volatility of system demand because of the volatility of the output of behind the meter PV on days with broad-area moving cloud band cover; and
- increased uncertainty and volatility of supply because of the increased penetration of Intermittent Generators, whose output is dependent on weather conditions.

In addition, the SWIS is in the transition to a lower emissions energy system because of the decreasing generation cost of renewable generation facilities, the Federal Government's Renewable Energy Target, increased penetration of behind the meter PV, increasing pressure to reduce greenhouse gas emissions and consumers' demand for 'green' products.

Other generation technologies, such as battery storage, are becoming more viable. New sources of dispatchable capacity, such as Virtual Power Plants, are being trialled for future use. Some of these capacity sources could flatten the demand profile delaying the need for additional conventional capacity to address system stress events.

2. Project scope

The following conditions precedent are applicable to the RCM Review:

- the WEM will continue to have an RCM;
- the purpose of the RCM is to ensure acceptable reliability of electricity supply at the most efficient cost ("purpose of the RCM"); and
- any changes to the RCM should not erode the level of system reliability currently provided for by the WEM Rules.

The objective of this review is to develop an RCM that:

- achieves the system reliability that underpins the current RCM at the most efficient cost for consumers for the current and the anticipated future system demand profiles;

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6 As published on AEMO's website under clause 10.5.1(f) of the WEM Rules.

7 Peak demand was at 16:30 in the 2012 Capacity Year and at 18:00 in the 2020 Capacity Year, as published in the 2021 ESOO.

8 Minimum demand was 1,309 MW in the 2012 Capacity Year and 954 MW in the 2020 Capacity Year, as published in the 2021 ESOO Data Register.

- addresses the issues associated with the transformation of the energy sector, as indicated in section 1.2; and
- accounts for any transitional issues associated with any changes to the RCM.

The following aspects related to the RCM are out of scope for this RCM review:

- the Network Access Quantities regime;
- the Reserve Capacity Price regime; and
- Energy Price Limits.[9]

2.1 Guiding principles

The guiding principles for the RCM Review are that the RCM should:

(1) Meet the Wholesale Market Objectives:

  (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;

  (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;

  (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;

  (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and

  (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

(2) Enable the transition to an energy market with low greenhouse gas emissions.

(3) Be cost-effective, simple, flexible, and able to be maintained on an ongoing basis.

(4) Provide transparent signals to the market to invest or devest in capacity, that appropriately:

  (a) allocates risks to the parties who are best placed to manage them; and

  (b) provides appropriate investment signals, including locational and technical capability signals.

2.2 Project stages

The RCM Review is planned to be undertaken in the following three stages. Where possible, the steps will be undertaken in parallel, rather than sequentially.

Stage 1

- Step 1: Assess the requirements for the capacity needed to achieve the purpose of the RCM, in the context of the recent and anticipated transformation of the SWIS and WEM, by defining:
  - the types of system stress in the WEM (currently and for 2030);

[9] The Energy Price Limits will be considered as part of Energy Policy WA's work on market power mitigation measures.

  - the capacity requirements needed to achieve the desired system reliability (the "reliability target"), including to meet:
    - peak demand;
    - minimum demand;
    - reliable transition between minimum demand and peak demand (e.g. through flexibility, adequate ramping capability; and
  - which system stress situations can/should be addressed through the RCM or outside of the RCM (such as via ESS).
- Step 2: Review the Planning Criterion to ensure that it reflects the purpose of the RCM and achieves the reliability target determined in Step 1, including:
  - assessing whether the installed capacity (**ICAP**) or unforced capacity (**UCAP**) concept[10] is best suited to determining the capacity value of a facility in the SWIS (includes assessment of MAC Issue 4).
- Step 3: Develop one or more methods for assigning CRC that can meet the Planning Criterion determined in Step 2. This includes:
  - how to determine the ability of different types of capacity (e.g. different technology types) to contribute to meeting the reliability target;
  - what obligations should be placed on different technology types (includes assessment of MAC Issue 4 and part of MAC Issue 30); and
  - enable the achievement of net zero emissions by 2050.
- Step 4: Review the method for setting of the Benchmark Reserve Capacity Price (**BRCP**), considering the revised Planning Criterion (includes assessment of MAC Issue 4).
- Step 5: assess the method(s) for assigning CRC under different scenarios (2030, 2050) (includes assessment of parts of MAC Issue 30).

Stage 2

- Assess how the outcomes of Stage 1 affect the following aspects of the RCM:
  - outage scheduling;
  - the refund mechanism (includes assessment of MAC Issues 3 and 14/36);
  - Reserve Capacity Testing; and
  - determination of Individual Reserve Capacity Requirement (**IRCR**) (currently and for 2030) (includes assessment of MAC Issue 1 and part of MAC Issue 30).

Stage 3

- Develop a detailed design of the RCM to implement the high-level design developed under Stages 1 and 2 (includes assessment of parts of MAC Issue 56).

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[10] **ICAP** refers to the maximum amount of energy a resource can provide under given conditions, such as a certain ambient temperature. ICAP may overstate a resource's ability to provide capacity when needed since it does not account for the probability of forced outages.

UCAP refers to the average amount of ICAP that is available at a given time after discounting the time that the facility is unavailable due to outages or deratings. There are different approaches how to determine the outage expectation for different types of capacity (i.e. different technologies).

The current RCM uses ICAP (at 41°C) to determine the CRC of all thermal generators and bases the determination of CRC for all other capacity providers on the ICAP concept by estimating their capacity value during peak demand.

- Assess whether any transitional measures are needed, and if so, develop the transitional measures.

2.3 Approach to analysis

The following analysis will be undertaken for Steps 1 and 2 of Stage 1 of the RCM Review. The approach to analysis in the remaining steps and stages of the review will be defined based on the outcomes of this analysis.

2.3.1 System stress

Literature review: Review of RCM arrangements in other markets and what they aim to address, which problems their electricity systems are facing or are expected to face in the future, and whether/how these arrangements and issues relate to the WEM. Jurisdictions to be investigated include:

- UK;
- PJM; and
- any other jurisdictions identified by the MAC or Energy Policy WA.

Modelling to identify system stress (current and expected future): Modelling of the current SWIS demand and the demand and demand profile expected in 2030 under different credible scenarios. The analysis will assess daily, seasonal and annual demand profiles and load duration curves as well as demand profiles for 1 in 10 year weather conditions. The modelling will account for the current generation fleet, other existing identified capacity sources and expected developments, and will reflect the DER Roadmap and the findings of, and information from, the Whole of System Plan and expected demand-response capacity and storage uptake. The objective is to identify causes of system stress such as:

- maximum demand (including extreme peaks);
- minimum demand (including extreme lows);
- fluctuation of demand (including rate and speed of change);
- generation volatility, including rapid changes of availability from intermittent generation (including DER);
- forced outages and maintenance planning; and
- any other aspects identified in the course of the modelling work.

2.3.2 Required capacity services

This will include:

- first modelling how the current generation mix and other capacity sources accommodate the identified system stress types (current and future) and identifying any deficiencies; and
- then identifying the capacity requirements and types for the SWIS that are needed to efficiently meet the reliability target for different scenarios. This will include:
    - determining the ideal generation and other capacity mix(es) that could manage the identified system stress types (current and future); and
    - assessing the need for other types of ESS in the SWIS.

2.3.3 Review the Planning Criterion

This will include:

- undertaking a cost benefit analysis of using ICAP or UCAP to meet the capacity requirements for the SWIS; and
- assessing whether the current Planning Criterion is adequate for meeting the capacity requirements of the SWIS, and if not, developing a planning criterion that will meet them. This will be based on modelling of the different load scenarios.

3. Stakeholder engagement

The RCM Review will be undertaken in close consultation with the MAC, either directly through MAC meetings or, more likely, through the establishment of a Working Group. Participation in the Working Group will not be limited to MAC members. Energy Policy WA will develop straw man solutions to provide starting points for the discussions at each stage of the review process, as appropriate.

Energy Policy WA will develop consultation papers based on the outcomes from the Working Group or MAC meetings and invite feedback from all stakeholders.

Under clause 2.5.1C of the WEM Rules, the Coordinator must consult with the MAC before commencing the development of a Rule Change Proposal.

4. Project Schedule

The following is a preliminary high-level project schedule for the RCM Review.

Tasks/Milestones	Timing
Consult with the MAC on the scope of works for the RCM review.	21 September 2021
Engage a consultant(s) to assist with the review.	October 2021
Establish MAC Working Group.	2 November 2021
Stage 1	
Literature review of RCM arrangements in other jurisdictions.	January 2022
Determine the requirements for capacity needed to achieve the purpose of the RCM, by defining: • what system stress situations appear in the WEM (currently and forecast for 2030); • the capacity requirements needed to achieve the reliability target; and • which system stress situations can/should be addressed through the RCM.	January 2022
Review the Planning Criterion to ensure it reflects the purpose of the RCM and the reliability target, including assessing whether to use ICAP or UCAP is best suited to determine the capacity value in the SWIS.	February 2022
Consultation on with the MAC Working Group and stakeholder workshops.	December 2021 to February 2022

Tasks/Milestones	Timing
Develop high-level approaches for: • assigning CRC; and • setting of the BRCP considering the revised Planning Criterion. This will include: • testing of the approaches through modelling; and • consultation on the approaches with the MAC Working Group.	May 2022
Consultation on Stage 1 with the MAC Working Group and stakeholder workshops.	May 2022 to June 2022
Stage 2	
Develop a high-level approach to reflect the design developed under Stage 1, including: • outage scheduling; • the refund mechanism; • Reserve Capacity Testing; and • determination of IRCR. This will include consultation on the approaches with the MAC Working Group.	June 2022
Publish a consultation on the outcomes of Stages 1 and 2 via the release of a Consultation Paper and a request for stakeholder submissions.	July 2022
Stage 3	
Develop the detailed design for the concepts developed under Stages 1 and 2, in consultation with the MAC Working Group.	September 2022
Assess whether any transitional measures are needed, and if so, develop the transitional measures, in consultation with the MAC Working Group.	September 2022
Consultation paper(s) on the detailed RCM design and proposed transitional measures (if any) and a request for stakeholder consultation.	October 2022
Publish a final Information Paper on the proposed detailed revised RCM design.	December 2022
Develop a Rule Change Proposal for consideration and approval by the Coordinator and Minister.	February 2023

Appendix 1: MAC Issues related to the RCM

Several issues on the MAC Issues List relate to the RCM. The following table lists the RCM-related issues and provides Energy Policy WA's assessment of how they relate to the RCM Review.

