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

Meeting Agenda

Meeting Title:	Market Advisory Committee (MAC)
Date:	Thursday 8 June 2023
Time:	9:30 AM – 11:30 AM
Location:	Online, via TEAMS, or in person at EPWA.

Item	Item	Responsibility	Type	Duration
1	Welcome and Agenda • Conflicts of interest • Competition Law	Chair	Noting	2 min
2	Meeting Apologies/Attendance	Chair	Noting	2 min
3	Minutes of Meeting 2023_04_20	Chair	Decision	2 min
4	Action Items	Chair	Noting	2 min
5	Market Development Forward Work Program	Chair/Secretariat	Discussion	2 min
6	Update on Working Groups			
	(a) AEMO Procedure Change Working Group	AEMO	Noting	2 min
	(b) Reserve Capacity Mechanism Review Working Group (RCMWG)	RCMRWG Chair	Noting	2 min
	(c) Demand Side Response Working Group (DSRWG)	CARWG Chair	Noting	5 min
7	Rule Changes			
	(a) Overview of Rule Change Proposals	Chair/Secretariat	Noting	2 min
8	Draft Cost Allocation Review Information Paper	CARWG Chair	Discussion	60 min
9	Scope of Works for the WEM Investment Certainty (WIC) Review	Chair	Discussion	20 min
10	Scope of Works for the MAC Review	Chair	Discussion	15 Min
11	General Business	Chair	Discussion	4 Min
	Next meeting: 9:30am Thursday 20 July 2023			

Please note, this meeting will be recorded.

Competition and Consumer Law Obligations

Members of the MAC (**Members**) note their obligations under the *Competition and Consumer Act 2010* (**CCA**).

If a Member has a concern regarding the competition law implications of any issue being discussed at any meeting, please bring the matter to the immediate attention of the Chairperson.

Part IV of the CCA (titled "Restrictive Trade Practices") contains several prohibitions (rules) targeting anti-competitive conduct. These include:

(a) **cartel conduct**: cartel conduct is an arrangement or understanding between competitors to fix prices; restrict the supply or acquisition of goods or services by parties to the arrangement; allocate customers or territories; and or rig bids.

(b) **concerted practices**: a concerted practice can be conceived of as involving cooperation between competitors which has the purpose, effect or likely effect of substantially lessening competition, in particular, sharing Competitively Sensitive Information with competitors such as future pricing intentions and this end:

- a concerted practice, according to the ACCC, involves a lower threshold between parties than a contract arrangement or understanding; and accordingly; and
- a forum like the MAC is capable being a place where such cooperation could occur.

(c) **anti-competitive contracts, arrangements understandings**: any contract, arrangement or understanding which has the purpose, effect or likely effect of substantially lessening competition.

(d) **anti-competitive conduct (market power)**: any conduct by a company with market power which has the purpose, effect or likely effect of substantially lessening competition.

(e) **collective boycotts**: where a group of competitors agree not to acquire goods or services from, or not to supply goods or services to, a business with whom the group is negotiating, unless the business accepts the terms and conditions offered by the group.

A contravention of the CCA could result in a significant fine (up to $500,000 for individuals and more than $10 million for companies). Cartel conduct may also result in criminal sanctions, including gaol terms for individuals.

Sensitive Information means and includes:

(a) commercially sensitive information belonging to a Member's organisation or business (in this document such bodies are referred to as an Industry Stakeholder); and

(b) information which, if disclosed, would breach an Industry Stakeholder's obligations of confidence to third parties, be against laws or regulations (including competition laws), would waive legal professional privilege, or cause unreasonable prejudice to the Coordinator of Energy or the State of Western Australia).

Guiding Principle – what not to discuss

In any circumstance in which Industry Stakeholders are or are likely to be in competition with one another a Member must not discuss or exchange with any of the other Members information that is not otherwise in the public domain about commercially sensitive matters, including without limitation the following:

(a) the rates or prices (including any discounts or rebates) for the goods produced or the services produced by the Industry Stakeholders that are paid by or offered to third parties;

(b) the confidential details regarding a customer or supplier of an Industry Stakeholder;

(c) any strategies employed by an Industry Stakeholder to further any business that is or is likely to be in competition with a business of another Industry Stakeholder, (including, without limitation, any strategy related to an Industry Stakeholder's approach to bilateral contracting or bidding in the energy or ancillary/essential system services markets);

(d) the prices paid or offered to be paid (including any aspects of a transaction) by an Industry Stakeholder to acquire goods or services from third parties; and

(e) the confidential particulars of a third party supplier of goods or services to an Industry Stakeholder, including any circumstances in which an Industry Stakeholder has refused to or would refuse to acquire goods or services from a third party supplier or class of third party supplier.

Compliance Procedures for Meetings

If any of the matters listed above is raised for discussion, or information is sought to be exchanged in relation to the matter, the relevant Member must object to the matter being discussed. If, despite the objection, discussion of the relevant matter continues, then the relevant Member should advise the Chairperson and cease participation in the meeting/discussion and the relevant events must be recorded in the minutes for the meeting, including the time at which the relevant Member ceased to participate.

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

Minutes

Meeting Title:	Market Advisory Committee (MAC)
Date:	20 April 2023
Time:	9:30am –11:13am
Location:	Microsoft Teams

Attendees	Class	Comment
Sally McMahon	Chair	
Dean Sharafi	Australian Energy Market Operator (AEMO)	
Aditi Varma	Network Operator	Proxy for Zahra Jabiri
Genevieve Teo	Synergy	
Noel Schubert	Small-Use Consumer Representative	
Christopher Alexander	Small-Use Consumer Representative	
Geoff Gaston	Market Customer	
Timothy Edwards	Market Generator	Left at 11:02 am
Oscar Carlberg	Market Generator	Proxy for Jacinda Papps
Mr Stephen	Market Generator	
Tessa Liddelow	Market Generator	Proxy for Paul Arias
Peter Huxtable	Contestable Customer	
Patrick Peake	~~Perth Energy~~ Market Customer	
Emma Forrest	Observer appointed by the Economic Regulation Authority (ERA)	Proxy for Rajat Sarawat
Dora Guzeleva	Observer appointed by the Minister	Proxy for Noel Ryan

Also in Attendance	From	Comment
Laura Koziol	MAC Secretariat	Observer
Shelley Worthington	MAC Secretariat	Observer
Tim Robinson	Robinson Bowmaker Paul (RBP)	Presenter
Grant Draper	Marsden Jacob Associates (MJA)	Observer

Also in Attendance	From	Comment
		Left at 9.50 am

Apologies	From	Comment
Martin Maticka	AEMO	
Zahra Jabiri	Network Operator	
Jacinda Papps	Market Generator	
Paul Arias	Market Generator	
Noel Ryan	Observer appointed by the Minister	
Rajat Sarawat	Observer appointed by the ERA	

Item	Subject	Action
1	**Welcome** The Chair opened the meeting at 9:30am with an Acknowledgement of Country. The Chair noted that MAC members are to participate in the interests of the participant class they are appointed to represent.	
2	**Meeting Apologies/Attendance** The Chair noted the attendance and apologies as listed above.	
3	**Minutes of Meeting 2023_03_16** The MAC accepted the minutes of the 16 March 2023 meeting as a true and accurate record of the meeting. **Action: The MAC Secretariat to publish the minutes of the 16 March 2023 MAC meeting on the Coordinator's Website as final.**	**MAC Secretariat**
4	**Action Items** The paper was taken as read. The MAC noted that there were three closed action items and no open action items.	
5	**Market Development Forward Work Program** The paper was taken as read.	
6	**Update on Working Groups**	
	(a) AEMO Procedure Change Working Group (APCWG) The paper was taken as read. Mr Sharafi noted that the APCWG will meet on 6 June 2023 to discuss the Supplementary Reserve Capacity WEM Procedure and expect to publish the final procedure by 30 June 2023.	
	(b) RCM Review Working Group (RCMRWG) Update The MAC noted the paper and the minutes of the 2 March 2023 RCMRWG meeting.	

Item	Subject	Action

Ms Guzeleva provided an update on the next steps for the RCMRWG:

- A paper combining the information paper for stage 1 of the review and the consultation paper for stage 2 of the review (the RCM Review Paper) is tabled for MAC discussion under Agenda Item 8.
  - The target is to publish the RCM Review Paper on 1 May 2023.
  - Consultation on the RCM Review Paper will be open for four weeks.
- Drafting of the Amending Rules for the stage 1 changes will commence while the RCM Review Paper is out for consultation, and for the stage 2 changes as soon as possible after consultation closes on the RCM Review Paper.
  - Consultation on the Amending Rules will be done in two stages, focusing first on the priority issues.

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

The Chair noted that the paper for Agenda Item 6(c) was missing from the MAC papers distributed on 18 April 2022 but was in the papers distributed on 13 April 2022 and included with the meeting invite on 20 April 2022. Ms Guzeleva indicated that EPWA will ensure that the complete set of papers are published on the MAC webpage.

The MAC noted the paper and the minutes of the 21 March 2023 CARWG meeting.

Ms Guzeleva noted that some issues arose at the CARWG meeting on 21 March 2023 regarding the proposed methodologies for allocating Frequency Regulation and Contingency Reserve Lower costs, primarily relating to the need for cost-benefit analysis.

- EPWA and AEMO subsequently met on 6 April 2023 to discuss these issues.
- Refined proposals will be presented at a CARWG meeting on 2 May 2023 and then a draft Information Paper will be drafted and presented to the MAC for discussion at its meeting on 8 June 2023.

7 Rule Changes

(a) Overview of Rule Change Proposals

The paper was taken as read. There were no updates.

Item	Subject	Action
8	RCM Review Information and Consultation Paper The Chair introduced this agenda item as a review of the RCM Review Paper and indicated that the MAC is asked to: • note the draft RCM Review Paper; • note Review Outcomes from stage 1 of the RCM Review; and • provide any further guidance to the Coordinator on the draft proposals from stage 2 of the RCM Review. Ms Guzeleva indicated that the RCM Review Paper is in two parts: • Part 1 is an information paper that indicates the outcomes from stage 1 of the RCM Review, which will not be open for consultation; • Part 2 is a consultation paper for stage 2 of the RCM Review. <u>Consultation on Part 1 of the RCM Review Paper</u>: Ms Guzeleva provided an overview of the Summary Table of Review Outcomes from Part 1 of the Draft Information and Consultation Paper (Attachment 1). *Review Outcome (Proposal 2) (no specific product to manage minimum demand):* With regard to this Review Outcome, Ms Guzeleva noted that the option to introduce a specific product to manage minimum demand will be assessed in the Demand Side Response (DSR) Review noting that AEMO has called a Non-Co-optimised Essential Systems Services (NCESS) tender for a minimum demand service. *Review Outcome (Proposal 3) (introduce a new flexible capacity product):* Ms Guzeleva noted that this Review Outcome is relatively urgent because the ramping requirements of the SWIS are rapidly approaching unprecedented levels. Drafting of Amending Rules will commence in parallel with the stage 2 consultation. • Mr Sharafi indicated that he is very supportive of the Review Outcome. Mr Sharafi noted that rule drafting and implementation will be challenging but should be a priority for AEMO over other issues, such as 5-minute settlement (5MS). • Mr Carlberg agreed with Mr Sharafi. Ms Guzeleva noted that there had not been recent discussions with industry regarding 5MS and that a WEM Reform Implementation Group (WRIG) meeting was scheduled in May 2023 to gather views on the implementation of 5MS.	

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Review Outcome (Proposal 4) (volatility in operational load and intermittent generation can be managed through ESS, so the Planning Criterion will not refer to volatility in load and intermittent generation output):

Ms Guzeleva indicated that facilities that are certified for providing the flexible capacity product should be capable of providing some, if not all, of the Frequency Co-Optimised System Service (FCESS). Therefore, there is an expectation that facilities certified for the flexible capacity product will be accredited for providing FCESS. Ms Guzeleva noted that, while this has been discussed previously, it had not been confirmed as an outcome until now.

In response to a question from Mr Carlberg, Ms Guzeleva clarified that facilities that are certified for the flexibility product will be required to be accredited for the FCESS that they are capable of providing.

- Ms Teo asked why this was now the outcome, considering that facilities offering the flexibility services and ESS would also need adequate price compensation and would be taking on more risk.

Ms Guzeleva noted that it was explained in the Stage 1 RCM Review Consultation Paper that facilities certified for the flexible capacity product would also be accredited for the provision of ESS that they can provide, and would be separately compensated for both services. Ms Guzeleva indicated that she was uncertain what Ms Teo's concern was and offered to discuss this offline with the Synergy representative on the RCMRWG (Mrs Bedola).

- Mr Carlberg added that, while he understood the intent of requiring flexible capacity product facilities to be accredited for ESS, there were some risks. Mr Carlberg indicated that he hoped that the Offer Construction Guideline and the outage procedure would make clear exactly what conditions come with accrediting for ESS. For example, to what extent facilities providing ESS would be required to log outages when they no longer want to provide ESS and to what extent this could be considered withholding capacity to exploit market power.

Ms Guzeleva noted that it was expected that facilities which provide the flexible capacity product would be capable of, and should be willing to provide ESS, and that she would like to hear what the impediments to this may be.

The Chair sought to clarify with Ms Teo whether her concern needed to be addressed before the RCM Review Paper was published or if it could be clarified in the Amending Rules.

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- Ms Teo indicated that she would discuss offline with Mrs Bedola and directly respond to EPWA.

In response to a question from Mr Stephen, Ms Guzeleva noted that AEMO would determine whether a facility is capable of providing the flexible capacity product, in line with its process for the peaking capacity product.

Review Outcome (Proposal 7) (leave the Excepted Unserved Energy (EUE) unchanged in the Planning Criterion):

Ms Guzeleva noted that EPWA has further considered the target EUE and plans to change the target EUE to 0.0002%, as indicated in section 5.4 of the RCM Review Paper.

Ms Guzeleva noted that, while it was previously considered unnecessary to change the target EUE percentage, it had now been confirmed in the NEM that the EUE percentage will be kept at a much lower percentage (0.0006%) to what is currently in the WEM (0.002%).

- Mr Alexander noted that there were nearly 40 Review Outcomes / Proposals in the RCM Review Paper and, while they address serious system security risks, they also have implications on affordability. Mr Alexander noted that it is important for the MAC not to lose sight of the impact on affordability for consumers when making decisions to address system security risks. Mr Alexander also highlighted the importance of the forthcoming DSR review and ensuring that as much efficiency is incentivised as possible.

Ms Guzeleva noted that, while the focus of the RCM Review was on reliability, she agreed with Mr Alexander that it should not lose sight of the cost impacts on consumers.

The Chair asked Mr Alexander if he considered that this needs to be highlighted in the RCM Review Paper.

- Mr Alexander noted that the RCM Review has proposed a very long list of discrete changes and that the MAC needs to consider the impact of each change on reliability and affordability. Mr Alexander suggested that the RCM Review Paper should include a section that explicitly recognises the affordability dimension.

Ms Guzeleva agreed and indicated that it also needs to be recognised there has been a shift in the risk appetite for electricity outages and that reliability is important to consumers (reduced reliability also comes at a cost to them).

Review Outcome (Proposal 8) (the Planning Criterion will include a third limb requiring AEMO to procure a flexible capacity):

Ms Guzeleva noted that:

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- Mr Schubert had commented to EPWA that the use of 'cold start' and 'unsynchronised' was inconsistent in the paper and that EPWA would review this; and
- Mr Carlberg had sought to clarify whether the parameters for the flexibility product would still be consulted on in the consultation paper.

Ms Guzeleva noted that:

- the parameters had been consulted on and would be consulted again as part of the consultation on the Amending Rules; and
- percentages would not be hard coded in the rules and AEMO will determine the values annually in accordance with the relevant rules and procedures.

Review Outcome (Proposal 9) (the ERA will remain responsible for setting the Benchmark Reserve Capacity Price (BRCP) and guidance will be put in the WEM Rules):

- Mr Peake noted that he is concerned that the Reserve Capacity Price is linked to the amount of excess capacity. This discourages investors from providing capacity and this is a real danger to security of supply. He also noted that investors are at the mercy of the Synergy/Government investment decisions. Mr Peake suggested that there should be a dead-band for the price (+/- 5%) and offered to develop draft Amending Rules.

Ms Guzeleva agreed that this is a valid concern but that it is not within the Scope of Work for the RCM Review. However, consideration of this issue is on EPWA's agenda.

Review Outcome (Proposal 11) (use of gross vs net cost of new entry (CONE) to set the BRCP):

- Mr Carlberg considered that the gross vs net CONE decision is more of a policy decision and should not be determined in a procedure.

Ms Guzeleva pointed out that Part 2 of the paper which is for consultation proposes that use of gross vs net CONE and the choice of the reference technology are to be determined by the Coordinator, not the ERA.

Review Outcome (Proposal 13) (Capability Classes):

- Mr Peake noted that, with AEMO's interpretation of the 14-hour fuel requirement, participants need 14 hours of fuel and fuel transport for each day. Mr Peake argued that this is very expensive and is beyond what a peaking plant can generate for while staying under the emissions thresholds. This leads to a need for diesel backup and large costs for customers. Mr Peake considered that this needs to be revisited.

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Ms Guzeleva responded that the 14-hour fuel requirement has been widely discussed, but there is significant reliability risk in changing the requirement.

- Mr Peake noted that the plants that are having fuel problems are those with 3 months' coal stockpiles, not the gas or diesel plants.

Ms Guzeleva noted that:

- there will likely be a duration gap by 2030 that will start smaller but will likely get to 14 hours, so changing the rules now would be short-sighted;
- Capability Class 2 will be introduced and that facilities who do not consider it to be efficient to comply with the 14-hour fuel requirement can apply for that class and get their capacity pro-rated;
- the RCM is about maintaining reliability and AEMO has been convinced year-on-year that the 14-hour fuel requirement is necessary;
- the duration gap is likely to start later in the day, EPWA will consider whether the procedures should be changed to shift the 14-hour fuel requirement to a different time; and
- this was not a new requirement and it would be an unwise policy decision to remove it at present.

The Chair asked whether the paper highlights the risks of removing the 14-hour fuel requirement versus the cost of keeping it.

Ms Guzeleva noted that AEMO had just reviewed and reinforced its relevant WEM Procedure in December 2022, which was brought to the 11 November 2022 MAC meeting (AEPC_2022_01).

- Mr Carlberg supported Mr Peake's comments and asked whether the fuel requirement could be linked to the length of the duration gap. Mr Carlberg considered that reliability is not addressed by the 14-hour fuel requirement because the requirement had been met during the certification process, but the fuel contracts had not during the recent issues.

Ms Guzeleva noted that AEMO had subsequently changed its procedure to strengthen the fuel requirement.

Ms Guzeleva pointed out that the Market Power Mitigation rules have been changed to require the ERA to allow pass through of costs to meet the 14-hour fuel requirement.

- Ms Teo noted that participants had not yet seen the ERA's revised Offer Construction Guideline, and while it is reflected in the WEM Rules, the ERA could still take an economic approach.

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Ms Guzeleva noted that the WEM Rules create an obligation for the ERA to permit the pass through of actual long-term take-or-pay fuel contract costs and that rules prevail over any guidance.

In response to a comment from Mr Stephen, Ms Guzeleva noted that the 14-hour fuel requirement does not mean that the facility actually runs for 14 hours.

- Mr Schubert indicated that the ability to include take or pay contract costs in offer construction concerns him because consumers should not have to pay for inefficient contracts.

Ms Guzeleva noted Mr Schubert's concern but advised that the Minister has already made this determination and the rules are in place.

The Chair asked MAC members to provide EPWA with any suggested wording changes to the RCM Review Paper by the end of the day regarding the 14-hour fuel requirement, if they feel that the wording does not properly reflect their concerns.

- Ms Teo also sought further information on how Certified Reserve Capacity and the Reserve Capacity Obligation Quantities would work for hybrid facilities.

Ms Guzeleva indicated that treatment of hybrid facilities is a very important and complex issue, so it is a separate body of work.

Review Outcome (Proposal 16) (treatment of expert reports):

In response to a question from Mr Alexander, Ms Guzeleva noted that there was a material difference between performance of intermittent generators and the numbers provided in expert reports, and that inflated numbers impact on reliability.

Part 2 of the RCM Review Paper:

The Chair noted that Market Participants will have the opportunity to provide formal responses to the proposals in Part 2 of the RCM Review Paper following publication of the paper.

Mr Robinson drew the MAC's attention to four of the proposals in Part 2 of the RCM Review Paper that are different from what the MAC has seen before.

Proposal D:

Mr Robinson indicated that Proposal D is about treatment of new meters in determining the Individual Reserve Capacity Requirement (IRCR) for the peak capacity product. Mr Robinson indicated that:

- the current IRCR methodology uses the demand of the new load during the four peak intervals in month n-3 and that these intervals are unlikely to reflect actual system stress; and

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- the previous proposal to address this was to pick either the maximum historic load or the adjusted maximum allowed consumption; but
- this approach could significantly overestimate load and provide loads with the wrong incentives; so
- the proposal is now to set representative load for new meters based on the median demand in the four peak intervals of any prior month.

MAC members had no comment on this Proposal D.

Proposal S:

Mr Robinson indicated that:

- capacity refunds are currently paid to capacity providers; but
- it is proposed that capacity refunds should instead be refunded to consuming participants.

In response to a question from Mr Gaston, Mr Robinson confirmed that the proposal is for all capacity refunds to be paid to consuming participants, not just refunds from DSPs.

- Mr Alexander, Mr Gaston and Mr Schubert supported Proposal S. Mr Schubert argued that consumers should not have to pay for capacity twice – once to non-performing generators and again for the relevant replacement capacity.
- Mr Stephen indicated that refunds were initially paid to consuming participants and that it was subsequently decided to change this so that refunds are paid to capacity providers, and asked why a previous decision was proposed to be revised.

Ms Guzeleva indicated that the SWIS has changed substantially since 2016 when the allocation of rebates was last changed. There was substantial overcapacity in 2016, but now Supplementary Reserve Capacity (SRC) and Non-Co-Optimised Essential Services (NCESS) are being procured.

Ms Guzeleva noted that this issue was raised in two RCMRWG meetings and two MAC meetings, and the proposal is now up for consultation, so Market Participants are welcome to provide arguments and evidence opposing this change.

- Ms Liddelow did not support Proposal S and indicated that Shell would make a submission on this proposal.
- Mr Carlberg suggested that Proposal S has not been considered in detail and that Alinta would also make a submission on this proposal.

Proposal T:

Mr Robinson indicated that Proposal T is to change the Expected Unserved Energy (EUE) target from 0.002% to 0.0002%.

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Mr Robison indicated that the consultation paper from stage 1 of the RCM Review indicated that the EUE target should not be changed because there is too much uncertainty in how the market will develop. However, this has been reconsidered because:

- it has become clear that the risk appetite in the market has changed, as indicated by the requirement for up to 830 MW NCESS for 2024/25;
- analysis has been done indicating that:
    - a 0.002% EUE would remain dominated by the first limb of the Planning Criterion; and
    - a 0.0002% EUE would bring the two limbs of the Planning Criterion closer together.
- Mr Sharafi supported Proposal T because it is much more aligned with modern society's expectations for reliability.
- Mr Carlberg asked how this proposal will impact the Relevant Level Method (RLM) – would more or less demand need to be added in the RLM process to meet the proposed new EUE target.