MAC Issue	Treatment
Issue 1: There is a need to look at how IRCR and the annual capacity requirement are calculated (i.e. not just the peak intervals in summer) along with recognising behind the meter solar plus storage. The incentive should be for retailers (or third-party providers) to reduce their dependence on grid supply during peak intervals, which will also better reflect the requirement for conventional 'reserve capacity' and reduce the cost per kWh to consumers of that conventional 'reserve capacity'.	Stage 2
Issue 4: Incentives for maintaining an appropriate generation mix.	Stage 1
Issue 30: Review of reserve capacity requirement and reserve capacity capability criteria to ensure alignment and consistency in determination of certain criteria. For instance:	
• assessment of RCR criteria, reserve capacity capability and reserve capacity obligations;	• Stage 1
• IRCR assessment;	• Stage 2
• Relevant Demand determination;	• Stage 1
• determination of Non-Temperature Dependant Load status;	• Out of scope
• Relevant Level determination; and	• Stage 1
• assessment of thermal generation capacity.	• Stage 1
Issue 3: Penalties for outages.	Stage 2
Issue 14/36: Capacity Refund Arrangements: The current capacity refund arrangement is overly punitive as Market Participants face excessive capacity refund exposure. This refund exposure is well more than what is necessary to incentivise the Market Participants to meet their obligations for making capacity available. Practical impacts of such excessive refund exposure include: • compromising the business viability of some capacity providers – the resulting business interruption can compromise reliability and security of the power system in the SWIS; and • excessive insurance premiums and cost for meeting prudential support requirements. Bluewaters recommended imposing seasonal, monthly and/or daily caps on the capacity refund. Bluewaters considered that reviewing capacity refund	Stage 2

MAC Issue	Treatment
arrangements and reducing the excessive refund exposure is likely to promote the Wholesale Market Objectives by minimising: • unnecessary business interruption to capacity providers and in turn minimising disruption to supply availability; which is expected to promote power system reliability and security; and • unnecessary excessive insurance premium and prudential support costs, the saving of which can be passed on to consumers.	
Issue 58: Outage scheduling for dual-fuel Scheduled Generators: '0 MW' outages are currently used to notify System Management when a dual-fuel Scheduled Generator is unable to operate on one of its nominated fuels. There is no explicit obligation in the WEM Rules or the Power System Operation Procedure: Facility Outages to request/report outages that limit the ability of a Scheduled Generator to operate using one of its fuels. In terms of the provision of sent out energy (the service used to determine Capacity Cost Refunds), it is questionable whether this situation qualifies as an outage at all. More generally, the WEM Rules lack clarity on the nature and extent of a Market Generator's obligations to ensure that its Facility can operate on the fuel used for its certification, what (if anything) should occur if these obligations are not met, and the implications for outage scheduling and Reserve Capacity Testing. (See section 7.2.2.5 of the Final Rule Change Report for RC_2013_15.)	Out of scope/ stage 2
Issue 47: Market Procedure for conducting the Long Term PASA (clause 4.5.14): The scope of this procedure currently includes describing the process that the ERA must follow in conducting the five-yearly review of the Planning Criterion and demand forecasting process. AEMO considers that its Market Procedure should not cover the ERA's review, and the ERA should be able to independently scope the review. As such, AEMO recommends removing this requirement from the head of power in clause 4.5.14 of the WEM Rules.	Out of scope
Issue 56: Issues with Reserve Capacity Testing:	
• Market Generators that fail a Reserve Capacity Test may prefer to accept a small shortfall in a test (and a corresponding reduction in their Capacity Credits) than to run a second test.	• Out of scope
• There is a discrepancy between the number of Trading Intervals for self-testing vs. AEMO testing.	• Stage 2
• There is ambiguity in the timing requirements for a second test when the relevant generator is on an outage.	• Stage 2
• There is ambiguity on the number of Capacity Credits that AEMO is to assign when certain test results occur.	• Stage 2

AUSTRALIAN ENERGY COUNCIL

27 August 2021

Energy Policy WA
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Submitted via email by graham.pearson@energycouncil.com.au to Kate.Ryan@energy.wa.gov.au

Reserve Capacity Mechanism Market Evolution Review

The Australian Energy Council (the "**AEC**") writes this letter in relation to the Market Advisory Committee's (the "**MAC**") proposed Reserve Capacity Mechanism ("**RCM**") Market Evolution Review (the "**Review**").

The AEC is the industry body representing 22 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.

Not fit for purpose

The RCM was designed to encourage investment in sufficient generation to ensure security of electricity supply and that the optimal mix of generating capacity was available to meet peak demand. However, as the market has evolved, and intermittent generation has increased, questions are raised as to whether the RCM is incentivising investment in the correct generation mix to meet future peak demand.

The RCM was developed around historical assumptions that the periods with the most capacity stress would be at times of peak consumption caused by hot weather. This would occur for a brief period only on a hot summer day typically after a series of hot days. However, the market has evolved considerably with the proliferation of solar PV and intermittent generation, meaning the most stressed time can occur in quite different conditions, such as during a series of hot days in summer, or when there is moderate demand but intermittent generation is low, or at some other time.

A further challenge is managing variations in duration of capacity stress events. Peak demand is a relatively short event, so energy limitations were irrelevant to the RCM. However, the combination of intermittent generation and storage can create extended capacity stress events of unpredictable duration. The type of facilities required to address the capacity stress for different durations could vary considerably and impact their role in the capacity market. In particular, shallow energy storage and short-term demand-side options may add complexity in the future power system.

For asset owners, the significant changes made to the RCM have undermined its ability to ensure an appropriate return. The establishment of the Essential System Services ("**ESS**") markets may alleviate some of the income shortfall for some generators but there is no certainty, and the rules require the Economic Regulation Authority ("**ERA**") to monitor prices and intervene in the markets to reduce prices if the ERA considers the prices are too high.

In summary, it is unclear whether the RCM targets the correct situations for capacity stress events and for investors the RCM no longer provides appropriate returns. For these reasons, the AEC considers that the RCM is not fit-for-purpose and the Review is necessary.

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Scope of the Review

The entire RCM needs to be fully reviewed in a considered manner to ensure it is a functioning part of the WEM, and the AEC welcomes the Review proposed by the MAC.

The MAC has put forward the following high-level scope for the Review:

- *"whether the mechanism is still fit for purpose, taking into account the rapid transformation of the energy sector;*
- *the Planning Criterion (reliability criteria), including as part of the Taskforce's end-to end security and reliability standard/framework;*
- *the method(s) for assigning Certified Reserve Capacity to the different technology types in the WEM;*
- *review of the "most efficient new entry" which sets the Benchmark Reserve Capacity Price; and*
- *the requirements applicable to different technology types (generation, Demand Side Programmes and storage)."*

The AEC suggests that this is a reasonable starting point and encourages the MAC to also consider the:

- Type, duration and frequency of peak demand events that the RCM is addressing;
- Likelihood of capacity stress events changing over the coming 5-10 years;
- Type of plant and technologies that can assist with meeting potential future supply shortfalls, in particular shortfalls caused by energy limitations rather than instantaneous capacity;
- Obligations of generating facilities, demand side management providers and battery storage for receiving revenue for their capacity credits;
- Transition arrangements for existing participants;
- Implications for the energy and ancillary services markets;
- Application of energy price caps.

The AEC's members will also put forward their own views on the scope of the Review directly to the MAC and we encourage the MAC to fully consider their feedback. That aside, the AEC firmly believes that the Review should be considering a 5-10 year timeframe to assist with future-proofing the WEM and giving investors adequate confidence in the market.

Interactions with energy price caps

A challenge created by the current WEM market design is how to correctly recognise the value of capacity sources with non-infinite energy limitations and then to operate it effectively. Energy limited plants include battery storage and many forms of demand-side action. The current design uses on a deterministic allocation of RCM that ignores energy limits. Then subsequently, the energy market price is capped. Whilst fit for purpose in a traditional power system, two fundamental challenges emerge from this design in the twenty-first century power system:

- The energy limitations of storage and demand-side cannot be captured by a deterministic calculation. Typically, a single minimum energy limit (specified in a number of hours operability) is applied as a threshold of eligibility. This threshold is arbitrary and fails to recognise that the value of energy limited capacity to power system reliability is never zero, rather it increases progressively with its depth.

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- The low price cap does not encourage efficient allocation of limited energy. This price cap discourages participants from conservatively building energy stocks and retaining it for the time when consumers value it most greatly, i.e. when the alternative is load-shedding. Instead, the incentive is to exhaust the energy as soon as the energy price rises, prior to the cap. The result is that accredited energy limited capacity unnecessarily exhausts prior to the period of most stress. A way to avoid this is to recognise that energy-limited plant may at times have a much higher cost than energy-unlimited plant – the value of energy-limited plant is the shadow price of other dispatch options, potentially the Value of Customer Reliability itself.

These interactions must be considered in the RCM review, which should be permitted to recommend a change to the capping of energy market prices.

Appropriate consultation & engagement

A comprehensive review of the RCM is a significant undertaking that requires a measured process, without compressed timeframes, and full engagement with stakeholders.

The AEC suggests that the MAC could adopt a similar process to the Australian Energy Market Commission ("**AEMC**") when it undertook the Reliability Frameworks Review. The AEMC published its terms of reference for the Reliability Frameworks Review on 11 July 2017, an issues paper on 22 August 2017, an interim report on 19 December 2017 and a directions paper on 17 April 2018. As part of the process, a Reference Group comprising senior representatives of the AEMC, AEMO, the Reliability Panel, the Australian Energy Regulator, the senior Committee of officials, ARENA, the Clean Energy Regulator and the Clean Energy Finance Corporation provided high-level input. In addition, the AEMC established a technical working group comprising representatives from AEMO, the AER, ARENA, consumer groups, large energy users, conventional generators, renewable generators, retailers, demand response providers, and transmission and distribution network service providers.

The AEMC's template should be adopted for the Review, with a dedicated working group established to create genuine two-way dialogue and input. Given the importance of the Review, the working group must include a wide range of participants, not only MAC members, and be given adequate time to work through the scope of the Review and rebuild the RCM for the next 5-10 years. This can't be a rushed exercise with limited consultation.

Conclusion

The AEC appreciates this opportunity to provide feedback on the Review and encourages Energy Policy WA 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

Review of the Reserve Capacity Mechanism (RCM) – Scope suggestions and prioritisation

The RCM was designed over 15 years ago to ensure reliability of the power system. In recent years the power system has evolved with an increasing share of intermittent generation entering the system. While incremental changes to the RCM have been made since its inception, there has not been a fundamental review of its design to ensure reliability for the evolving power system.

The Market Development Forward Work Program gives the Wholesale Electricity Market (WEM) the opportunity to review and ensure the effectiveness of the RCM into the future. AEMO suggests that the review can be conducted in the following stages:

Stage 1

1. RCM Fundamentals
    - Review concept of 'reliability' and the RCM product in light of the transformation of the power system
    - Besides capacity, consider other characteristics within the definition of the RCM product, such as:
        - start-up rates or responsiveness – ability to be available for dispatch at short-notice
        - controllability – ability of a facility to be dispatched between nameplate capacity and zero
        - availability – ensuring capacity is available consistently, while being dispatchable and controllable
        - age of the unit and maintenance requirements

      Also consider if such additional attributes should attract a premium or if these become a mandatory element within the set of minimum requirements for Certification of Reserve Capacity (CRC)
    - Consider the need to manage volatile power system conditions caused by the entry of intermittent generation
    - Review appropriateness of the RCM cycle and how the WEM RCM compares to other capacity mechanisms (such as in the UK, US, Ireland, etc.) as a method to source reliable, secure, and efficient capacity
    - Consider the interaction between RCM, the energy market construct and ESS arrangements in ensuring reliability and supporting efficient investment
2. The Planning Criterion
    - Investigate alternative reliability metrics e.g. what is the best metric to guard against loss of load?
    - Review and update Planning Criterion
    - Investigate an appropriate periodic review cycle for the new Planning Criterion
3. Certification and NAQ (including locational considerations)
    - Review method to assess contribution of new capacity product and different technologies to meet the Planning Criterion
    - Relevant Level and Demand determination

4. Review the Benchmark Reserve Capacity Pricing

Stage 2

- Testing
- Cost Recovery (IRCR)
- Capacity refunds and other penalties for outages and unplanned closures/decrease in capacity during Capacity Year
- Supplementary Reserve Capacity (e.g. backup such as RERT)

Eliot, Stephen

From: Carlberg, Oscar <Oscar.Carlberg@alintaenergy.com.au>
Sent: Wednesday, 25 August 2021 11:29 AM
To: Guzeleva, Dora
Subject: RE: Alinta Energy feedback on the RCM review and RC_2019_03

Hi Dora

Yes, very happy to have this published with the MAC papers.

Thanks

Oscar Carlberg
Wholesale Regulation Manager

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Classification: INTERNAL

From: Guzeleva, Dora <Dora.Guzeleva@energy.wa.gov.au>
Sent: Wednesday, 25 August 2021 10:55 AM
To: Carlberg, Oscar <Oscar.Carlberg@alintaenergy.com.au>
Subject: FW: Alinta Energy feedback on the RCM review and RC_2019_03

Oscar

Would you be happy to have this information published with MAC papers?

Kind regards

Dora

Dora Guzeleva
Director Wholesale Markets
Energy Policy WA
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Ngala kaaditj Whadjuk moort keyen kaadak nidja boodja.
We acknowledge and respect the Whadjuk people as the Traditional Owners of their ancestral lands, waters and skies.

From: Carlberg, Oscar <Oscar.Carlberg@alintaenergy.com.au>
Sent: Wednesday, 25 August 2021 10:03 AM
To: Ryan, Kate <Kate.Ryan@energy.wa.gov.au>
Cc: peter.kolf@kpksas.com; Jacinda Papps <jacinda.papps@alintaenergy.com.au>; Campbell, Chris <Chris.Campbell@alintaenergy.com.au>
Subject: Alinta Energy feedback on the RCM review and RC_2019_03

Hi Kate

Alinta Energy would like to provide the following recommendations in response to EPWA's request for feedback at the recent MAC on the scope of the RCM review, including whether to incorporate RC_2019_03. I'm passing this on as Jacinda Papps and Chris Campbell will be between Alinta Energy's projects in the Pilbara for the remainder of the week.

Scope of the RCM Review

Alinta Energy recommends that the RCM review focus on ensuring the RCM provides appropriate signals and revenue adequacy to ensure the SWIS hosts an efficient capacity mix over the next 10-20 years under net-zero by 2050 targets, and without government underwriting.

This may involve considering what the least cost capacity mix will be over the next 10-20 years, with net zero 2050 targets, and testing whether the RCM's investment signals are:

- Sufficient,
- Sufficiently certain, and
- Appropriately targeted (e.g. via criteria)

to procure the efficient types of capacity.

This analysis would need to consider whether the RCM is fit for purpose in the context of other markets to avoid missing money. In a future where there is a high proportion of renewable energy assets with low SRMCs decreasing energy prices, the RCM may need to play a more important role in signalling investment in the appropriate technology types – for example, fast-ramping, high-fixed cost capacity, like pumped hydro to balance intermittent generation and meet net-zero targets.

As a secondary consideration, Alinta Energy recommends that the review also identify and remove unnecessary barriers to investment – for example, the 14-hour fuel requirement and the obligation to finalise network access agreements 2 years from the relevant Capacity Year.

Alinta Energy's recommendation on how to progress RC_2019_03

Alinta Energy recommends that RC_2019_03 is conducted ahead of, and separately from the RCM review because:

1) The issues in the current RLM should be rectified as soon as possible.

   - As identified by the ERA in its 2018 final report, the current method contains significant issues that are exacerbated by increasing renewable generation. Rectification has already been delayed by ~ 2 years and further delays would increase the impacts on intermittent generators' accreditation and investment signals.

   - If this rule change is delayed and the errors in the current RLM are not rectified by the 2022 cycle, they would distort the initial allocation of NAQs. This would permanently impact generators' capacity revenue and distort signals to investors about where to situate their projects.

2) It will take significant time to design a durable RCM that can signal appropriate investment in generation in a net zero future over the next 10-20 years. By contrast, the issues in the RLM have been strongly established and well considered and can be rectified much sooner.

3) Finally, it seems unlikely the RLM would need to further be reformed significantly under the RCM review. It is difficult to imagine why the RCM would not still aim to accurately assess the contribution of intermittent generators to reliability during periods of system stress. Alinta Energy considers this objective will likely remain.

Many thanks for your consideration of Alinta Energy's feedback.

Oscar Carlberg
Wholesale Regulation Manager

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Classification: INTERNAL

19 August 2021 **Our Ref: CWF-20210819-1**

Mr Peter Kolf
Chair, Market Advisory Committee
c/o Energy Policy WA
Locked Bag 11
Cloisters Square PO, WA 6850

Dear Mr Kolf

RULE CHANGE RC_2019_03 ALLOCATION OF CERTIFIED RESERVE CAPACITY TO INTERMITTENT GENERATORS

Firstly, please let me congratulate you on your appointment as Chair of the Market Advisory Committee (MAC).

Collgar Wind Farm (Collgar) has a strong interest in Rule Change RC_2019_03 Allocation of Certified Reserve Capacity (CRC) to intermittent generators (the Rule Change). The existing Relevant Level Method (RLM) is substantially flawed.

The Rule Change provides the opportunity to implement a CRC allocation method that is better aligned with the stated purposes of the Reserve Capacity Mechanism (RCM) and the WEM Objectives. It also provides investment clarity and greater equity between Market Participants. These outcomes can be realised by expediting the decision on the Rule Change and ensuring that an improved method is used for Network Access Quantities (NAQ) allocation.

Collgar is very concerned about the proposed postponement of a decision on the Rule Change until the completion of a wholesale review of the RCM, which may take several years. While Collgar supports the RCM review, a delay in deciding the Rule Change would mean that NAQ are allocated using the current flawed RLM. The RLM does not provide a suitable foundation to retain the economic value of an existing facility[1] and would embed the effects of this substantially flawed method in the market for the coming decades.

[1] The Taskforce outlined the importance of retaining the economic value of an existing facility in this paper - Assigning Capacity Credits in a Constrained Network (www.wa.gov.au).

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This would have unacceptable implications for the achievement of the published WEM Objectives, including:

- undermining the purpose and design principals of the NAQ framework,[2] including not adequately protecting incumbent generators from unhedgable risks;
- creating an uncertain investment environment, delaying or deterring investment including in technologies (such as storage) that would support system security;
- inequitable treatment between Market Participants;
- adding to costs borne by all Market Participants; and
- not being in the long-term interest of consumers.

Collgar is working on a pipeline of projects to optimise its existing Merredin facility and to grow its business. Ongoing uncertainty regarding Capacity Credit revenues creates avoidable risk and negatively impacts our ability to refinance our existing facility and to finance future projects.

The RLM is flawed as it's based on peak EFLSG intervals. This was developed for Scheduled Generators (the SG in the acronym) by deducting intermittent generation from system load to determine peak intervals for CRC assessment. As Collgar was and still is WA's largest intermittent facility, peak load intervals where Collgar is generating at maximum capacity are dropped off the list of intervals for assessment. This negative correlation is clearly unfair and counter-productive.

As a result, Collgar has been disadvantaged over its nine years of operation, representing nearly one-third of its economic life. Collgar has received Capacity Credits equal to just 30% of its capacity factor,[3] compared with 62% to 79% for the four other large wind farms (Attachment 1), despite Collgar generating more during the highest load intervals as show in analysis provided by Alinta Energy (Attachment 2). Those four other large wind farms are also closely co-located, meaning their outputs are highly correlated.

Collgar has been operating on the basis that the Rule Change would be completed this year and the RLM would be replaced with a more equitable method prior to the allocation of NAQ. On this basis, Collgar has accepted the NAQ framework as a trade-off for its unconstrained access rights being forfeited through the reforms. Collgar considers a deviation from this to allocate NAQ using the RLM as unacceptable.

Collgar appreciates that the Rule Change is complex and that there will be winners and losers. This is often the case for important policy decisions, but this should not be a cause of delay in this case as replacement of the flawed RLM will help to achieve desired policy outcomes and the net benefit across all stakeholders.

In the case of the Rule Change, this means ensuring that the WEM Objectives are best met, including facilities being adequately and equitably compensated for the support they provide the WEM during peak intervals. This will also account for output correlation, thus providing the best locational pricing signals for future investments.

[2] Assigning Capacity Credits in a Constrained Network (www.wa.gov.au).

[3] Collgar received 22.9 Capacity Credits for the 2020 Capacity Year, equivalent to 11% of its sent-out capacity or 30% of its capacity factor of 37% (which equates to 76MW).

These objectives are not currently being met, meaning that Collgar has received a lower than reasonable allocation of Capacity Credits. A delayed decision on the Rule Change does not delay there being a 'policy loser', but rather continues to subject Collgar to economic losses due to the ongoing application of the RLM and embeds these losses for the coming decades through allocation of NAQ.

Collgar urges that a decision on the Rule Change be made as a priority and that an improved CRC allocation method be utilised for the allocation of NAQ.

If a decision on the Rule Change is further delayed, then the allocation of NAQ should not occur until a new method to allocate CRC to intermittent generators is put in place. This is consistent with the decision of the Energy Transformation Taskforce (Taskforce) in April 2020 to defer allocation of NAQ from the 2020 to 2021 Reserve Capacity Cycle.[4]

Collgar agrees with the Taskforce's view that *'the NAQ assignment process would benefit from a more accurate assessment of the capacity value of intermittent generation'* and that *'[t]his would better signal the level of available capacity in the network, ensuring that the level of congestion is not misrepresented and improving the quality of information to guide investment decisions.'*

In summary, therefore, Collgar's request is that the Rule Change be completed as quickly as possible. However, if a decision on the Rule Change is deferred, then the allocation of NAQ must also be deferred. Such a transitional provision is required to ensure that the NAQ protections provided to existing facilities are appropriately calculated, and Capacity Credits allocated to new entrants do not exceed their contribution to overall system reliability.[5]

We are available to discuss this Rule Change with you and we value the opportunity to continue to contribute through the MAC.