Mr Robinson indicated that there is some analysis in the paper indicating that:

- the load would need to be increased by less to reach the lower EUE;
- the fleet Effective Load Carrying Capability (ELCC) is stable across the range of EUEs that were analysed; and
- the fleet ELCC becomes more volatile at significantly lower EUEs because it will be driven by only one interval.

- Mr Alexander referred to his previous comments that the RCM Review needs to make sure that the costs for these sorts of changes do not result in too much cost for consumers.
- Mr Schubert noted that this proposed EUE is 10 times tighter than the current EUE and is one third of what applies in the National Energy Market, and supported Mr Alexander's comments that the RCM Review needs to make sure that it is not causing significant increased costs for consumers.

Mr Robinson pointed out that the analysis indicates that this change will just bring the EUE target to the same level as the other limb of the Planning Criterion (a 10% POE target plus reserve margin plus NCESS requirements) and will not bind until the mid-2040s.

Proposal U:

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Mr Robinson indicated that Proposal U is consistent with the previous proposals regarding the determination of the BRCP, except that:

- the Coordinator will review:
  - the appropriate reference technology for each capacity product;
  - the use of gross or net CONE; and
- the ERA will set the other parameters of the BRCP.

- Mr Schubert supported this proposal but indicated that some checks and balances may be needed because EPWA is an arm of Government, and Government does not always consider cost to consumers when making its decisions.
- In response to a question from the Chair, Mr Schubert indicated that this is a concern about appropriate governance and consultation.

Ms Guzeleva indicated that Proposal U will be enshrined in the WEM Rules and that the usual consultation requirements will apply to the Coordinator.

Mr Robinson indicated that previous comments on the question of gross vs net CONE stressed the need for visibility and consultation, with sufficient lead time, and that this will be taken on board.

The Chair summarised the discussion as follows, noting the discussion will be shared as guidance to the Coordinator:

- most of the proposals in Part 2 of the draft RCM Review Paper have been discussed by the MAC;
- the MAC has split views on Proposal S – some members raised questions about the merits of changing the allocation of capacity refunds;
- some MAC members raised concerns about potential costs from a tighter EUE target under Proposal T, although it was noted that the new target would not bind for several years; and
- some MAC members commented on Proposal U – that there is a need to ensure appropriate governance of the Coordinator's decisions on the reference technology and the use of gross vs net CONE in setting the BRCP.

- Mr Carlberg noted that the consultation paper has a large number of proposals and asked about prioritisation – can implementation be staggered, with high priority issues first, such as the flexibility product, and deferring lower priority issues, such as the DSP related changes.

Ms Guzeleva indicated that:

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	• rule drafting for the stage 1 Review Outcomes would be done in parallel with consultation on stage 2; • some items from stage 2, such as the IRCR changes, will need to be implemented at the same time as the stage 1 items; • the intent is to consult on the Amending Rules in two stages, with the higher priority items first; and • while the DSP changes may not be priority for participants that are predominantly generators, these changes are a priority for DSP participants and for the WEM. Ms Guzeleva pointed out that the RCM reforms are primarily about ensuring reliability for consumers and are not a vehicle to provide additional revenues to generators. • Mr Peake noted that about 1,300 MW of base load capacity is about to be retired so, while there is a need to make sure that consumers are not over-charged, there is also a need to ensure that generators can earn adequate return or the required reliability will not be achieved.	
	Action: MAC members are to provide EPWA with suggested wording changes regarding the 14-hour fuel requirement if they feel that the wording in the consultation paper does not properly reflect their concerns by the end of the day.	**MAC Members (20/04/2023)**
9	**SRC Review** The paper was taken a read. Ms Guzeleva indicated that: • it is important to complete the SRC Review quickly because AEMO has indicated that it plans to commence another SRC process; • the draft Amending Rules from stage 1 of the SRC review are with the Minister for approval and their making and commencement will be published in the Gazette shortly; and • stage 2 of the SRC review has commenced. Ms Guzeleva thanked Market Participants for their support in stage 1. • Mr Sharafi indicated that AEMO is commencing a WEM Procedure change related to provision of information and responding to requests for assessment in response to the SRC Stage 1 Amending Rules, and that AEMO will engage directly with Western Power on this. • Ms Varma confirmed that Western Power will engage in this process. • Mr Sharafi indicated that AEMO intends to consult on the Procedure Change Proposal with the aim to publish an	

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	amended WEM Procedure by end of June 2023, so that it can commence on 1 July 2023.	
10	**General Business** No general business was discussed. The next MAC meeting is scheduled for 8 June 2023.	

The meeting closed at 11:13am.

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

Agenda Item 4: MAC Action Items

Market Advisory Committee (**MAC**) Meeting 2023_06_08

Shaded	Shaded action items are actions that have been completed since the last MAC meeting. Updates from last MAC meeting provided for information in RED.
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
7/2023	MAC Secretariat to publish the minutes of the 16 March 2023 MAC meeting on the Coordinator's Website as final.	MAC Secretariat	2023_04_20	**Closed** The minutes were published on the Coordinator's Website on 20 April 2023.
8/2023	MAC members to provide EPWA with suggested wording changes regarding the 14-hour fuel requirement if they feel that the wording in the consultation paper does not properly reflect their concerns by the end of the day	MAC Members	2023_04_20	**Closed** EPWA received suggestions from one MAC member that were incorporated in the Paper published on 3 May 2023.

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

Agenda Item 5: Market Development Forward Work Program

Market Advisory Committee (**MAC**) Meeting 2023_06_08

1. Purpose

- To provide an update on the Market Development Forward Work Program.
- Changes to the Market Development Forward Work Program provided at the previous MAC meeting are shown in red font in the Tables below.

2. Recommendation

- The MAC Secretariat recommends that the MAC notes the updates to the Market Development Forward Work Program provided in Tables 1- 4, including that:
    - the Chair of the Reserve Capacity Mechanism Review Working Group (**RCMRWG**) is to update the MAC on the progress of the Reserve Capacity Mechanism (**RCM**) Review– see Agenda Item 6(b);
    - the Chair of the Cost Allocation Review Working Group (**CARRWG**) is to update the MAC on the progress of the Cost Allocation Review (**CAR**) Review – see Agenda Item 8; and
    - the Chair of the Demand Side Response Review Working Group (**DSRRWG**) is to update the MAC on the progress of the Demand Side Response (**DSR**) Review – see Agenda Item 6(c); and

3. Process

Stakeholders may raise issues for consideration by the MAC at any time by sending an email to the MAC Secretariat at energymarkets@dmirs.wa.gov.au.

Stakeholders should submit issues for consideration by the MAC two weeks before a MAC meeting so that the MAC Secretariat can include the issue in the papers for the MAC meeting, which are circulated one week before the meeting.

Table 1 – Market Development Forward Work Program		
Review	**Issues**	**Status and Next Steps**
RCM Review	A review of the RCM, including a review of the Planning Criterion.	• The MAC has established the RCM Review Working Group (**RCMRWG**). Information on the Working Group is available at https://www.wa.gov.au/government/document-collections/reserve-capacity-mechanism-review-working-group, including: o the Terms of RCMRWG, as approved by the MAC; o the list of RCMRWG members; o meeting papers and minutes from the RCMRWG meeting on 20 January 2022, 17 February 2022, 17 March 2022, 5 May 2022, 2 June 2022, 16 June 2022, 14 July 2022, 2 July 2022, 13 October 2022, 24 November 2022; 15 December 2022, 1 February 2023, 16 February 2023, 2 March 2023 and 22 March 2023 • The following papers have been released and are available on the RCM Review webpage at https://www.wa.gov.au/government/document-collections/reserve-capacity-mechanism-review: o the Scope of Works for the review, as approved by the Coordinator; o the Stage 1 Consultation Paper; o the Paper on the Review of International Capacity Mechanisms; o submissions on the Stage 1 Consultation Paper; and o The RCM Review Information Paper (Stage 1) and Consultation Paper (Stage 2).

Table 1 – Market Development Forward Work Program		
Review	**Issues**	**Status and Next Steps**
Cost Allocation Review	A review of: • the allocation of Market Fees, including behind the meter (**BTM**) and Distributed Energy Resources (**DER**) issues; • cost allocation for Essential System Services; and • Issues 2, 16, 23 and 35 from the MAC Issues List (see Table 3).	• The MAC has established the Cost Allocation Review Working Group (**CARWG**). Information on the CARWG is available at https://www.wa.gov.au/government/document-collections/cost-allocation-review-working-group, including: o the Scope of Work for the review, as approved by the Coordinator; o the Terms of Reference for the CARWG, as approved by the MAC; o the list of CARWG members; o the Consultation Paper; o the International Review; o submissions on the Consultation Paper; o meeting papers and minutes from the CARWG meetings on 9 May 2022, 7 June 2022, 30 August 2022, 27 September 2022, 25 October 2022, 29 November 2022, and 21 March 2023; o meeting papers from the CARWG meeting on 2 May 2023; and • The draft Cost Allocation Review Information Paper is tabled for review by the MAC – see Agenda Item 8.
Procedure Change Process Review	A review of the Procedure Change Process to address issues identified through Energy Policy WA's consultation on governance changes.	• The MAC discussed a draft Scope of Work for this review at its meeting on 11 October 2022. MAC members provided comments on the draft Scope of Works at that meeting, and were asked to provide further comments by email. EPWA did not receive any further comments. • EPWA will update the Scope of Works to reflect the MAC discussions and, following the Coordinator approval of the Scope, will provide the final scope and a timeline for the review to the MAC in early 2023.

Table 1 – Market Development Forward Work Program		
Review	**Issues**	**Status and Next Steps**
Forecast quality	Review of Issue 9 from the MAC Issues List (see Table 4).	• This review has been deferred.
Network Access Quantity (**NAQ**) Review	Assess the performance of the NAQ regime, including policy related to replacement capacity, and address issues identified during implementation of the Energy Transformation Strategy (ETS).	• This review will be commenced after completion of the RCM Review.
Short Term Energy Market (**STEM**) Review	Review the performance of the STEM to address issues identified during implementation of the ETS.	• This review has been deferred.
Review of the Participation of Demand Side in the Wholesale Electricity Market (**WEM**)	The scope of this review is to: • identify the different ways that Loads/Demand Side Response can participate across the different WEM components; • identify and remove any disincentives or barriers for Loads/Demand Side Response participating across the different WEM components; and • identify any potential for over- or under-compensation of Loads/Demand Side Response (including as part of 'hybrid' facilities") as a result of their participation in the various market mechanisms.	• The MAC endorsed a Scope of Work for this review at its meeting on 16 March 2023. • The MAC has established the Demand Side Response Review Working Group (DSRRWG). Information on the DSRRWG is available at Demand Side Response Review Working Group (www.wa.gov.au), including: o the Scope of Work for the review, as approved by the Coordinator; o the Terms of Reference for the DSRRWG, as approved by the MAC; and o meeting papers from the DSRRWG meeting on 10 May 2023. • Following a competitive process, the Coordinator has appointed The Lantau Group to assist with the DSR Review.

Table 1 – Market Development Forward Work Program		
Review	**Issues**	**Status and Next Steps**
WEM Investment Certainty (**WIC**) Review	The WIC Review will consider, design and implement the following five reforms that have been announced by the Minister for Energy, which are aimed at providing further investment certainty to assist the decarbonisation of the WEM: (1) changing the Reserve Capacity Price (RCP) curve so it sends sharper signals for investment when demand for new capacity is stronger; (2) a 10-year RCP guarantee for new technologies, such as long-duration storage; (3) a wholesale energy price guarantee for renewable generators, to top up their energy revenues as WEM prices start to decline, in return for them firming up their capacity; (4) emission thresholds for existing and new high emission technologies in the WEM; and (5) a 10-year exemption from the emissions thresholds for existing flexible gas plants that qualify to provide the new flexibility service.	• EPWA has developed a Scope of Works for the WIC Review for consideration by the MAC – see Agenda Item 9. • MAC members are being asked to support the commencement of the WIC Review and provide comments on the proposed Scope of Works for the review.