Yours sincerely

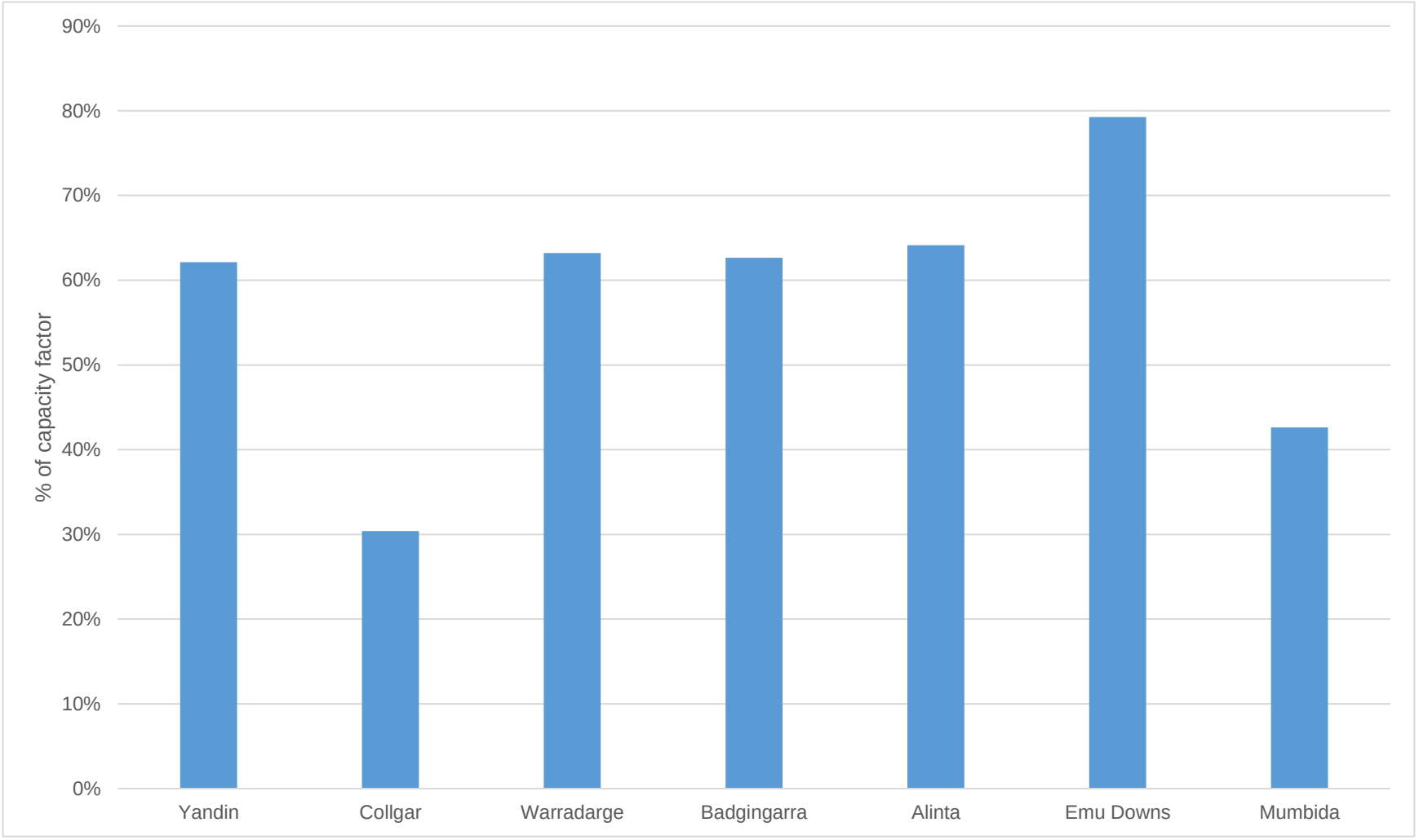
Thomas Scott-Morey
Chief Executive Officer

cc: Ms Kate Ryan, Coordinator of Energy

[4] Information Paper - Network Access Quantity Framework Transitional Arrangements.pdf (www.wa.gov.au).

[5] The Taskforce outlined its views on Capacity Credits not being allocated to new entrants beyond their contribution to system reliability in this paper - Assigning Capacity Credits in a Constrained Network (www.wa.gov.au).

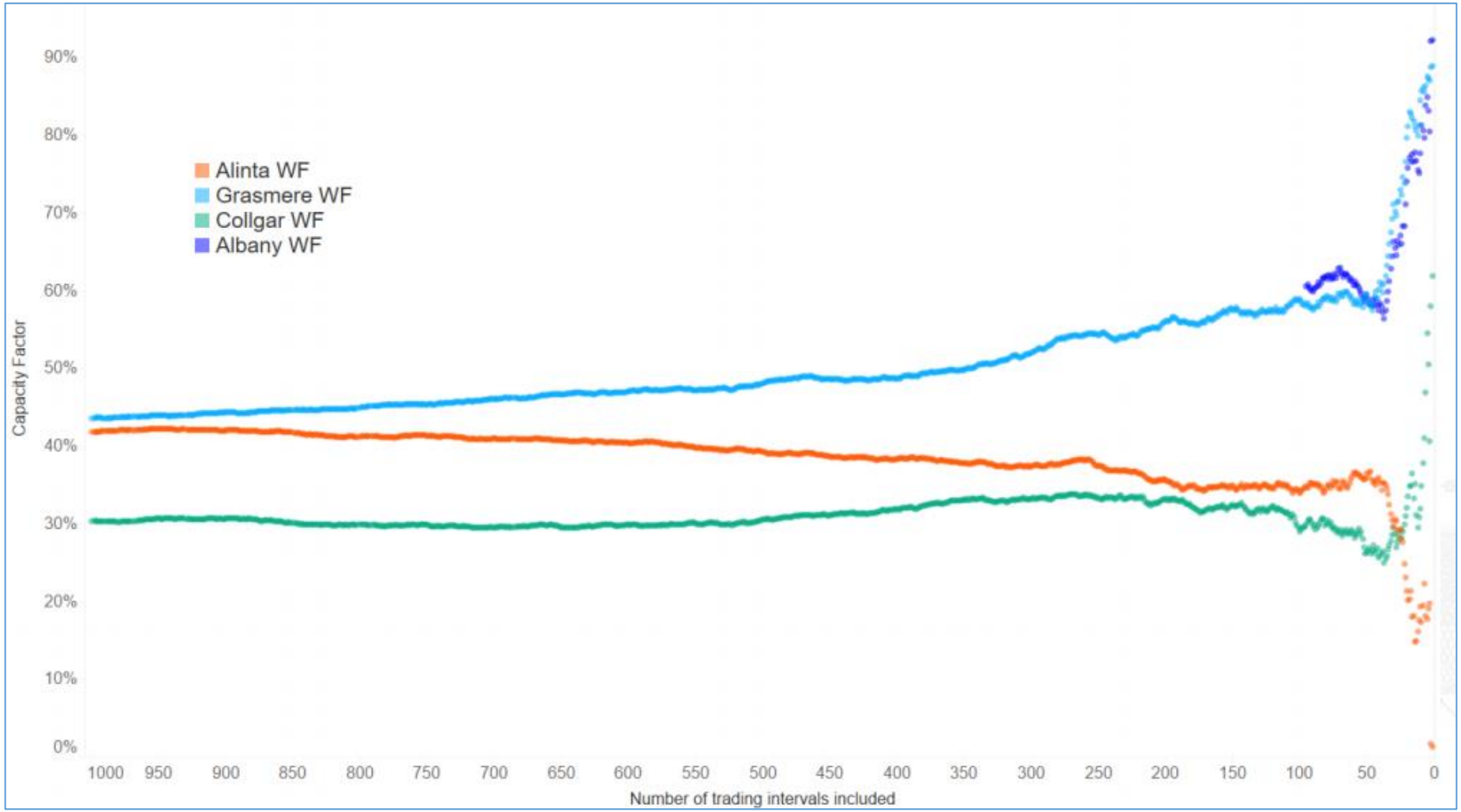
Attachment 1: Capacity Credit Allocation to Wind Farms



Source: Collgar calculations based on AEMO Facility SCADA Data.[6]

[6] Market Data (aemo.com.au)

Attachment 2: Wind Farm Capacity Factors



Source: Endgame Economics on behalf of Alinta Energy.[7]

[7] https://www.wa.gov.au/sites/default/files/2021-05/RC_2019_03----10-May-2021-Workshop----Alinta-Presentation.pdf

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12 August 2021

REVIEW OF THE RESERVE CAPACITY MECHANISM

A SUBMISSION TO ASSIST THE MARKET ADVISORY COMMITTEE IN DEVELOPING A SCOPE OF WORK

BACKGROUND

The main purposes of the Reserve Capacity Mechanism (RCM) were to work with the Energy Market to encourage investment in sufficient generation to ensure security of electricity supply and to ensure that the optimal mix of generating capacity – peaking, mid-merit and base load – was provided to meet demand. This latter objective included sending appropriate signals for uneconomic plant to be retired.

When the RCM was developed the highest demand on generating capacity in the SWIS occurred on very hot summer days so all generators receive capacity credits based on their expected output capability when the temperature is 41°C. The value or price of these credits is based upon fully meeting the fixed costs of the last generator that would be dispatched at the time of system peak. The benchmark generator was determined to be a diesel fuelled open cycle gas turbine as being the plant that would have the lowest capital cost but the highest operating cost.

Most generators in the SWIS had fixed operating and maintenance costs that were greater than those of the benchmark generator. This means that their capacity credit income was not sufficient to fully cover their fixed costs and they must earn enough additional money from energy sales to meet this shortfall.

All generators are required to offer energy into the market at no more than their short run marginal cost (SRMC). All energy that is put into the market is paid for at the price equal to the highest bid which is the SRMC of the plant with the highest operating costs running at any time. Therefore, most generators will earn energy revenue greater than their operating costs for much of the time that they are running.

The theory is that in a system where the generator fleet has the proper proportions of base, mid-merit and peaking plant all generators will earn enough from the combination of capacity credits and energy revenue to just meet their full costs and earn an appropriate return. Because of this, the RCM should ensure that there is sufficient capacity overall to meet peak demand and should also encourage the right plant mix.

There is also an expectation that some generators may receive less income than they need. This is a signal that they are no longer economic and should be withdrawn from service.

WHAT HAS CHANGED?

The main change that has occurred since market start is that a substantial quantity of generation now comes from intermittent generators both in front of and behind the meter. This has several significant impacts:

- There is far less assurance that generating capacity that has been assigned capacity credits will actually be available to meet demand when required. This means that it is unclear as to when the greatest risk of supply shortage will occur. Currently it is still during the high system demand which occurs on a hot day but over the next few years this could change to when renewable generation is low and system demand is moderate. It may even move back to the winter peak;

- Reductions in the capital costs of both windfarms and solar PV systems along with increased technical efficiency justifies an increase in the market share of both. However, renewable generators receive substantial income from outside of the market (solar buy-back payments, renewable energy certificates) and this has pushed investment in both technologies well beyond what would otherwise be deemed their "economic" share; and

- The low marginal cost of renewable generators drives down the balancing price for substantial periods such that dispatchable generators have far less opportunity to recover that portion of their fixed costs which are not covered by capacity credit payments.

A second major change is that the risk of investing in conventional generation has increased markedly due to administrative changes including:

- Changing the basis for calculating the reserve capacity price;

- Placing the financial risk of excess capacity onto capacity providers who are unable to hedge this risk;

- AEMO being granted to option to not assign capacity credits to generation providers with no formal assessment structure; and

- Proposals from the Economic Regulation Authority to discount the assignment of capacity credits based on forecast plant availability.

The third major change is that the new WEM will include a market for essential system services. This will potentially provide another income stream for capacity investors though the quantum of this income is unknown. Only when the ESS market has run for some time will we be able to estimate the levels of payments though modelling may give some guidance. It should be noted, however, that the market rules require the ERA to monitor ESS prices and take steps to reduce these if they are considered too high. This adds more investment risk.

PROPOSED SCOPE OF WORK FOR RCM REVIEW

It is recommended that the following elements be included within the scope of the RCM review:

- What is the supply-demand shortfall risk that the RCM will be used to mitigate?
    - Is it still meeting peak summer demand?
    - Is it a combination of low intermittent output plus moderate load?
    - Is it high demand in winter?
    - Is there a single dominant situation or are there multiple situations that need to be covered?
    - What is the duration of this event?

    This needs to be assessed over a 5-10 year timeframe and consider different options for system development (perhaps using the four cases used in the Whole of System Plan).

- What technologies can contribute towards meeting the potential shortfalls?
    - Is it all technologies?
    - Is it just dispatchable facilities?
    - What can demand side management contribute?
    - Can short term storage contribute or is the risk event(s) too long?
    - If some types of facilities are not given capacity credits can they recover costs through some other mechanism?

- Should the RCM still be used to encourage specific plant types to meet other system needs, or should this be driven by ESS?
- What level of capacity credits should be assigned to intermittent plant?

- What obligations should be placed on RCM providers and what should be seen as an ESS?
  - Ability to generate for a prolonged period?
  - 14 hours of onsite fuel storage?
  - Can some obligations be done away with (eg gas contracts)?

- How do we encourage investors to install any required capacity?
  - What certainty of pricing?
  - What certainty of service duration?
  - What risk of losing capacity credits?

- Should capacity credits be assigned forever?
  - Should capacity credits only be assigned for the expected life of a facility?
  - To what extent should facilities be allowed to upgrade plant and still be considered the same?

TRANSITION TO A NEW MECHANISM

Once a new design has been finalised there needs to be a fair transition to this from the current mechanism. It needs to be done in a manner that fully addresses the needs of customers, investors and the Market Operator.

Eliot, Stephen

From: Jo-Anne Chan <jo-anne.chan@synergy.net.au>
Sent: Tuesday, 24 August 2021 10:59 AM
To: EPWA - Energy Markets
Cc: Andrew Everett; Jason Froud; Rhiannon Bedola; Kurt Baker; peter.kolf@kpksas.com
Subject: RE: Draft MAC minutes (10 August 2021) for review

Hi EPWA,

Thank you for sharing the draft minutes for the 10 August 2021 MAC meeting.

RCM Review:

In response to the following action captured in relation to Item 7 of the agenda, Market Development Forward Reform Program, Synergy suggests the following categorisation for the Reserve Capacity Mechanism (RCM) Review in order to facilitate a more focussed review of what Synergy considers to be critical components in the operation of the RCM.

Action: MAC members and statutory observers to provide the Chair and MAC Secretariat with feedback on what should be assessed in the RCM Review.	**MAC**

RCM Review Stage 1 (2021/22):

- MAC Issues List 4: Incentives for maintaining appropriate generation mix
- MAC Issues List 30: Reserve Capacity Mechanism [subset]
    - assessment of reserve capacity requirement criteria, reserve capacity capability and reserve capacity obligations
    - assessment of thermal generation capacity
- RCM is fit for purpose/Planning Criterion (reliability criteria)
- Method for assigning CRC for different technology
- RC_2018_03
- [New] DER review – Review of Reserve Capacity Target (RCT) impacts upon participation of Aggregated DER to ensure double counting does not occur (e.g. assurance that the RCT for the DER is not reduced whilst also allocating Capacity Credits to Aggregated DER)

RCM Review Stage 2 (2022/23):

Synergy proposes the following items to be shifted from Stage 1 to Stage 2:

- MAC Issues List 1: IRCR calculations & capacity allocation
- MAC Issues List 9: Improvement of AEMO forecasts of System Load; real-time and day-ahead
- MAC Issues List 30: Reserve Capacity Mechanism [subset]
    - IRCR assessment
    - Relevant Demand determination
    - determination of NTDL status
    - Relevant Level determination
- Most efficient new entry – setting of BRCP
- RC_2019_01

Synergy supports retainment of the following items under Stage 2:

- MAC Issues List 14/36: Capacity Refund Arrangements
- MAC Issues List 47: Market Procedure for conducting the Long Term PASA
- MAC Issues List 56: Issues with Reserve Capacity Testing-

- MAC Issues List 58: Outage scheduling for dual-fuel Scheduled Generators
- Other items arising from Stage 1 review
- [New] RCM Certification process – consider lowering requirements 2 years out and having a 'check-in' after 1 year when details are finalised

RC_2019_03:

Synergy also wishes to provide further feedback with respect to the Chair's request for further advice on whether assessment of RC_2019_03 should be considered as part of the RCM Review or separately.

> The Chair asked the MAC for advice on whether this further assessment of RC_2019_03, as well as RC_2019_01 and RC_2018_03, should be considered as part of the RCM Review or separately.

Synergy's recommendation is that RC_2019_03 should be considered separately to the RCM Review and should not be delayed. The final report on the ERA's review of the Relevant Level Methodology (RLM) published in March 2019 found the current RLM to be materially flawed. By further delaying RC_2019_03, intermittent generation will continue to be assessed incorrectly under the flawed RLM. Further, with the introduction of the Network Access Quantity (NAQ) regime planned for the 2022 Reserve Capacity Cycle, the timing of RC_2019_03 is critical with Synergy's preference being that the rule change proposal is implemented prior to the 2022 Capacity Cycle such that it is in operation when the NAQs regime is introduced. If RC_2019_03 is delayed and implemented after the NAQ regime, intermittent generators may not be able to achieve Capacity Credits that align with their Certified Reserve Capacity under the new RLM in future years, effectively imposing a potential long-term burden of the current flawed RLM on the intermittent generator. In recommending this, Synergy further draws attention to its support of the Taskforce's original argument to defer the NAQs:

The Taskforce recognised that the NAQ assignment process would benefit from a more accurate assessment of the capacity value of intermittent generation. This would better signal the level of available capacity in the network, ensuring that the level of congestion is not misrepresented and improving the quality of information to guide investment decisions. On this basis, the Taskforce has deferred the assignment of NAQ until the 2021 Reserve Capacity Cycle to provide an opportunity for the new Relevant Level Methodology arrangements to be progressed by the ERA and implemented.
Information Paper - Network Access Quantity Framework Transitional Arrangements.pdf (www.wa.gov.au)

Lastly, Synergy reiterates its support in conducting the RC_2019_03 ahead of the RCM Review, with focus specifically on identifying a resolution to remove the potential volatility created by utilisation of limited samples for reasons described in its second submission on RC_2019_03 (Link).

Please feel free to reach out should there be any queries. I look forward to further discussion at the next MAC meeting.

Kind regards,

Jo-Anne Chan
Senior Regulatory Analyst
Wholesale Business Unit
Synergy

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synergy

Electricity Generation and Retail Corporation trading as Synergy (ABN: 58 673 830 106)

From: EPWA - Energy Markets <energymarkets@energy.wa.gov.au>
Sent: Monday, 23 August 2021 2:23 PM
To: Daniel Kurz <daniel.kurz@bluewatersps.com.au>; Sharafi, Dean <dean.sharafi@aemo.com.au>; Geoff Gaston <geoff.gaston@changeenergy.com.au>; Jacinda Papps <jacinda.papps@alintaenergy.com.au>; Jo-Anne Chan <jo-anne.chan@synergy.net.au>; Martin Maticka <Martin.Maticka@aemo.com.au>; Noel Schubert <noel.schubert@shoobs.net>; Patrick Peake <p.peake@perthenergy.com.au>; peter.kolf@kpksas.com; Peter Huxtable <Peter.Huxtable@watercorporation.com.au>; Sara O'connor <sara.oconnor@erawa.com.au>; timothy.edwards@metropower.com.au; Tom Frood <tom.frood@brightenergyinvestments.com.au>; wendy.w.ng@shell.com; Zahra.Jabiri@westernpower.com.au; Ryan, Noel <Noel.Ryan@energy.wa.gov.au>; paulkeay@energyxl.com.au
Cc: Guzeleva, Dora <Dora.Guzeleva@energy.wa.gov.au>; Eliot, Stephen <Stephen.Eliot@energy.wa.gov.au>; Laura Koziol <Laura.Koziol@energy.wa.gov.au>; Ryan, Kate <Kate.Ryan@energy.wa.gov.au>; Gill, Rachelle <Rachelle.Gill@energy.wa.gov.au>; dimitri.lorenzo@bluewatersps.com.au; Rebecca White <rebecca.white@collgar.com.au>; Raja Sarawat <rajat.sarawat@erawa.com.au>; oscar.carlberg@alintaenergy.com.au; Naomi.Donohue@apa.com.au
Subject: Draft MAC minutes (10 August 2021) for review

Good afternoon

Please find the draft minutes for the 10 August 2021 MAC meeting attached for your review.

Please provide any comments to us at energymarkets@energy.wa.gov.au by **COB on Monday 30 August 2021**.

Alternatively you can provide your comments at the next meeting, which is scheduled for 21 September 2021.

Cheers
Jenny

Jenny Laidlaw

Assistant Director
Wholesale Markets
Energy Policy WA
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"Please note that Energy Policy WA staff are working from home on Friday 13 August 2021 – Friday 27 August 2021 due to an office refit. There will be skeleton staff in the office during this time, but I am available via phone and email on the above details."

Ngala kaaditj Whadjuk moort keyen kaadak nidja boodja.
I acknowledge and respect the Whadjuk people as the Traditional Owners of their ancestral lands, waters, and skies.

Government of Western Australia
Energy Policy WA

We're working for Western Australia.

ELECTRICITY GENERATION AND RETAIL CORPORATION
TRADING AS SYNERGY (ABN 58 673 830 106)
Perth, Western Australia
Telephone:-
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Expert Consumer Panel (ECP) submission

Reserve Capacity Mechanism (RCM) Review – Scope suggestions

The recently formed ECP now has two members on the Market Advisory Committee (MAC). The ECP welcomes the opportunity for those members to represent the ECP and small-use consumers in the MAC and its deliberations, and to work productively with other MAC members and MAC Support staff.

In this submission we provide an ECP perspective on the scope of the review which we believe should be broad enough to explore the issues in a holistic way consistent with the transformation that is underway in the WEM.

We also highlight the opportunity for the energy sector to work with consumers to prevent and mitigate system stress events by ensuring the demand-side and distributed energy resources are integrated in the WEM design.

Consumer priorities

An efficient wholesale market with the right mix of resources is critical for consumers because:

- Wholesale electricity costs are a significant component of bills and should be as low as possible to deliver a reliable electricity supply. This requires us to ensure we have the right mix of lowest overall-cost supply capacity types and capabilities needed to ensure acceptable reliability. This may include making use of more flexible and responsive capacity sources, such as battery storage and dispatchable demand-response capacity (including distributed energy resources or 'DER') where it is lower overall cost than conventional capacity to meet particular system needs. Ultimately we want a wholesale market that doesn't just support large generation, but a mix of supply and demand-side resources of different scales, right down to consumer-owned DER.
- Consumers should receive fair returns on their investments in DER, supported by tariff and other market signals that reflect the value of DER to them and the market.
- Consumer preferences for cleaner energy and emissions reduction should be factored into the choice of energy technologies and be consistent with the Energy Transformation Strategy and government decarbonisation commitments.
- Regulatory and other changes in the market and supply system should deliver a net benefit for consumers.

Preamble

The Reserve Capacity Mechanism (RCM) was designed as a feature of the Wholesale Energy Market (WEM) in Western Australia to meet a need of electricity consumers – "keep the lights on."

This phrase is the embodiment of a first world electricity supply, is of great importance to citizens of Western Australia served by energy from the South West Interconnected System (SWIS), and counts for much amongst voters and politicians in assessing quality of life in WA together with competence of government and regulation (mainly when things go badly).

The RCM was designed to meet the drivers of an increasing system peak load on the SWIS, year on year. This market design phase largely occurred in 2004/05, prior to the WEM market start in 2006. At that time the only intermittent generation source of any serious capacity was Albany wind farm (22

MW nameplate) with some others planned. Now there is a large deployment of utility wind, utility solar and huge amounts of commercial and residential rooftop solar with nameplate capacity totalling around 2900 MW. This change will challenge the RCM to perform as it was intended.

Keeping the lights on is still as desirable as ever, and as big an issue as ever. The RCM is not equipped to deal with the new set of issues facing the electricity industry in the SWIS. This is patently obvious to electricity industry insiders, and would best be dealt with before it becomes a highly visible issue to the wider community.