Table 1 – Market Development Forward Work Program		
Review	**Issues**	**Status and Next Steps**
Review of the Market Advisory Committee (**MAC**)	The scope of this review is to ensure that the purpose, representation, process and operations of the MAC are fit for purpose, and in particular, that it operates efficiently and provides balanced, timely and useful advice to the Coordinator.	• EPWA has developed a Scope of Work for the MAC Review for consideration by the MAC – see Agenda Item 10. • MAC members are being asked to support the commencement of the MAC Review and provide comments on the Scope of Work.

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 the RCM Review.
3	Shane Cremin November 2017	Penalties for outages.	To be considered in the RCM Review.
4	Shane Cremin November 2017	Incentives for maintaining appropriate generation mix.	To be considered in 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 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 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 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 the RCM Review (except that the first bullet 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 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 Cost Allocation 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 Cost Allocation 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 Cost Allocation 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	To be considered in the Cost Allocation Review.

Table 3 – Issues to be Addressed in the Cost Allocation Review			
Id	**Submitter/Date**	**Issue**	**Status**
		reform. This 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 Cost Allocation 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.

MARKET ADVISORY COMMITTEE MEETING, 8 June 2023

FOR DISCUSSION

SUBJECT: UPDATE ON AEMO'S WEM PROCEDURES

AGENDA ITEM: 6(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	17 January 2023	06 June 2023 (tentative)
WEM Procedures for discussion	WEM Procedure: DER Information Register	WEM Procedure: Supplementary Reserve Capacity WEM Procedure: Reserve Capacity Security

3. AEMO PROCEDURE CHANGE PROPOSALS

The status of AEMO Procedure Change Proposals is described below, current as at 8 June 2023. 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	Indicative Date
Procedure Change Proposal AEPC_2022_02 WEM Procedure: DER Register Information Procedure	AEMO proposed amendments to the Procedure to: • incorporate electric vehicles (EVs) and electric vehicle charging equipment data; • integrate changes following amendments to the Australian Standard AS/NZS 4777.2:2015 which has been superseded by AS/NZS 4777.2:2020; • implement minor changes that better reflect the changed operational expectations of DER in the WEM and SWIS (e.g. implementation of Emergency Solar Management); • improve the completeness and quality of data exchanged between Network Operators and AEMO (e.g. conveying additional context to reinforce clarity in the document; better aligning the Procedure with related technical specifications); and • reinforce alignment to the WEM Rules, and make other minor administrative changes.	Consultation Closed	Procedure Commencement	02/10/2023

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

Agenda Item 6(b): Update on the RCM Review Working Group

Market Advisory Committee (MAC) Meeting 2023_06_08

1. Purpose

- The Chair of the Reserve Capacity Review Working Group (RCMRWG) to provide an update on the activities of the RCMRWG since the last MAC meeting.

2. Recommendation

That the MAC notes:

(1) the minutes from the RCMRWG meeting on 22 March 2023 (**Attachment 1**);

(2) the RCM Review: Information Paper (Stage1) and Consultation Paper (Stage 2) was published on 3 May 2023.

3. Process

- On 20 April 2023, the MAC was provided with a RCM Review Draft Information and Consultation Paper (Paper):
  - the Paper was published with the title RCM Review: Information Paper (Stage1) and Consultation Paper (Stage 2) on 3 May;
  - the submission window for part 2 of the Paper closed on 5 June 2023 (extended from 31 May 2023); and
  - The RCMWG Chair will update the MAC on the submissions received at 8 June MAC meeting.
- Papers and minutes for the RCMRWG meetings are available on the RCMRWG webpage at https://www.wa.gov.au/government/document-collections/reserve-capacity-mechanism-review-working-group
- Further information on the RCM Review, including the Paper is available on the RCM Review webpage at https://www.wa.gov.au/government/document-collections/reserve-capacity-mechanism-review

4. Attachments

(1) Minutes of RCMRWG Meeting on 22 March 2023

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

Minutes

Meeting Title:	Reserve Capacity Mechanism Review Working Group (RCMRWG)
Date:	22 March 2023
Time:	9:30 AM to 11:30 AM
Location:	Microsoft TEAMS

Attendees	Company	Comment
Dora Guzeleva	Chair	
Manus Higgins	AEMO	
Toby Price	AEMO	
Oscar Carlberg	Alinta Energy	
Geoff Gaston	Change Energy	
Andrew Stephens	Clear Energy Pty Ltd	
Jake Flynn	Collgar Wind Farm	
Matt Shahnazari	Economic Regulation Authority	
Dale Waterson	Merredin Energy	
Patrick Peake	Perth Energy	
Tessa Liddelow	Shell Energy	
Paul Arias	Shell Energy	
Noel Schubert	Small-Use Consumer representative	
Rhiannon Bedola	Synergy	
Peter Huxtable	Water Corporation	
Mark McKinnon	Western Power	
Andrew Walker	South32 (Worsley Alumina)	
Cameron Owen	EnelX	
Kiran Ranbir	ATCO	
Daniel Kurz	SSCP Power	Until 10:30
Tim Robinson	Robinson Bowmaker Paul (RBP)	
Ajith Sreenivasan	RBP	
Stephen Eliot	Energy Policy WA (EPWA)	
Laura Koziol	EPWA	
Shelley Worthington	EPWA	

Item	Subject	Action
1	**Welcome** The Chair opened the meeting at 9:30am.	
2	**Meeting Apologies/Attendance** The Chair noted the attendance as listed above.	
3	**Minutes of RCMRWG meeting 2023_03_02** The Chair noted that the draft minutes of the RCMRWG meeting held on 2 March 2023 were distributed for comment on 21 March 2023 and that one comment was received. The RCMRWG Secretariat would accept further comments until 29 March 2023 and then finalise the minutes.	
4	**Action Items** The paper was taken as read.	
5	**Flexible Capacity – Additional Considerations** Mr Robinson presented the proposals for certification and dispatch of flexible capacity, including the application of obligations, outages and refunds. The following was discussed. Mr Robinson explained that the dispatch engine: • does not distinguish between slow ramping and flexible capacity and cannot optimise dispatch to keep sufficient flexible capacity in reserve if it is needed in a later interval; but • currently slow ramping facilities are less expensive than flexible facilities so the dispatch engine would automatically hold flexible capacity in reserve until a higher ramp rate was needed. Mr Robinson noted that the proposal is to keep the dispatch process as is, to avoid unnecessary costs for changes to the dispatch engine. The Chair noted that it should be analysed how many slow ramping facilities would be synchronised on high ramp rate days in which demand is very low during midday. • Mrs Bedola noted that it should be assessed in what year flexible facilities could become cheaper than slow ramping facilities. • Mr Peake noted that slow ramping facilities could move up in the merit order if coal prices kept increasing. In response to a question from Mr Higgins, the Chair clarified that facilities providing flexible capacity would be suitable to provide all Essential System Services. • Mr Carlberg questioned if the flexible capacity product would actually provide the needed signal if there was a shortfall for peak capacity. Mr Carlberg suggested that a Non-Co-optimised	

Item	Subject	Action

Essential System Service to incentivise flexible capacity might be needed after all.

Mr Robinson clarified that, as stated in the stage one consultation paper:

- if the shortfall of flexible capacity is greater than the shortfall for peak capacity, then flexible capacity will get paid a premium;
- if the shortfall for peak capacity is greater than the shortfall for flexible capacity, then flexible capacity may not receive a premium; and
- flexible capacity will always get paid at least as much as peak capacity.

In response to a question from Mr Schubert, the Chair noted that:

- the Benchmark Reserve Capacity Price (BRCP) for flexible capacity can be higher than for the peak capacity; and
- the Economic Regulation Authority is responsible for annual setting the BRCP.

Mr Robinson presented the proposed method for setting the Individual Reserve Capacity Requirement (IRCR) intervals for the flexible capacity product:

In response to a question from Mrs Bedola, Mr Robinson noted that:

- in recent years the afternoon ramp up has been markedly higher than the morning ramp down; and
- a facility that would be able to meet the requirements for ramping up would also be able to meet the requirements for ramping down.

The RCMRWG supported the proposed approach for setting the flexible IRCR intervals.

- Mr Schubert questioned if it was really necessary to restrict the certification for flexible capacity for a facility so that it could not exceed the facility's peak Certified Reserve Capacity because the steepest ramp will never occur at the same time as peak demand. Some flexible facilities may be able to provide more capacity outside of high demand because the Network Access Quantities may not bind the same way.

The Chair noted that the restriction is proposed because customers should not pay twice for capacity. Not applying this restriction would also make the certification process more complicated. However, the flexible capacity product will be reviewed once it is operational.

In response to a question from Mr Schubert, Mr Robinson clarified that flexible capacity would be required to have short cold start times.

- Mrs Bedola considered that batteries may not be able to provide peak capacity and flexible capacity because of the limited time they can operate without charging.

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The Chair noted that it must be considered if batteries should be exempt from their Electric Storage Resource Obligations if they are needed to address the evening ramp.

Mr Robinson noted that, as long as the system stress form ramping did not occur at the same time as the peak demand system stress, it would not be a problem if batteries get certified for both services. However, if the ramping stress would coincide with the peak demand stress, this could endanger system reliability.

The Chair considered that it was unlikely that the ramping stress and the peak demand stress would occur at the same time.

- Mr Peake suggested that AEMO could advise whether ramping or peak demand is the critical issue on any critical day. This would advise batteries how to bid.
- Mr Cameron suggested that batteries should be incentivised to charge before the beginning of the ramp, increasing the load. This would reduce the steepness of the ramp.

Mr Robinson considered that the energy price should signal for batteries to charge at that time.

The Chair noted that it might be necessary to introduce a service to address minimum demand.

- Mrs Bedola considered that the proposed outage regime meant that facilities providing flexible capacity will be disadvantaged if the price for peak capacity is the same as for flexible capacity. In this case proponents may have no incentive to apply for flexible capacity.
- Mr Schubert considered that autumn would be the best time to test flexible capacity because high ramps may occur in June.
- Mr Peake considered that the proposed refund regime could cause problems where a facility incurs high refunds before the Hot Season that amount to their whole capacity payments. Then the Facility would have no obligations to be available during the Hot Season.
- Mr Gaston considered that Reserve Capacity Refunds should not be distributed to available capacity providers but to customers that pay for the capacity. Because if a facility pays refunds, the customers do not receive the service they pay for and may even have to pay for Non-Co-optimised Essential System Services and supplementary capacity.
- Mr Cameron, Mr Schubert and Mr Peake agreed with Mr Gaston.
- Mr Arias disagreed with Mr Gaston.
- Mr Higgins considered that as long system reliability is secured, customers would receive what they are paying for.

Item	Subject	Action
	In response to a question form Dr Shahnazari, the Chair clarified that it is not proposed to apply Reserve Capacity Obligations to intermittent generators unless they provide flexible capacity. • Dr Shahnazari noted that it would be possible to place Reserve Capacity Obligations on intermittent generators. The obligation could be based on the availability at any point in time.	

6	**Penalties on High Emission Technologies**
	Mr Robinson summarised previous proposal for the penalty:
	• an emission rate threshold of 0.4 tCO_2e/MWh for new facilities from the 2026 Capacity Cycle;
	• an emissions quantity threshold of 1,000 tCO_2e/MW for new facilities from the 2026 Capacity Cycle; and
	• an emissions quantity threshold of 7,000 tCO_2e/MW for existing facilities from the 2026 Capacity Cycle, ratcheting down by 500 tCO2e/MW per year until it reaches 1,000 tCO_2e/MW from the 2036 Capacity Cycle.
	Mr Robinson summarised the concerns raised by RCMRWG members:
	• there is a tension between the environmental considerations being targeted by the penalties and the other parts of the energy trilemma (cost and reliability);
	• the proposed rate thresholds might make it difficult to finance a new flexible thermal power station;
	• there is a risk of the thresholds changing after a facility is built; and
	• remaining generators' behaviour and dispatch will change as facilities retire in response to the penalties.
	Mr Robinson presented a revised proposal to address these concerns:
	• an emission rate threshold of 0.55 tCO_2e/MWh:
	  ○ the newest OCGT on the SWIS is about 0.7 tCO_2e/MWh and new gas fired peakers are in the 0.5-0.6 tCO_2e/MWh range, so a new peaker could be built under the revised rate threshold, which is also more consistent with the European thresholds;
	• an emissions quantity threshold of 1,000 tCO_2e/MW for new facilities (no change):
	  ○ it would be feasible to build and operate a new peaker that meets this threshold, although a proposal still needs to be developed on how to deal with cogen facilities; and
	• an emissions quantity threshold of 4,000 tCO_2e/MW for existing facilities from the 2027 Capacity Cycle, ratcheting down by	

Item	Subject	Action

500 tCO2e/MW per year until it reaches 1,000 tCO_2e/MW from the 2033 Capacity Cycle:

- this is aligned with the announced retirement schedule for Synergy facilities.

The Chair explained that the emissions quantity threshold would result in retirement of the same facilities that have already been announced by the WA Government.

Mr Robinson indicated that the WA Government announced the retirement of Synergy plant for environmental reasons, and the revised quantity threshold is designed to meet the same objective, retiring the same facilities in the same timeframe.

- Mr Price asked if it has been considered whether a gas turbine would meet the proposed thresholds if it is used in short cycling conditions, where it is run at min gen with quick ramping.

Mr Robinson indicated that the standard running profile for a peaker is to be called at short notice, run for a short period and turned off, so the question is whether the operation profile for a peaker will be more extreme in the future.

The Chair noted that EPWA is considering the issues, which have been raised by both the MAC and RCMRWG.

- Mr Carlberg indicated that he is opposed to the emissions quantity threshold because the amount that a generator is dispatched is out of its control.

The Chair indicated that Alinta raised this concern at the MAC, but the intent of the penalty cannot be achieved without both thresholds because the internal emissions rate for a facility cannot change once it is built.

Mr Robison pointed out that, if there was just an emissions rate threshold, then the penalty will not provide any incentive for existing facilities to change their operations to emit less.

Mr Robinson indicated that he understands Mr Carlberg's concern that dispatch is impacted by the market power mitigation rules, but generators have some ability to manage total emissions and cannot change the inherent emission intensity of their facility.

- Mr Carlberg suggested that the emissions rate penalty could change from year-to-year so that a facility does not get penalised for running more if it still has a low emissions intensity.

The Chair pointed out that there are two factors – how much CO_2 a facility produces, which depends on its utilisation factor, and its emissions intensity, which will only vary slightly depending on how the facility operates.

- Mr Carlberg indicated that he understands the need for an incentive to improve, but this could be done with a declining emissions intensity rate.

Item	Subject	Action

- Mr Carlberg pointed out that a situation may arise where more emissions intensive units are running more often, but under the quantity threshold, leading to higher total emissions.
- Mr Peak pointed out that there is a risk that CCGTs will be restricted and that generation will be pushed to open cycle generation.

The Chair indicated that it is understood that CCGT will try to run less, but the current proposal appears to be the best option to implement the Government policy for a penalty on high emission technologies.

- Mr Carlberg suggested that facilities can control their emissions intensity and that a declining emissions intensity threshold can be a signal to drive change, such as installing scrubbers.
- Mr Peak indicated that CO_2 cannot be scrubbed – if it could, then the current problem with emissions would be completely different.

The Chair indicated that this policy is about reducing emissions, so unless a different option to address this issue is provided, the solution must adhere to the policy constraints.

- Mr Higgins asked if it would be possible to apply a cap and trade arrangement to allow participants to manage their emissions across all of their facilities – so that they can efficiently manage their operations under a global cap on emissions.

Mr Robinson indicated that the intent is to introduce a simple and more targeted approach, without a full emissions pricing regime.

The Chair pointed out that reliability is paramount for the Minister and that EPWA's objective is to find a penalty regime that will not undermine this.

- Mr Schubert pointed out that the policy is about reducing actual emissions, not emissions rates, which is why a quantity threshold is necessary, and that the Expert Consumer Panel (ECP) is keen on making sure that as much as possible is done to reduce emissions. Some ECP members would not want to see any more fossil fuel plant built in the SWIS, even gas plant.
- Mr Schubert suggested that there may be difficulty meeting the Government's coal retirement plan for reliability reasons.
- Mr Cameron asked if the thresholds will only apply to large scheduled generators or whether DSP aggregators might be required to prove their emissions for backup diesel plants.

The Chair indicated that there is no proposal to treat diesel differently, but that a DSP that only runs backup diesel for a few intervals per year will not be caught by the quantity threshold.

Mr Robinson pointed out that a DSP could only register and aggregate loads with backup diesel plants if all of the plants are small enough that they do not need to be registered.

Item	Subject	Action
	• Ms Bedola asked how the penalties will impact the energy market. Market Participants can control how they bid, within the market power mitigation restrictions, but cannot control how they are dispatched, so how can they manage risks of hitting the emissions threshold. The Chair indicated that this is a good question and that EPWA will need to think about this and the rest of the concerns raised by members. Mr Robinson presented the preliminary analysis of the impact of the thresholds on facilities and indicated that the analysis needs to be refined to account for changes in dispatch as facilities enter and exit the market.	
7	**Outages and Refunds** Mr Robinson indicated that: • there will be some changes to outages and refunds for DSP, as previously discussed; • the question of who rebates will get rebated to is still under discussion; and • no other changes are proposed to the outages and refunds regime. The Chair asked RCMRWG members to contact EPWA directly if they feel strongly about any aspect of refunds. **Action: RCMRWG members to contact EPWA directly if they feel strongly about any aspect of refunds.**	**RCMRWG Members**
9	**Next Steps** Mr Robinson indicated that the next steps are to develop and publish a paper that includes: • an information part for phase one of the review; • a consultation part for phase two of the review; and • some more commercial analysis on revenue adequacy for the entry of storage, wind and solar.	
9	**General Business** No general business was discussed	

The meeting closed at 11:30am

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

Agenda Item 6(c): Update on the Demand Side Response Working Group

Market Advisory Committee (MAC) Meeting 2023_06_08

1. Purpose

The Chair of the Demand Side Response Review Working Group (DSRWG) is to provide an update on the activities of the DSRWG since the last update to the Market Advisory Committee (MAC) on 16 March 2023.

2. Recommendation

That the MAC notes the update on the DSRWG and the minutes from the meeting on 10 May 2023, as published on the Coordinator of Energy's (Coordinator) website.

3. Background

- The MAC endorsed the Scope of Works for the DSR Review and approved the formation and Terms of Reference for the DSRWG at the 16 March 2023 MAC meeting.
- Energy Policy WA issued a request for quote to secure consultant support in March 2023 and engaged the Lantau Group to assist with the DSR Review.
- The WEM Secretariat sought nominations for the DSRWG during March/April 2023 and the DSRWG Chair has appointed 17 members to date (in addition to Energy Policy WA representatives and the Lantau Group).
- The first DSRWG was held on 10 May 2023 and the following key items were discussed:
    - The Scope of the DSR Review and the role of the DSRWG;
    - An overview of the opportunities and benefits associated with DSR;
    - Current provisions for DSR participation in all elements of the new Wholesale Electricity Market (WEM); and
    - Potential barriers to participation within each element of the WEM.
- DSRWG members were also asked to consider the list of discussion questions provided in the meeting papers, in preparation for future working group meetings.
- Additional information on the DSRWG, including meeting papers, is available on the Coordinator's website.

4. Next Steps

- The next DSRWG meeting is scheduled for 7 June 2023 and will focus on the following two discussion topics:
    - Constrained access – consideration of whether there should be an equivalent of the constrained access regime for the supply side implemented for the demand side.

- Hybrid Facilities – consideration of the treatment of, and revenue pathways available for, Hybrid Facilities with load(s) under the WEM Rules, including identifying any initial barriers and considerations.

- The DSRWG will also be asked to agree on a priority order for the list of remaining discussion questions, which will be used as the focus for future DSRWG meetings.

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

Agenda Item 7(a): Overview of Rule Change Proposals (as of 25 May 2023)

Market Advisory Committee (**MAC**) Meeting 2023_06_08

- 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
None			

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 Proposal

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	30/09/2023
Standard Rule Change Proposals with Second Submission Period Open						
None						
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	30/06/2023
RC_2018_03	01/03/2018	Collgar Wind Farm	Capacity Credit Allocation Methodology for Intermittent Generators	Medium	Publication of Draft Rule Change Report	30/062023

Reference	Submitted	Proponent	Title	Urgency	Next Step	Date
RC_2019_01	21/06/2019	Enel X	The Relevant Demand calculation	Medium	Publication of Draft Rule Change Report	30/06/2023
Standard Rule Change Proposals with the First Submission Period Open						
None						

Pre-Rule Change Proposals

Reference	Proponent	Description	Next Step	Date
None				

Rule Changes Made by the Minister and Awaiting Commencement

Gazette	Date	Title	Commencement
2023/48	28/04/2023	Wholesale Electricity Market Amendment (Supplementary Capacity) Rules 2023	• Schedule B will commence 01/07/2023 • Schedule C will commence at times specified by the Minister in notices published in the Gazette
2023/37	31/03/2023	Wholesale Electricity Market Amendment (Tranche 6A Amendments) Rules 2023	• Schedule B will commence at times specified by the Minister in notices published in the Gazette
2022/184	20/12/2022	Wholesale Electricity Market Amendment (Tranche 6 Amendments) Rules 2022	• Schedule E will commence at times specified by the Minister in notices published in the Gazette
2021/212	17/12/2021	Wholesale Electricity Market Amendment (Tranche 5 Amendments) Rules 2021	• Schedule H will commence on 01/10/2023. • Schedule I will commence at times specified by the Minister in notices published in the Gazette.
2021/166	28/09/2021	Wholesale Electricity Market Amendment (Miscellaneous Amendments No. 2) Rules 2021	• Schedule G will commence at times specified by the Minister in notices published in the Gazette.
2021/96	28/05/2021	Wholesale Electricity Market Amendment (Miscellaneous Amendments No. 1) Rules 2021	• 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	• Amending Rules in Schedule C will commence at the times specified by the Minister in notices published in the Gazette.

Gazette	Date	Title	Commencement
		Amendments) Rules 2020	

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Agenda Item 8: Draft Cost Allocation Review Information Paper

Market Advisory Committee (MAC) Meeting 2023_06_06

1. Purpose

To:

- allow the chair of the Cost Allocation Review Working Group (CARWG) to update the MAC on the CARWG's activates since the last update to the MAC (4 April 2023); and
- give the MAC an opportunity to provide final comments on the Cost Allocation Review Outcomes.

2. Recommendation

The MAC is asked to:

- note the minutes from the CARWG meeting on 2 May 2023 (Attachment 2);
- note the draft Cost Allocation Review Information Paper and that this paper is in a draft state (Energy Policy WA is still editing the paper); and
- provide final comments on the Review Outcomes outlined in the draft Cost Allocation Review Information Paper (Attachment 2) and presented in the summary table (Attachment 1).