The Expert Consumer Panel, via its MAC representation, submits that a complete review of the RCM is required. This to ensure that the needs of electricity consumers are met into the future. This can be best described as "keeping the lights on, at the lowest cost to consumers for this service". The scope for the review should be designed to reach this objective.

RCM Review Scope suggestions

The current energy transformation (e.g. large increase in intermittent renewable energy generation) is dramatically changing the capacity mix and demand profile of the WEM so that the RCM may no longer be adequate to achieve what consumers need and want. The Government's Energy Transformation Strategy (ETS) and work of the Energy Transformation Implementation Unit (ETIU) has introduced many positive changes to the WEM to manage what is occurring.

The ECP expects that other MAC members and market participants who have been actively involved in the transformation changes to date will suggest the main areas to include in the RCM Review Scope. However, the ECP makes the following suggestions.

- The RCM Review should be broad enough to consider the ECP's consumer priorities listed above.
- It should not be too narrow that it risks fragmented rule making and undue investment in policy development that may soon be superseded due to other market changes outside of the coverage of the RCM.

The following suggestion may expand the scope of the RCM review more than envisaged. Obviously we don't want the review scope to be too broad (costly, long) either, but a more holistic review should consider needs, and incentives for both supply and demand side resources, other than those that apply to pure (megawatts) capacity provision for reliability. This includes resources providing the new kinds of system services needed in a high renewable energy, increasingly decentralised market. This need to integrate many different technologies and resources is why we need a holistic review of the RCM.

Gap identification

Rather than focussing primarily on system stress events to determine capacity needs, there should be a higher level examination of what the WEM needs versus what we already have and are planning, to identify gaps. A few thoughts are listed here. The review could identify:

- **Needs** - what we need in the WEM to ensure sufficient, and the right type (attributes) of, capacity sources to supply what is needed at least overall cost for a reliable, secure supply.

The load-duration curves, and the times and spread over the year of different demand levels (the daily, weekly, and seasonal demand profiles), together with essential requirements (some of which will be covered by the new Essential System Services (ESS) designs), determine some of the system needs.

There are other needs than may not be explicitly or sufficiently addressed by the planned future reformed WEM design. The list of attribute examples below contains some that point to needs we tend to assume or accept without specifically placing a value on them for reward to providers.

- **Attributes** – Examine the positive and negative attributes of existing and desired capacity sources for all of the likely viable and proven capacity sources available. Example attributes are:

Flexibility and responsiveness

- Dispatchability
- Start-up times, or notice period (for demand response), to full capacity
- Ramp rate capability up/down
- Minimum run time restrictions
- Re-start delay restrictions
- Load-following capability
- Contingency responsiveness (response time)
- More?

Others

- Availability when needed (some capacity is only needed for extreme weather peaks. Base-load supply is needed all year).
- Inertia
- Voltage control
- Start-up costs
- Energy costs (variable O&M costs)
- Capital costs for each capacity type
- Firmness of capacity
- Emissions
- Lead time to build
- More?

- **Gaps between the Needs and desired/ideal Attributes for our system capacity sources** – to identify additional (missing) measures/incentives needed to attract the missing capacity types.

Some desirable attributes/capabilities may not be adequately incentivised in the WEM. For example, does the WEM adequately incentivise the responsiveness and flexibility we need from some capacity sources to manage the increasing volatility from intermittent generation sources?

Perhaps certain capacity sources being dispatched more often for energy and/or ESS under the new co-optimised energy and ESS dispatch regime from October 2022, because of their capabilities, will provide enough financial incentive for capacity with the right attributes. Will it?

Differentiating the causes of system stress event by our ability to control them

When examining system stress events that tend to drive the need for capacity, it could be useful to differentiate between the causes of system stress by our ability to manage/control the causes – i.e. are they manageable or not before and during events? We cannot control the weather that is very likely to cause or contribute in part to the majority of system stress events, but we can control other contributors.

For example, assuming all capacity sources are available (the normal objective for summer), a system stress event caused by extreme hot weather demand can only be managed by having sufficient capacity margin for the event (from accurate forecasts) in the first place, or by working with consumers and users to voluntarily and/or with incentives manage demand during the event (using involuntary load-shedding as an unacceptable but necessary last resort).

Alternatively, a system stress event caused by too much plant being scheduled out of service for maintenance (say in November in preparation for summer) and then higher-than-forecast demand occurring, is to some extent manageable/controllable in the first instance by the maintenance scheduling and planned reserve margins together with improved forecasts.

This differentiation of system stress event causes, by whether we can manage them or not, could lead to different measures and designs of some elements of the RCM. If the energy sector works with consumers this can reduce system stress or prevent system stress events.

At present most consumers are not aware of when a system stress event is occurring. With the communication methods now available, it would not be difficult for AEMO to provide near-real-time signals to a large audience of consumers when it would help if consumers increased demand, or reduced demand, as appropriate.

Rather than this being perceived as a 'failure to manage or plan' supply properly, the right messaging could gain acceptance that this is an intentional, low-cost 'insurance' measure to 'keep the lights on' in unusual circumstances rather than consumers having to pay for expensive additional generation capacity just in case it is needed for a system stress event.

Rule change proposal RC 2019_03 – Method for allocating capacity credits to intermittent generators. Decision on whether to continue and complete this rule change or incorporate its determination into the RCM review.

The ECP has not participated in the extensive analysis and determination work carried out on this rule change proposal over the past three years but recognises the effort that has been put into it, and the desire of some MAC members and market participants to complete it as soon as possible to introduce a fairer and more sound basis on which to allocate capacity credits.

The ECP would prefer a choice that delivers the best value outcome for consumers and the WEM in the near and long term, in terms of costs and benefits overall.

There may be a risk that the RCM review determines a different method for allocating capacity credits to intermittent generators than either of the two currently under consideration in RC 2019_03, or what is chosen its final design. This may mean that completing RC 2019_03 before the RCM Review findings, ends up being a waste of time and resources unless sufficient useful learnings come from continuing the rule change work.

The ECP is not able to suggest what is likely to occur or which approach will deliver the best outcome with more certainty, but is wary of the risk described above costing the market (and ultimately consumers) more than necessary.

There are likely to be winners and losers amongst grid-connected intermittent generators whichever method is chosen for allocating capacity credits.

One thing that seems certain is that future grid-connected solar generation is not likely to be generating much output over the annual system peak demand intervals in future unless it includes other firming capacity in its design, like energy storage. This is because the high level of behind-the-

meter rooftop solar PV capacity has caused the annual peak demand intervals to occur around sunset when grid-connected solar generation output will be low.

Even if a grid-connected solar generation facility includes energy storage charged by the solar generation, it is the storage component that could attract capacity credits, not the solar component in this instance of peak demand occurring around sunset, because the storage could be charged from the grid without the solar.

Broader considerations

Greenhouse gas emissions from generating sources

The ECP notes the increasing number of occurrences in the WEM where negative wholesale balancing prices are causing grid-connected renewable energy generators to reduce output during the day when behind-the-meter solar PV output is high. Behind-the-meter renewable energy generation is effectively displacing grid-connected renewable energy generation in these instances because other fossil-fuelled generation remains on.

We understand that there are mostly good reasons for this fossil-fuelled generation to remain on, for security of supply and ESS provision, but it appears there is a miss-match of incentives in this instance - to consumers to install behind the meter PV, and incentives to grid-connected renewable energy generators - with regard to greenhouse gas emissions.

This could be examined in the RCM review. It is a broader issue than the review scope is likely to include, so the DER Roadmap work underway should consider it too.

System stress

The concept of 'system stress' - from a consumer/user perspective - could be unpacked further. As mentioned above, the energy sector can work with consumers/users/communities to prevent/manage system stress events through voluntary demand reduction, and smart use of demand-side resources and DER. The DER Roadmap is addressing the latter through the approach listed in the relevant roadmap actions and the work on these that is underway.

A broader point is that system stress can also coincide with consumer/user/community 'people' stress, be that caused by cyclones, heatwaves, bushfires etc. Developing energy systems and communities that are resilient to these (increasingly frequent) events is something that needs to be part of our thinking.

Government of Western Australia
Energy Policy WA

Agenda Item 8: Market Development Forward Work Program

Market Advisory Committee (**MAC**) Meeting 2021_09_21

At its meeting on 10 August 2021, the MAC considered and agreed:

- a Market Development Forward Work Program, based on the MAC Secretariat's review of the MAC Issues List that was maintained by the Rule Change Panel prior to its abolition on 1 July 2021;
- with the MAC Secretariat's recommendations on the open issues in the MAC Issues List, except for the recommendations on:
    - Issue 39, which the MAC considered had been addressed by the Energy Transformation Strategy (**ETS**) and should be closed; and
    - Issue 22, which the MAC considered had not been addressed and should remain open.
        - Regarding Issue 22, the MAC Secretariat met with AEMO on 30 August 2021 to discuss the issue and the feedback provided by the MAC. Change Energy has also met with AEMO to discuss its concerns and has provided AEMO with a notification under clause 2.10.2 of the WEM Rules suggesting amendments to the WEM Procedure: Prudential Requirements to address Change Energy's concerns. AEMO is required to publish its decision on Change Energy's request by 17 September 2021. This will be discussed further under Agenda Item 9(a).

Since this MAC meeting on 10 August 2021, the MAC Secretariat has identified that Issue 47 from the MAC Issues List has been addressed by the ETS and recommends that this issue can be closed.

An updated Market Development Forward Work Program is provided in Table 1. In addition:

- Table 2 lists the issues to be considered in the review of the Reserve Capacity Mechanism (**RCM**);
- Table 3 lists the issues to be considered in the review of Review of the allocation of market fees and the cost recovery allocation for Essential System Services (Fees Review); and
- Table 4 lists other issues to be addressed via the Market Development Forward Work Program.

Recommendation

The MAC Secretariat recommends that the MAC:

- note the update on Issue 22 and advise whether any further steps need to be taken to resolve this issue; and
- confirm that it agrees with the MAC Secretariat's recommendation to close Issue 47 (see Table 4).

Table 1 – Market Development Forward Work Program	
Review	**Issues, Proposal and Next Steps**
(1) RCM Review	**Issues:** The MAC Secretariat has developed a draft Scope of Works for the RCM Review for consideration by the MAC – see Agenda Item 7. This review will cover most aspects of the RCM, including Issues 1, 3, 4, 14, 30, 36, 56 and 58 from the MAC Issues List (see Table 2). **Next Steps:** The MAC is to consider the draft scope of works in Agenda Item 7.
(2) Market Fees Review	**Issues:** A Review of: • the allocation of Market Fees, including behind the meter (**BTM**) issues and Distributed Energy Resources (**DER**); • cost recovery allocation for Essential System Services; and • Issues 2, 16, 23 and 35 from the MAC Issues List (see Table 3). **Next Steps:** Develop a detailed scope for the review for consideration by the MAC at its meeting on 2 November 2021. Commence the review in 2021/22.
(3) WEM Procedure Change Review	**Issues:** A review of the WEM Procedure Change Process to address issues identified through Energy Policy WA's consultation on Governance Changes. **Next Steps:** Develop a detailed scope for the Review for consideration by MAC at its meeting on 2 November 2021. Commence the review in 2021/22.
(4) Forecast quality	**Issues:** Issue 9 from the MAC Issues List (see Table 4). **Next Steps:** Defer.
(5) Network Access Quantity (**NAQ**) Review	**Issues:** Assessment of the performance of the NAQ regime, including policy related to replacement capacity, and address issues identified during implementation of the ETS. **Next Steps:** Commence after completion of the RCM Review.

Table 1 – Market Development Forward Work Program	
Review	**Issues, Proposal and Next Steps**
(6) Short Terms Energy Market (**STEM**) Review	**Issues:** Review the performance of the STEM to address issues identified during implementation of the ETS. **Proposal:** Defer.

Table 2 – Issues to be Addressed in the RCM Review			
Id	**Submitter/Date**	**Issue**	**Status**
1	Shane Cremin November 2017	**IRCR calculations and capacity allocation** There is a need to look at how IRCR and the annual capacity requirement are calculated (i.e. not just the peak intervals in summer) along with recognising BTM solar plus storage. The incentive should be for retailers (or third-party providers) to reduce their dependence on grid supply during peak intervals, which will also better reflect the requirement for conventional 'reserve capacity' and reduce the cost per kWh to consumers of that conventional 'reserve capacity'.	To be considered in Stage 2 of the RCM Review.
3	Shane Cremin November 2017	Penalties for outages.	To be considered in Stage 2 of the RCM Review.
4	Shane Cremin November 2017	Incentives for maintaining appropriate generation mix.	To be considered in Stage 1 of the RCM Review.
14/36	Bluewaters and ERM Power November 2017	**Capacity Refund Arrangements:** The current capacity refund arrangement is overly punitive as Market Participants face excessive capacity refund exposure. This refund exposure is well more than what is necessary to incentivise the Market Participants to meet their obligations for making capacity available. Practical impacts of such excessive refund exposure include: • compromising the business viability of some capacity providers – the resulting business interruption can compromise reliability and security of the power system in the SWIS; and • excessive insurance premiums and cost for meeting prudential support requirements.	To be considered in Stage 2 of the RCM Review.

Table 2 – Issues to be Addressed in the RCM Review			
Id	**Submitter/Date**	**Issue**	**Status**
		Bluewaters recommended imposing seasonal, monthly and/or daily caps on the capacity refund. Bluewaters considered that reviewing capacity refund arrangements and reducing the excessive refund exposure is likely to promote the Wholesale Market Objectives by minimising: • unnecessary business interruption to capacity providers and in turn minimising disruption to supply availability; which is expected to promote power system reliability and security; and unnecessary excessive insurance premium and prudential support costs, the saving of which can be passed on to consumers.	
30	Synergy November 2017	**Reserve Capacity Mechanism** Synergy would like to propose a review of WEM Rules related to reserve capacity requirements and reserve capacity capability criteria to ensure alignment and consistency in determination of certain criteria. For instance: • assessment of reserve capacity requirement criteria, reserve capacity capability and reserve capacity obligations; • IRCR assessment; • Relevant Demand determination; • determination of NTDL status; • Relevant Level determination; and • assessment of thermal generation capacity. The review will support Wholesale Market Objectives (a) and (d).	To be considered in Stages 1 and 2 of the RCM Review.

Table 2 – Issues to be Addressed in the RCM Review			
Id	**Submitter/Date**	**Issue**	**Status**
56	Perth Energy July 2019	**Issues with Reserve Capacity Testing** • Market Generators that fail a Reserve Capacity Test may prefer to accept a small shortfall in a test (and a corresponding reduction in their Capacity Credits) than to run a second test. • There is a discrepancy between the number of Trading Intervals for self-testing vs. AEMO testing. • There is ambiguity in the timing requirements for a second test when the relevant generator is on an outage. There is ambiguity on the number of Capacity Credits that AEMO is to assign when certain test results occur.	To be considered in Stage 2 of the RCM Review (except that the first bullet which may be out scope, in which case it will be added to Table 4).
58	MAC October 2019	**Outage scheduling for dual-fuel Scheduled Generators** '0 MW' outages are currently used to notify System Management when a dual-fuel Scheduled Generator is unable to operate on one of its nominated fuels. There is no explicit obligation in the WEM Rules or the Power System Operation Procedure: Facility Outages to request/report outages that limit the ability of a Scheduled Generator to operate using one of its fuels. In terms of the provision of sent out energy (the service used to determine Capacity Cost Refunds), it is questionable whether this situation qualifies as an outage at all. More generally, the WEM Rules lack clarity on the nature and extent of a Market Generator's obligations to ensure that its Facility can operate on the fuel used for its certification, what (if anything) should occur if these obligations are not met, and the implications for outage scheduling and Reserve Capacity Testing. • (See section 7.2.2.5 of the Final Rule Change Report for RC_2013_15.)	To be considered in Stage 2 of the RCM Review (or may be out of scope, in which case it will be added to Table 4).

Table 3 – Issues to be Addressed in the Market Fees Review			
Id	**Submitter/Date**	**Issue**	**Status**
2	Shane Cremin November 2017	Allocation of market costs – who bears Market Fees and who pays for grid support services with less grid generation and consumption?	To be considered in the Market Fee Review.
16	Bluewaters November 2017	BTM generation is treated as reduction in electricity demand rather than actual generation. Hence, the BTM generators are not paying their fair share of the network costs, Market Fees and ancillary services charges. Therefore, the non-BTM Market Participants are subsiding the BTM generation in the WEM. Subsidy does not promote efficient economic outcome. Rapid growth of BTM generation will only exacerbate this inefficiency if not promptly addressed. Bluewaters recommends changes to the WEM Rules to require BTM generators to pay their fair share of the network costs, Market Fees and ancillary services charges. This is an example of a regulatory arrangement becoming obsolete due to the emergence of new technologies. Regulatory design needs to keep up with changes in the industry landscape (including technological change) to ensure that the WEM continues to meet its objectives. If this BTM issue is not promptly addressed, there will be distortion in investment signals, which will lead to an inappropriate generation facility mix in the WEM, hence compromising power system security and in turn not promoting the Wholesale Market Objectives.	To be considered in the Market Fee Review.
23	Bluewaters November 2017	Allocation of Market Fees on a 50/50 basis between generators and retailers may be overly simplistic and not consider the impacts on economic efficiency. In particular, the costs associated with an electricity market reform program should be recovered from entities based on the benefit they receive from the reform. This	To be considered in the Market Fee Review.

		is expected to increase the visibility of (and therefore incentivise) prudence and accountability when it comes to deciding the need and scope of the reform. Recommendations: to review the Market Fees structure including the cost recovery mechanism for a reform program. The cost saving from improved economic efficiency can be passed on to the end consumers, hence promoting the Wholesale Market Objectives.	
35	ERM Power November 2017	**BTM generation and apportionment of Market Fees, ancillary services, etc.** The amount of solar PV generation on the system is increasing every year, to the point where solar PV generation is the single biggest unit of generation on the SWIS. This category of generation has a significant impact on the system and we have seen this in terms of the daytime trough that is observed on the SWIS when the sun is shining. The issue is that generators that are on are moving around to meet the needs of this generation facility but this generation facility, which could impact system stability, does not pay its fair share of the costs of maintaining the system in a stable manner. That is, they are not the generators that receive its fair apportionment of Market Fees and pay any ancillary service costs but yet they have absolute freedom to generate into the SWIS when the fuel source is available. There needs to be equity in this equation.	To be considered in the Market Fee Review.

Table 4 – Other Issues			
Id	**Submitter/Date**	**Issue**	**Status**
9	Community Electricity November 2017	Improvement of AEMO forecasts of System Load; real-time and day-ahead.	Consideration of this issue has been deferred.
22	Bluewaters November 2017	Prudential arrangement design issue: clause 2.37.2 of the WEM Rules enables AEMO to review and revise a Market Participant's Credit Limit at any time. It is expected that AEMO will review and increase Credit Limit of a Market Participant if AEMO considers its credit exposure has increased (for example, due to an extended plant outage event). In response to the increase in its credit exposure, clause 2.40.1 of the WEM Rules and section 5.2 of the Prudential Procedure allow the Market Participant to make a voluntary prepayment to reduce its Outstanding Amount to a level below its Trading Limit (87% of the Credit Limit). Under the current WEM Rules and Prudential Procedure, AEMO can increase the Market Participant's Credit Limit (hence increasing its prudential support requirement) despite that a prepayment has already been paid (it is understood that this is AEMO's current practice). The prepayment would have already served as an effective means to reduce the Market Participant's credit exposure to an acceptable level. Increasing the Credit Limit in addition to this prepayment would be an unnecessary duplication of prudential requirement in the WEM. This unnecessary duplication is likely to give rise to higher-than-necessary prudential cost burden in the WEM; which creates economic inefficiency that is ultimately passed on the end consumers.	The MAC Secretariat met with AEMO on 30 August 2021 to discuss issue 22 and the recent feedback on the issue provided by the MAC. Change Energy has also met with AEMO to discuss its concerns and has provided AEMO with a notification under clause 2.10.2 of the WEM Rules suggesting amendments to the WEM Procedure: Prudential Requirements to address Change Energy's concerns. AEMO is required to publish its decision on Change Energy's request by 17 September 2021. This will be discussed further under Agenda Item 9(a).

Table 4 – Other Issues			
Id	**Submitter/Date**	**Issue**	**Status**
		Recommendation: amend the WEM Rules and/or procedures to eliminate the duplication of prudential burden on Market Participants. The resulting saving from eliminating this unnecessary prudential burden can be passed on to end consumers. This promotes economic efficiency and therefore the Wholesale Market Objectives.	
47	AEMO September 2018	**Market Procedure for conducting the Long Term PASA (clause 4.5.14)** The scope of this procedure currently includes describing the process that the ERA must follow in conducting the five-yearly review of the Planning Criterion and demand forecasting process. AEMO considers that its Market Procedure should not cover the ERA's review, and the ERA should be able to independently scope the review. As such, AEMO recommends removing this requirement from the head of power in clause 4.5.14 of the WEM Rules.	**Recommend closing this issue** This issue was addressed by the changes made to clause 4.5.14 in the *Wholesale Electricity Market Amendment (Governance) Rules 2021, Schedule B*, which commenced on 1 July 2021.

MARKET ADVISORY COMMITTEE MEETING, 21 September 2021

FOR NOTING

SUBJECT: UPDATE ON AEMO'S MARKET PROCEDURES

AGENDA ITEM: 9(A)

1. PURPOSE

Provide a status update on the activities of the AEMO Procedure Change Working Group and AEMO Procedure Change Proposals.

2. AEMO PROCEDURE CHANGE WORKING GROUP (APCWG)

	Most recent meetings	**Next meeting**
Date	2 August 2021	TBC
Market Procedures for discussion	Market Procedure: Capacity Credit Allocation Market Procedure: Settlements	Market Procedure: Prudential Arrangement

3. AEMO PROCEDURE CHANGE PROPOSALS

The status of AEMO Procedure Change Proposals is described below, current as at 14 September 2021. Changes since the previous MAC meeting are in red text. A procedure change is removed from this report after its commencement has been reported or a decision has been taken not to proceed with a potential Procedure Change Proposal.

ID	**Summary of changes**	**Status**	**Next steps**	**Date**
AEPC_2021_01 Market Procedure: Reserve Capacity Testing	Consequential changes required in relation Wholesale Electricity Market Amendment (Reserve Capacity Pricing Reforms) Rules 2019.	Procedure Change Report - 17 September	Procedure commencement	1 October

ID	Summary of changes	Status	Next steps	Date
AEPC_2021_02 Market Procedure: Capacity Credit Allocation	Consequential changes required in relation Wholesale Electricity Market Amendment (Reserve Capacity Pricing Reforms) Rules 2019.	Procedure Change Report - 13 September	Procedure commenced	16 September
AEPC_2021_03 Market Procedure: Settlements	Consequential changes required in relation Wholesale Electricity Market Amendment (Reserve Capacity Pricing Reforms) Rules 2019.	Procedure Change Report - 13 September	Procedure commenced	16 September

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Agenda Item 10(a): Overview of Rule Change Proposals (as at 14 September 2021)

Market Advisory Committee (**MAC**) Meeting 2021_09_21

- Changes to the report since the previous MAC meeting are shown in red font.
- The next steps and the timing for the next steps are provided for Rule Change Proposals that are currently being actively progressed by the Coordinator of Energy (**Coordinator**) or the Minister.