3. Background

- EPWA and AEMO met on 31 March 2023 to discuss the concerns raised by the CARWG on 21 March 2023 and continued to discuss these matters by email.
- The CARWG met on 2 May 2023 to discuss the final design for:
    1. Frequency Regulation – amended WEM Deviation Method;
    2. Contingency Reserve Lower – amended allocation method
    3. Contingency Reserve Raise – treatment of facilities with multiple connections under the Runway Method; and
    4. Market Fees – Energy Storage Resource costs recovery.
- Papers for the CARWG meeting on 2 May 2023 are available on the CARWG webpage (https://www.wa.gov.au/government/document-collections/cost-allocation-review-working-group) and minutes for the meeting are attached (Attachment 2). These minutes were provided to the CARWG for review by email and were approved on 31 May 2023.

4. Process

The Coordinator, in consultation with the MAC, has undertaken a Cost Allocation Review under clause 2.2D.1 of the WEM Rules.

The purpose of the Cost Allocation Review is to consider whether changes are required to the methods for allocating Market Fees and Essential System Services (ESS) costs to align them with the causer-pays principle, to the extent practicable and efficient.

The guiding principles for the Cost Allocation Review were that the cost allocation methods should:

(1) meet the Wholesale Market Objectives;

(2) be cost-effective, simple, flexible, sustainable, practical, and fair;

(3) provide effective incentives to Market Participants to operate efficiently to minimise the overall cost to consumers;

(4) use the causer-pays principle, where practicable and efficient; and

(5) if the causer-pays principles is not practicable and efficient, then use the beneficiary-pays principle, where practicable and efficient.

The draft Information Paper consists of seven chapters, including:

(1) introduction;

(2) a summary of the consultation that was undertaken;

(3) the Review Outcome regarding the allocation of Market Fees;

(4) the Review Outcome regarding the allocation of Frequency Regulation costs;

(5) the Review Outcome regarding the allocation of Contingency Reserve Raise costs;

(6) the Review Outcome regarding the allocation of Contingency Reserve Lower costs; and

(7) the Review Outcome regarding the allocation of other ESS costs.

To assist with the MAC with its discussions, a table is provided in Attachment 1 that lists the Review Outcomes of Cost Allocation Review and provides a high-level summary of the rationale for each review outcome.

5. Next Steps

Step	Timing
(1) Publish the Information Paper	15 June 2023
(2) Table draft WEM Amending Rules for discussion by the MAC	20 July 2023
(3) Publish the draft WEM Amending Rules	31 July 2023
(4) Submissions due on the draft Amending Rules	15 August 2023
(5) Commencement	1 October 2025

The timing for commencement of the WEM Amending Rules resulting from the Cost Allocation Review is to be aligned with commencement of the WEM Amending Rules to implement five-minute settlement.

6. Attachments

(1) Summary of Review Outcomes

(2) CARWG 2023_05_02 –Minutes of Meeting

(3) Draft Cost Allocation Review Information Paper

Attachment 1: Summary of Review Outcomes

Review Outcome	Rationale
Market Fees	
No changes will be made to the current method for allocating Market Fees.	There may be some equity benefits to be gained by changing the method to allocate Market Fees, but changing the allocation method would: • be unlikely to impact on Market Participants' use of the relevant services (i.e. no efficiency benefits); • likely require material implementation costs; • not increase the affordability, reliability, safety or security of supply; and • provide no major identifiable benefit to Market Participants or end customers. Consideration was given to charging Market Fees to Electric Storage Resources (ESR) based on only energy discharge (ignoring energy recharge), but this was rejected because such a change would: • be difficult to implement; • put a greater burden on other Market Participants; • require separate metering for the load and ESR for hybrid facilities with load, generation and ESR behind the meter; • potentially incentivise ESR Facilities co-located with a load to minimise non-ESR consumption to avoid Market Fees; and • be inconsistent with the treatment of generator systems.

Review Outcome	Rationale
Frequency Regulation Service	
Implement the WEM Deviation Method in October 2025, which is summarised as follows: • Calculate the deviations for all Energy Producing Systems and Loads as the difference between: o their (real or implied) 4-second SCADA data; and o a dispatch target or an end of dispatch interval forecast. • The dispatch target or end of dispatch interval forecast will differ for different Energy Producing Systems or Loads: o for Scheduled Facilities and Semi-Scheduled Facilities that provide ESS, it will be a straight line between previous and current Dispatch Targets; o for other Semi-Scheduled Facilities and Non-Scheduled Facilities, it will be a straight line between Facility's previous and current dispatch forecast; o for Non-Dispatchable Loads with SCADA metering, it will be a straight line from the Facilities initial metered MW level at the start of the current Dispatch Interval; and o for residual Non-Dispatchable Loads (those that do not have SCADA metering), it will be a straight line between Facility's previous and current dispatch forecast. • The implied SCADA metering quantity for the residual Non-Dispatchable Loads will be calculated by deducting Scheduled Facilities (Loads only) and Non-Dispatchable Loads with SCADA metering from the sum of all Energy Producing Systems injection over 4-seconds.	The WEM Deviation Method is the preferred method to allocate Regulation service fees because it: • is simple to implement, relative to the current and proposed causer-pays methods in the National Electricity Market; • provides incentives for Market Participants to minimise variability of their generation and loads, which helps to reduce Regulation requirements and overall costs; • avoids incentives for 'gaming' by Market Participants to avoid charges; and • does not conflict with existing WEM frameworks (i.e., primary frequency response, Tolerance Ranges and provision of Regulation ESS). Specific issues raised regarding the method have been addressed in consultation with the CARWG (see section 4.4 of the Information Paper). A high-level cost-benefit analysis found that the method: • can be implemented at moderate cost to AEMO and Market Participants; and • will provide incentives for generators to reduce Regulation requirements, which will deliver material cost savings to the WEM (see section 4.3.2 of the Information Paper).

Review Outcome	Rationale
• AEMO will be responsible for determining the dispatch forecasts, but Semi-Scheduled Facilities that do not provide ESS will have the option to provide their own dispatch forecast. • The deviations will be adjusted to reflect any Regulation Raise or Lower services and any primary frequency response that they provide. • Contribution factors for each Energy Producing System or Load will be calculated as the ratio of its deviations in a Dispatch Interval to the sum of all deviations in the Dispatch Interval. • The contribution factors will be used to apportion Regulation costs to each Facility in a Dispatch Interval. o The Regulation costs allocated to the residual Non-Dispatchable Loads will be allocated among the Market Participants that serve the residual Non-Dispatchable Loads in their proportion to the aggregate consumption of loads over reach Trading Interval.	
Contingency Reserve Raise Service	
Adjust the Runway Method to separately allocate Contingency Reserve Raise costs to separate units within a Facility if each dispatchable unit: • can be dispatched independently; and • has a separate network connection.	The Facility Risk Value used in the Runway Method to allocate Contingency Reserve Raise costs will be amended to account for the lower risks associated with a Facility comprised of multiple units that have separate network connections. Applying the Runway Method to recovery Contingency Reserve Raise costs on the aggregated units would over-estimate their Facility Risk Value and over-recover Contingency Reserve Raise costs from the relevant Market Participant. This amendment to the Runway Method for Contingency Reserve Raise service may benefit some existing facilities and will likely benefit more in the future.

Review Outcome	Rationale
Contingency Reserve Lower Service	
Revise the cost allocation method to: • allocate Contingency Reserve Lower costs to Loads for consumption above 120 MW using the Runway Method; • prorate Contingency Reserve Lower costs to Loads for consumption below 120 MW; and • separately allocate facility and network risks.	Applying a modified Runway Method to allocate Contingency Reserve Lower costs: • is consistent with the causer-pays principle and with how Contingency Reserve Raise costs are recovered; and • may give developers an incentive to reduce the size of the loads that they connect to the South West Interconnected System (SWIS) to reduce their exposure to Contingency Reserve Lower costs, resulting in a more efficient market outcome. This will be important given the potential for large loads, including large ESR, to connect to the SWIS. Connecting large loads to the system could substantially increase the Contingency Reserve Lower requirements and these loads should bear the additional costs associated with the increased Contingency Reserve Lower requirements. A Market Participant raised a concern that the proposed method to allocate Contingency Reserve Lower costs may negatively impact incentives to invest in ESR. The CARWG considered several other options, but found that the other options would create perverse incentives for the size and location of new ESR investments in the SWIS.
Other ESS	
Retain the current cost recovery methods for System Restart Services and Non-Co-Optimised ESS (NCESS).	Participants supported retention of the current cost recovery methods for System Restart Services and NCESS, but sought clarification on some issues (see section 7.1 of the Information Paper).

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

Minutes

Meeting Title:	Cost Allocation Review Working Group (CARWG)
Date:	2 May 2023
Time:	1:00pm – 2:40pm
Location:	Microsoft TEAMS

Attendees	Company	Comment
Dora Guzeleva	Chair	
Donna Todesco	AEMO	
Mena Gilchrist	AEMO	Observer
Toby Price	AEMO	Observer
Nicholas Nielsen	AEMO	Observer
Oscar Carlberg	Alinta Energy	
Tom Frood	Bright Energy	
Jake Flynn	Collgar Wind Farm	
Paul Arias	Shell Energy	
Tessa Liddelow	Shell Energy	
Noel Schubert	Small-Use Consumer Representative	
Genevieve Teo	Synergy	
Jason Froud	Synergy	
Daniel Kurz	Summit Southern Cross Power	
Mark McKinnon	Western Power	
Grant Draper	Marsden Jacob Associates (MJA)	Presenter
Stephen Eliot	Energy Policy WA (EPWA)	
Shelley Worthington	EPWA	

Apologies	From	Comment
Cameron Parrotte	Woodside	
Tom Geiser	Neoen	

Item	Subject	Action
1	**Welcome and Agenda** The Chair opened the meeting at 1:00pm.	
2	**Meeting Apologies/Attendance** The Chair noted the attendance as listed above. The Chair noted the competition law obligations of CARWG members.	
3	**Minutes of CARWG Meeting 2023_03_21** The minutes of the CARWG meeting held on 21 March 2023 were accepted as a true and accurate record of the meeting. **Action: The CARWG Secretariat is to publish the minutes of the 21 March 2023 CARWG meeting on the Coordinator's website as final.**	**CARWG Secretariat**
4	**Action Items:** The CARWG took the paper as read. The Chair noted that Neoen had not provided a response on Action Item 13. • Ms Gilchrist noted that AEMO provided a response on Action Item 14, indicating that AEMO does not yet have significant experience with Electric Storage Resources (ESR) and would require more time to develop a response. • Mr Price indicated that this would require detailed data analysis. This Action Item was closed. The Chair noted that AEMO had not provided a response on Action Item 15.	
5	**Timeline and Purpose** Mr Draper went through the project timeline and indicated that the intent is to implement the outcomes the review by 1 October 2025 because AEMO has a lot to do before then with the new market start. The Chair added that October 2025 also aligns with the timing for commencing five-minute settlement. Mr Draper indicated that the purpose of the meeting was to address the final proposals for allocating Frequency Regulation, Contingency Reserve Lower, Contingency Reserve Raise and Market Fees.	
6	**Final Design**	
	(a) Frequency Regulation – Amended WEM Deviation Method Mr Draper outlined the previous proposals for the WEM Deviation Method and the concerns that had been raised with those proposals, including that:	

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- measuring deviations over a 30-minute period is inconsistent with five-minute dispatch; and
- the WEM Dispatch Engine (WEMDE) will provide the information to set five-minute dispatch targets for Scheduled Facilities and Semi-Scheduled Facilities that provide Essential System Services (ESS), but not for Semi-Scheduled Facilities or Non-Scheduled Facilities.

Mr Draper indicated that the revised proposal is to modify the WEM Deviation Method to:

- apply to a 5-minute Dispatch Interval;
- use the WEMDE data to set the targets for Scheduled Facilities and Semi-Scheduled Facilities that provide ESS; and
- use forecasts determined by AEMO to set the targets for Semi-Scheduled Facilities and Non-Scheduled Facilities, but allow Facility operators to provide their own forecast.

Mr Draper advised that AEMO indicated that it would want to exclude Scheduled Facilities that provide regulation services. Mr Draper suggested that this makes sense and that a procedure would be needed to also exclude primary frequency response provided by Facilities.

Mr Draper indicated that the revised WEM Deviation Method is similar to the Forecast Range Method that was outlined in the Consultation Paper, which was published on 15 December 2022, but addresses some of the gaming concerns identified with that proposal.

- Mr Frood asked what AEMO would do if it does not believe that a Non-Scheduled Facility is forecasting accurately – would they apply their own forecast or challenge the Non-Scheduled Facility.

The Chair indicated that AEMO will develop its own forecasting capability and will use its forecast for:

- scheduling and dispatch, to maintain system security and reliability; and
- allocating Frequency Regulations costs, unless the Facility provides a forecast, in which case AEMO would:
  - still use its own forecast for scheduling and dispatch; but
  - use the Facility's forecast for allocating Frequency Regulation costs.
- Mr Carlberg indicated that he supports the option for central forecasting and the option for Facilities to provide forecasts.
- Mr Carlberg asked how complying with a five-minute Dispatch Instruction would flow through to a reduced Frequency Regulation requirement. Mr Carlberg suggested that a wind

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farm is not going to have the same impact on the regulation requirement as rooftop solar.

The Chair indicated that there will be no changes to the dispatch rules, and that the method is just using an implied target against which the deviations are measured.

- Mr Carlberg indicated that he wants to be sure that getting participants to more closely comply with a five minute dispatch target will reduce the Frequency Regulation requirement.

The Chair indicated that the idea is that participants will try to reduce their volatility if they are given a financial incentive to do so.

- Mr Carlberg asked how this factors into the frequency keeping requirement and if it is fair across different technologies in terms of how they contribute, because wind would contribute less than rooftop solar. Mr Carlberg also asked about the contribution of loads.

The Chair indicated that wind and solar would be treated in exactly the same way.

Mr Draper indicated that previous analysis found that wind was the biggest contributor amongst generators, at about 26%, and large scale solar contributed about 10%; while loads (which implicitly incorporate behind-the-meter solar) contributed about 50%.

- Mr Froud asked whether deviations of actuals from an unconstrained injection forecast for a Semi-Scheduled Facility will be used to determine its contribution, and what happens if a constraint is applied that affects the Facility's actuals.

The Chair indicated that a Facility may be constrained from time-to-time, but its unconstrained injection forecast would be used to measure its overall contribution.

- Mr Froud asked how the deviations and the cost associated with those deviations would be applied to a Semi-Scheduled Facility if AEMO provides an unconstrained injection forecast but it turns out that a constraint is applied.
- Mr Price indicated that the constrained target would replace the unconstrained target.

The Chair noted that slide 9 is not clear on this – it should say that a Facility's deviation will be measured on the constrained target if the Facility is constrained.

Mr Draper noted that the Consultation Paper indicated that a cost-benefit assessment would be undertaken of the WEM Deviation Method and presented a high-level qualitative assessment (see slides 11-17) indicating that:

- implementation costs are likely to be relatively modest; and
- benefits are likely to be substantial because adopting a causer-pay approach will help reduce Frequency Regulation requirements (the introduction of intermittent generation has

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driven substantial LFAS increases, which will continue and could lead to costs of up to $43 million/year by 2026/27).

The Chair asked Mr Carlberg if he is questioning the validity of the assumption that variability of generation on the system drives the requirement for Frequency Regulation.

- Mr Carlberg indicated that this is what he is questioning.
- Mr Carlberg indicated that he wants to understand how generators following dispatch targets more closely will translate to a lower frequency keeping requirement. Mr Carlberg suggested that rooftop solar would set the frequency keeping requirement, so it is not clear how it will help if wind farms get closer to forecast.

The Chair indicated that wind farms will not pick up a big proportion of costs if they are not contributing to volatility.

- Mr Carlberg questioned how AEMO will reduce the frequency keeping requirement if a Facility starts following its implied targets more closely.
- Mr Price indicated that AMEO has not yet fully consulted on its ESS Quantity WEM Procedure, but there is not a linear relationship between the volatility of any one Facility and the amount of regulation required. However, all generation and load that does not do what is expected will contribute to the overall risk of demand not equaling supply, which will drive the quantity of regulation that is needed. Given the expectation that the system will have a large proportion of intermittent generation in the future, a causer-pays approach is a reasonable construct to incentivise more accurate forecasting and delivery.
- Mr Carlberg asked if it is equitable to have wind farms pay more.

The Chair indicated that solar will pay more if it has higher proportion of deviation from implied targets and has a higher penetration in the market. The WEM Deviation Method will account for which Facilities contributed to the deviation.

Mr Draper indicated that the 50/50 allocation of costs between generation and load that was illustrated in the Consultation Paper was based on historic data. More of the Frequency Regulation costs will shift to loads if wind farms and solar get better at meeting their forecasts.

- Mr Flynn indicated that:
    - the chart on slide 14 was based around the fact that AEMO forecasted that it would need more ESS when Badgingarra and Yandin came online, but AEMO did not end up needing those services, and solar was the main driver in increasing the ESS requirement;

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- the ERA could not account for the actual increase in the wind generation and the extent to which this was driving increases in ESS; and
- while AEMO had forecasted that it needed more ESS services due to the increase in wind generation, this has not turned out to be the case.

The Chair indicated that the WEM Deviation Method will properly account for this – if wind is not contributing to the deviations, the WEM Deviation Method will allocate more costs to solar, and vice versa if solar is less volatile. Percentages would not be specified in the WEM Rules.

Mr Draper indicated that causer-pays factors would be based on the deviations – Facilities will pay less if the deviations are small because of better forecasting by AEMO or by the Facilities themselves.

The Chair indicated that a direct parallel should not be drawn between the contribution of each Facility to the overall volatility on the system and AEMO's setting of the requirement for frequency response.

- Mr Price agreed with this.
- Mr Froud asked how a Market Participant that has about 400,000 customers with rooftop PV would be treated.

Mr Draper confirmed that they would be treated as a load, which will be allocated the residual contribution, and that they will bear more Frequency Regulation costs if intermittent generators improve their forecasts.

- Mr Froud asked:
  - how its contribution would be accounted for if the Market Participant installed storage to offset the volatility from the residential customers; and
  - does the storage have to be co-located with the asset or can it be in another place and, if so, how is that going to be accounted for.

The Chair indicated that:

- as long the Notional Wholesale Meter concept exists, there is no other way to measure the residual contribution of the relevant loads; and
- the WEM Rules do not allow the registration of hybrids for which one part of the Facility is connected at one connection point and another part is connected at a different connection point in the network.

- Mr Froud noted Mr Draper's comment that the WEM Deviation Method might provide an incentive for facilities to install storage, but presumably this would be a behind-the-meter storage.

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- Mr Froud indicated that a battery that is configured to load follow will reduce regulation costs to the market.

The Chair noted that the WEM Rules do not have the concept of load following by a battery that is not on the same site.

- Mr Schubert noted that, ideally, any generator should be able to contract with storage anywhere on the network to manage their volatility.
- Mr Schubert noted, however, that storage will likely be charging to be ready for the next peak or will be used for ESS, it will not likely be initially used for load following.

The Chair indicated that this concept can be considered in future market reforms and noted that people can contract outside of the market to share the benefit of reduced volatility.

- Mr Carlberg noted the comments that, if all of the renewable generators performed well, then more costs would go to loads, and asked how that would work (i.e. how are the contributions calculated).

Mr Draper indicated that the contribution of loads is calculated as a residual – the causer-pays factors are calculated for all generators and the residual is allocated to loads.

- Mr Frood asked if there is there any incentive on Western Power to address network constraints.
- Mr Price noted clause 4.5B.4 of the WEM Rules:

  A Transmission System Plan must include:

  (a) a summary of any significant costs to the Wholesale Electricity market that may have arisen, or may potentially arise, due to the condition of the transmission network, including:

  i. binding Network Constraints, and the estimated market costs of those binding Network Constraints; and

  ii. the frequency and magnitude for Energy Uplift Payments, including for Facilities subject to Network Constraints;

- Mr Frood asked if there was a reason why AEMO has not had to procure more ESS due to wind generation.

The Chair indicated that she is not sure that minimum frequency keeping has increased.

- Mr Price indicated that he cannot provide a firm answer, and that there are a lot of differences between the NEM and the WEM. Therefore, it would be difficult to apply the lessons from the drivers for increased LFAS versus regulation, but this will be a lot easier after new WEM commencement.

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(b) Contingency Reserve Lower – Amended Allocation Method

Mr Draper provided context for the proposal for allocating Contingency Reserve Lower costs. Mr Draper noted that there was concern that major new loads would enter the system and that the requirement for Contingency Reserve Lower would increase significantly from 90MW (to account for the largest current load).

Mr Draper noted that MJA had looked at 12 months of data from the Lake Bonney energy storage system reliability report, which indicated that batteries themselves had a low outage factor. However, there was still a network connection outage risk, and the associated costs needed to be managed.

Mr Draper noted that representatives from Neoen had raised a late concern that the proposal would deter the entry of new storage systems that was required to firm up renewables.

Mr Draper noted that MJA had assessed the methodology to ascertain whether the cost burden on the first one or two batteries could be reduced, focusing on the network outages rather than the facility outages of a battery. The modelling (see slide 21) was undertaken on Contingency Reserve Lower cost allocation for new Facilities under three cost recovery options to determine the implications:

- Option One – the current allocation method (prorating);
- Option Two – the runway method above a threshold (120MW) and prorating below the threshold, with separate allocation of facility and network risks; and
- Option Three – runway method above a threshold (120MW) and prorating below the threshold, but only allocating according to the facility risk (the option identified by CARWG on 21 March 2023).

- Mr Frood asked if there was any incentive on the network operator to address network risk.

The Chair responded that the WEM Rules provide a direct incentive to Western Power to ensure that it takes market outcomes into account in its transmission planning activities, to assess the market impacts of constraints.

Mr Draper indicated that, under Scenario 1 (slide 21) under Option One, small customers (Synergy) would pay close to 50% of the Contingency Reserve Lower cost because of the amount of energy consumed. He added that the allocation under Options Two and Three was quite similar, with the first battery bearing the majority of the cost, almost 60%.

Mr Draper noted that, under the runway method, significant costs were going to participants causing the higher requirement for Contingency Reserve Lower, whether this was caused by a facility or network risk, and that this reflects the causer-pays principle.

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Mr Draper noted that, under Scenario 2 (slide 23), the impact was smoother using Option 2, with the first battery attributed a lower contribution than the two other batteries that were located on the same network component and, therefore, posing more risk to the system.

Mr Draper noted that, as recommended in the Consultation Paper, EPWA considers that Option 2 is the most appropriate as it provides the right signals to not locate batteries on the same network element. He added that other incentives are provided for in the WEM Rules for Western Power to consider the implications of large load or battery connecting to the network.

The Chair noted that it was unfortunate that a Neoen representative was not present to provide comment, as it had previously raised the most concern with this proposal. The Chair noted that the main objective of the proposal was to ensure that proponents considered the implications, and to not connect very large loads through a single connection but to try and separate the loads into component parts to lower their impact on the Contingency Reserve Lower requirement.

The Chair noted that the WEM would be the first in the world to introduce the runway method for Contingency Reserve Lower.

- Mr Schubert noted that, if the battery is charging during the middle of the day when there is a lot of solar, and the battery trips, the frequency will go up which will automatically be matched by reducing solar output. However, if the battery is charging during the night, that automatic response from solar would not occur.

The Chair noted that there was some ability to mitigate a trip of a large load but that instantaneously tripping large loads has consequences.

- Mr Schubert noted that solar PV would go off automatically, depending on inverter settings, and that this would not happen all at once unless you had a huge frequency increase.