Indicative Rule Change Activity Until the Next MAC Meeting

Reference	Title	Events	Indicative Timing
	TBD		

Rule Change Proposals Commenced since the Report presented at the last MAC Meeting

Reference	Submitted	Proponent	Title	Commenced
None				

Rule Change Proposals Awaiting Commencement

Reference	Submitted	Proponent	Title	Commencement
None				

Rule Change Proposals Rejected since Report presented at the last MAC Meeting

Reference	Submitted	Proponent	Title	Rejected
None				

Rule Change Proposals Awaiting Approval by the Minister

Reference	Submitted	Proponent	Title	Approval Due Date
None				

Formally Submitted Rule Change Proposals

Reference	Submitted	Proponent	Title	Urgency	Next Step	Date
Fast Track Rule Change Proposals with Consultation Period Closed						
None						
Fast Track Rule Change Proposals with Consultation Period Open						
None						
Standard Rule Change Proposals with Second Submission Period Closed						
RC_2019_03	17/12/2020	ERA	Method used for the assignment of Certified Reserve Capacity to Intermittent Generators	High	Publication of Final Rule Change Report	31/12/2021
Standard Rule Change Proposals with Second Submission Period Open						
None						

Reference	Submitted	Proponent	Title	Urgency	Next Step	Date
Standard Rule Change Proposals with First Submission Period Closed						
RC_2014_05	02/12/2014	IMO	Reduced Frequency of the Review of the Energy Price Limits and the Maximum Reserve Capacity Price	Medium	Publication of Draft Rule Change Report	31/12/2021
RC_2018_03	01/03/2018	Collgar Wind Farm	Capacity Credit Allocation Methodology for Intermittent Generators	Medium	Publication of Draft Rule Change Report	31/12/2021
RC_2019_01	21/06/2019	Enel X	The Relevant Demand calculation	Medium	Publication of Draft Rule Change Report	31/12/2021
Standard Rule Change Proposals with the First Submission Period Open						

Pre-Rule Change Proposals

Reference	Proponent	Description	Next Step	Date
RC_2020_04	Rule Change Panel	Balancing Facility Loss Factor Adjustment	Consult with the MAC on the priority for development of a Rule Change Proposal	TBD

Rule Changes Made by the Minister and Awaiting Commencement

Gazette	Date	Title	Commencement

2021/96	28/05/2021	Wholesale Electricity Market Amendment (Miscellaneous Amendments No. 1) Rules 2021	• Schedule C will commence immediately after the commencement of the Amending Rules in:
			  ○ the *Wholesale Electricity Market Amendment (Reserve Capacity Pricing Reforms) Rules 2019*, that commence on 01/10/2021
			  ○ Schedule C of the *Wholesale Electricity Market Amendment (Tranche 1 Amendments) Rules 2020*, that commence on 01/10/2021
			• Schedule D will commence immediately after the commencement of the *Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020* specified in Part 4 of the commencement notice published on 28/05/2021 in Gazette 2021/96, that commence on 01/03/2022
			• Schedule E will commence at times specified by the Minister in notices published in the Gazette

20201/17	18/01/2021	Wholesale Electricity Market Amendment (Governance) Rules 2021	• Schedule C will commence immediately after the commencement of the Amending Rules in clauses 50 and 62 of Schedule C of the *Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020*

2020/214	24/12/2020	Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020	• Amending Rules in Schedule C will commence at the times specified by the Minister in notices published in the Gazette:
			  ○ The Amending Rules specified in Part 2 of the commencement notice published on 28/05/2021 in Gazette 2021/96 will commence immediately after commencement of the Amending Rules in the *Wholesale Electricity Market Amendment (Reserve Capacity Pricing Reforms) Rules 2019* that commence on 01/10/2021
			  ○ The Amending Rules specified in Part 3 of the commencement notice published on 28/05/2021 in Gazette 2021/96 will commence on 01/11/2021
			  ○ The Amending Rules specified in Part 4 of the commencement notice published on 28/05/2021 in Gazette 2021/96 will commence on 01/03/2022

Gazette	Date	Title	Commencement
2020/196	24/11/2020	Wholesale Electricity Market Amendment (Tranche 1 Amendments) Rules 2020	• Schedule C will commence on 01/10/2021
2020/24	21/02/2020	Wholesale Electricity Market Amendment (Reserve Capacity Pricing Reforms) Rules 2019	• The second tranche will commence on 01/10/2021

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Agenda Item 11: Approval of Changes to the Terms of Reference for the AEMO Procedure Change Working Group

Market Advisory Committee (**MAC**) Meeting 2021_09_21

The AEMO Procedure Change Working Group (**APCWG**) was established by the MAC under clause 2.3.17(a) of the Wholesale Electricity Market (**WEM**) Rules to assist the MAC in fulfilling its obligation under clause 2.3.1(b) of the WEM Rules to advise the Australian Energy Market Operator (**AEMO**) on Procedure Change Proposals.

The APCWG's scope of work includes consideration, assessment and development of changes to WEM Procedures that the WEM Rules require AEMO to develop.

Under clause 9.2 of the MAC Constitution, the MAC must determine the scope of work and terms of reference for each Working Group. The MAC may approve any amendments to the terms of reference or membership of any Working Group at any time.

At its meeting on 10 August 2021, the MAC reviewed some proposed changes to the Terms of Reference for the APCWG to reflect:

- the commencement of the Amending Rules in Schedule B, Part 2 of the *Wholesale Electricity Market Amendment (Tranche 1 Amendments) Rules 2021* on 1 February 2021, which replaced the defined terms 'Market Rules', 'Market Procedure', 'Power System Operation Procedure' and 'Market Web Site' with 'WEM Rules', 'WEM Procedure', and 'WEM Website'; and
- the commencement of the Amending Rules in Schedule B of the *Wholesale Electricity Market Amendment (Governance) Rules 2021* on 1 July 2021, which made several relevant changes to the WEM governance arrangements.

The MAC did not raise any concerns with the proposed change to the Terms of Reference for the APCWG and is now asked to approve the revised Terms of Reference in Attachment 1 to this paper.

Recommendation

The MAC Secretariat recommends that the MAC approves the revised Terms of Reference for the APCWG, as presented in Attachment 1 to this paper.

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AEMO Procedure Change Working Group Terms of Reference

Version 2: ~~19 July 2017~~21 September 2021

1. Background

The AEMO Procedure Change Working Group (APCWG) has been established, in accordance with clause 2.3.17 of the ~~Market~~WEM Rules and section 9 of the Constitution of the Market Advisory Committee (MAC). The APCWG has been established to assist the MAC in fulfilling its obligation under clause 2.3.1(b) of the ~~Market~~WEM Rules to provide advice to AEMO ~~(including in its capacity as System Management)~~ regarding Procedure Change Proposals.

2. Scope of Work

The APCWG's scope of work includes consideration, assessment and development of changes to ~~Market~~WEM Procedures ~~(including Power System Operation Procedures and the Monitoring and Reporting Protocol)~~ which the WEM~~Market~~ Rules require AEMO to develop.

Either the MAC or AEMO may directly refer an issue to the APCWG. Generally, issues referred to the APCWG will relate to Procedure Change Proposals.

3. Membership

The APCWG has a Chair appointed by AEMO. AEMO may replace the Chair at any time and must promptly advise the MAC via the ~~RCP~~MAC Secretariat.

To accommodate the broad range of subject matter to be covered, the APCWG has no permanent members apart from the Chair. Instead the Minister for Energy, the Economic Regulation Authority, the ~~Rule Change Panel~~Coordinator and each Rule Participant may:

- nominate a representative to attend an APCWG meeting by advising the APCWG Secretariat in advance of that meeting, which may be a standing nomination that applies until the APCWG Secretariat is advised to the contrary;
- with the permission of the APCWG Chair (which will not be unreasonably withheld), send additional representatives to an APCWG meeting; and
- register to receive information relating to the activities of the APCWG, including notification of upcoming meetings, meeting papers and documents distributed out-of-session, by providing an email address for such correspondence to the APCWG Chair.

Other stakeholders may attend APCWG meetings or register to receive information relating to the activities of the APCWG following approval of the APCWG Chair.

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4. Responsibilities of Meeting Attendees

A person attending an APCWG meeting is expected to:

- prepare for the meeting, including by reading any meeting papers distributed before the meeting;
- participate as a general industry representative rather than representing their company's interests; and
- have sufficient expertise to discuss the subject matter to be covered.

5. Administration

The secretariat for the APCWG will be provided by AEMO.

AEMO must maintain contact details for the APCWG on the ~~Market Web Site~~WEM Website.

The APCWG Chair will convene the APCWG upon request from AEMO or the independent Chair of the MAC ~~Chair~~.

AEMO will prepare and distribute all meeting correspondence via email to the APCWG. At least once per year, AEMO will contact MAC members and its WA Electricity Consultative Forum stakeholder group to invite interested stakeholders to subscribe to APCWG notifications.

AEMO will provide the following documentation by email to its APCWG stakeholder list in respect of an APCWG meeting:

- notice of meeting and agenda at least 10 Business Days prior to the meeting;
- relevant meeting papers at least 5 Business Days prior to the meeting;
- draft minutes no more than 5 Business Days following the meeting; and
- final minutes no more than 11 Business Days following the meeting.

Except for draft minutes (which will only be emailed to attendees for comment), meeting documentation will be published on the ~~Market Web Site~~WEM Website as soon as practicable after issuance to the APCWG stakeholder list.

Attendees will be expected to:

- advise the APCWG Secretariat of intended attendance at an APCWG meeting at least 5 Business Days prior to the meeting; and
- provide any feedback or endorsement to the draft minutes no more than 5 Business Days following distribution of the draft minutes.

Meeting minutes are to record meeting attendance, main points of discussion, agreed recommendations and action items.

Where AEMO considers that a meeting is unnecessary or impractical in respect of a particular ~~Market~~WEM Procedure issue or proposal, AEMO may choose to distribute ~~Market~~WEM

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Procedure documentation to the APCWG out of session[1]. In this case, AEMO must provide stakeholders with at least 10 Business Days to provide feedback (by email) on the issue or proposal.

6. Reporting Arrangements

The APCWG must provide a report to the MAC on the activities of the APCWG at each MAC meeting. The APCWG must also report back at other times requested by the MAC on issues referred to the APCWG by the MAC.

The periodic report to MAC must include, at a minimum:

- details of the most recent meeting, including the date of the meeting and a list of the issues or proposals considered;
- the date of the next meeting and the issues or proposals to be considered (if known); and
- to the extent known, the future schedule of meetings and matters to be considered.

7. Contact Details

Market Participants and other stakeholders may contact the APCWG Secretariat at wem.apcwg@aemo.com.au. Documentation and information related to the APCWG will be published on the ~~Market Web Site~~WEM Website.

[1] For example, this option may be preferred where minor changes to a single WEM~~Market~~ Procedure are being proposed,