The Chair noted that, while this is probably true, AEMO would still keep a load rejection reserve to cover the trip. She sought clarification from AEMO that its requirement for load rejection reserves would be the same no matter what, i.e. that AEMO would continue to carry 70% of the largest load.

- Mr Price noted that AEMO has flexibility under the new WEM Rules. Mr Price added that the ESS quantity procedure would map out how AEMO would set the load rejection reserve requirement and that there is plenty of opportunity to reflect positive and negative system conditions under that framework. That is, the presence of distributed PV exacerbating one type of contingency and potentially benefiting another can be reflected, and the result may not be a linear percentage of the largest risk.

Item	Subject	Action
	There were no further comments from the CARWG.	
	(c) Market Fees –Energy Storage Resource Cost Recovery Mr Draper noted that there had been concerns around the impact for ESR if fees were charged on both their discharge and recharge, and effectively overcharging batteries relative to other technologies. Mr Draper noted that AEMO's current approach in the NEM is to recover fees based on both ESR imports and exports. He noted that EPWA had revised its proposal, and was proposing to similarly allocate Market Fees to ESR based on both imports and exports. This would keep all technologies consistent and take into account emerging hybrid technologies. The Chair noted that the CARWG had concluded that Market Fees do not influence behaviour, so excluding withdrawals from the allocation Market Fees to ESR will not influence decisions, but would increase complexity and cost to administer the arrangements. There were no further comments from the working group.	
	(d) Contingency Reserve Raise – Treatment of Facilities with multiple connections under the Runway Method Mr Draper noted that wind farms or solar farms with a separate set of inverters and separate network connections have a lower risk of losing their total output. Mr Draper noted that there had been discussions as to whether the WEM Procedure should be amended to give AMEO the flexibility to separately treat the units within such a Facility for the purposes of the Runway Method, so that AEMO does not overinflate the Facility risk value. Mr Draper noted that clarification was required as to whether AEMO considered this a significant issue and whether there were currently any existing Facilities that would benefit if such a change were made. • Mr Price noted that there are Facilities in the SWIS with multiple connection points and therefore the units would have separate risks, but that this may not be as simple as reducing the risk by half. • Mr Price noted that the calculation of Credible Contingencies is complex – the procedure is dynamic because it changes with network and weather conditions. AEMO does not consider that it would be appropriate to have a causer-pays structure that tried to mimic the largest Credible Contingency assessments undertaken by AEMO at an engineering level. • Mr Price noted that Collgar's Facility had been raised previously as an example and it has two connection points. AEMO would need to have the Facility's design to be able to assess the risk at each connection point.	

Item	Subject	Action

- Mr Price noted that AEMO will need to be able to assess its largest risk, and unless it has information about what each connection point is going to deliver, it would be difficult for AEMO to determine the actual largest contingency.

The Chair noted that AEMO had advised that it believes that there were currently no Facilities:

  - configured in a manner which makes the units completely independent in practice; and
  - that would benefit from a change such as what has been proposed, but that a change would be necessary at some point.

- Mr Price recalled that statements were made that the largest risk would determine the quantity of the Contingency Raise service and that, from a market perspective, everything with a smaller risk was just about cost allocation. Mr Price noted that AEMO do not believe that that there is a Facility with two connection points that would otherwise set the largest contingency which, due to this change, would no longer be the largest contingency.

The Chair responded that the Appendix 2A treats Facilities as a single block under the Runway Method. The issue is that there may circumstances where the Facility with more than one connection is configured in a way that the units behind the connection points operate independently and should be treated independently for the purpose of the Runway Method.

The Chair noted that it is a matter of how much cost such a Facility will incur with or without this change, and that AEMO has advised that there is currently no Facility that would benefit from this change from reduced Contingency Reserve Raise costs.

- Mr Price noted there may have been a misunderstanding of the question and that he would provide a response in writing.
- Mr Schubert noted that he believed that it needed to be clear whether Collgar would benefit from the change but that, either way, the largest contingency is what needs to be covered.

Mr Draper noted that the recommendation was for AEMO to have the discretion to separately treat units within a Facility under the Runway Method for the allocation of Contingency Reserve Raise costs, and that it was not currently proposed to implement this until 2025.

- Mr Price sought to clarify whether this was already the current practice for the Runway Method.

The Chair responded that her understanding was that currently under Appendix 2A any Facility with multiple connections would be treated as a single Facility. However, if there is a Facility currently on the system that should be treated differently because its largest

Item	Subject	Action
	contingency would never be its multiple units tripping together, then the proposed change should be made to make sure the Facility is treated fairly under the causer-pays principle. The Chair added that, if that circumstance does not exist today, then implementation of the change could be deferred. However, Collgar had flagged in the past that it may be in this category, so confirmation from AEMO is required.	
	Action: AEMO to confirm whether any current Facilities would benefit from the proposal to treat a Facility differently under the Runway Method, if the facility has multiple network connections, which allow the facility to continue to export all or most of its output if one of the connections trip.	**AEMO**
7	**Next Steps** EPWA will draft an Information Paper with final Review Outcomes. The Information Paper will be presented to the MAC on 8 June 2023 and will be published once the MAC has provided final comments. Drafting of the Amending Rules will commence after the Information Paper is published and EPWA will consult with the MAC/CARWG on the draft rules. The Amending Rules will then be presented to the Minister for his approval and the intent is for AEMO to implement them on 1 October 2025, concurrent with five-minute settlement. The Chair asked for any final observations or comments. No further comments were provided. The Chair thanked the CARWG members for their contributions.	
8	**General Business** No general business was discussed.	

The meeting closed at 2:40pm.

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

Cost Allocation Review

Information Paper

15 June 2023

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

An appropriate citation for this paper is: Cost Allocation Review

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Glossary

Term	Definition
AEC	Australian Energy Council
AEMO	Australian Energy Market Operator
AGC	automatic governor control
BTM	behind-the-meter
CARWG	Cost Allocation Review Working Group
Coordinator	Coordinator of Energy
CRL	Contingency Reserve Lower
CRR	Contingency Reserve Raise
ECA	Expert Consumer Panel
EPWA	Energy Policy WA
ERA	Economic Regulation Authority
ESR	Electric Storage Resource
ESS	Essential System Services
IRCR	Individual Reserve Capacity Requirement
kW	kilowatt
kWh	kilowatt hour
LGC	Large-Scale Generation Certificates
LFAS	Load Following Ancillary Services
MAC	Market Advisory Committee
MJA	Marsden Jacob Associates
MW	megawatt
MWh	megawatt hour
NCESS	Non-Co-optimised Essential System Services
NEM	National Electricity Market
PV	photovoltaic
RoCoF	Rate of Change of Frequency

Term	Definition
SCADA	supervisory control and data acquisition
SWIS	South West Interconnected System
VRE	variable renewable energy
WEM	Wholesale Electricity Market
WEMDE	Wholesale Electricity Market Dispatch Engine

Unless otherwise defined, capitalised terms have the meaning prescribed in the WEM Rules.

Executive Summary

The Cost Allocation Review

The Coordinator of Energy (Coordinator), in consultation with the Market Advisory Committee (MAC), has reviewed the allocation of Market Fees and Essential System Services (ESS) costs to Market Participants. This review was conducted under clause 2.2D.1(h) of the Wholesale Electricity Market (WEM) Rules.

The purpose of the Cost Allocation Review was to make changes to the methods for allocating Market Fees and ESS costs to align them with the causer-pays principle, to the extent practicable and efficient.

The guiding principles for the Cost Allocation Review were that cost allocation methods should:

(1) meet the Wholesale Market Objectives;

(2) be cost-effective, simple, flexible, sustainable, practical, and fair;

(3) provide effective incentives to Market Participants to operate efficiently to minimise the overall cost to consumers;

(4) use the causer-pays principle, where practicable and efficient; and

(5) if the causer-pays principles is not practicable and efficient, then use the beneficiary-pays principle, where practicable and efficient.

Consultation

The MAC constituted the Cost Allocation Review Working Group (CARWG) to support the Cost Allocation Review. Information on the consultation that was undertaken on the Cost Allocation Review is available on the Energy Policy WA (EPWA) website,[1] including:

- the Scope of Work for the Cost Allocation Review;
- the Terms of Reference for the CARWG;
- papers and detailed minutes for all CARWG meetings and the relevant MAC meetings;
- a Cost Allocation Review Consultation Paper; and
- all submissions to the Consultation Paper.

This Information Paper

This paper presents the outcomes from the Cost Allocation Review and is organised as follows:

- Chapter 1 provides an introduction;
- Chapter 2 provides a summary of the consultation that was undertaken for the review;

[1] The Cost Allocation Review web pages is https://www.wa.gov.au/government/document-collections/cost-allocation-review. The CARWG web page is https://www.wa.gov.au/government/document-collections/cost-allocation-review-working-group.

- Chapter 3 presents the review outcomes on the allocation of Market Fees;
- Chapter 4 presents the review outcomes on the allocation of Regulation services costs;
- Chapter 5 presents the review outcomes on the allocation of Contingency Reserve Raise (CRR) services costs;
- Chapter 6 presents the review outcomes on the allocation of Contingency Reserve Lower (CRL) services costs;
- Chapter 7 presents the review outcomes on the allocation of other ESS costs; and
- Appendix A presents a summary of the submissions to the Consultation Paper and EPWA's responses to those submissions.

Review Outcomes – Market Fees

No changes will be made to the current method for allocating Market Fees.

Rationale:

As indicated in the Consultation Paper, there may be some equity benefits to changing the method for allocating Market Fees. However, changing the allocation method is unlikely to impact on Market Participants' use of the relevant services and there would likely be material costs to make any changes. AEMO would have to develop new systems and procedures to implement any changes, and Market Participants would have to implement changes to their settlement and billing systems and make changes to their contractual arrangements.

Further, changing the method for allocating Market Fees would not increase the affordability, reliability, safety or security of supply and would provide no major identifiable benefit to Market Participants or end customers.

Consideration was given to charging Market Fees to Electric Storage Resources (ESR) based on only energy discharge (ignoring energy recharge). However, further consultation on this proposal indicated that such a change would:

- be difficult to implement (i.e., changes would need to be made to the billing algorithm for Market Fees);
- increase the Market Fees for other Market Participants (Market Generators and Loads);
- require separate metering for hybrid facilities with load, generation and ESR behind the meter;
- contribute to the incentive for ESR Facilities to co-locate with a load to minimise non-ESR consumption to avoid Market Fees; and
- be inconsistent with the treatment of generator systems, which can be net importers of energy for some Trading Intervals.

Review Outcomes – Regulation Services

Implement the WEM Deviation Method in October 2025, which is summarised as follows:

- Calculate the deviations for all Energy Producing Systems and Loads as the difference between:
  - their (real or implied) 4-second SCADA data; and
  - a dispatch target or an end of dispatch interval forecast.

- The dispatch target or end of dispatch interval forecast will differ for different Energy Producing Systems or Loads:
    - for Scheduled Facilities and Semi-Scheduled Facilities that provide ESS, it will be a straight line between previous and current Dispatch Targets;
    - for other Semi-Scheduled Facilities and Non-Scheduled Facilities, it will be a straight line between Facility's previous and current dispatch forecast;
    - for Non-Dispatchable Loads with SCADA metering, it will be a straight line from the Facilities initial metered MW level at the start of the current Dispatch Interval; and
    - for residual Non-Dispatchable Loads (those that do not have SCADA metering), it will be a straight line between Facility's previous and current dispatch forecast.
- The implied SCADA metering quantity for the residual Non-Dispatchable Loads will be calculated by deducting Scheduled Facilities (Loads only) and Non-Dispatchable Loads with SCADA metering from the sum of all Energy Producing Systems injection over 4-seconds.
- AEMO will be responsible for determining the dispatch forecasts, but Semi-Scheduled Facilities that do not provide ESS will have the option to provide their own dispatch forecast.
- The deviations will be adjusted to reflect any Regulation Raise or Lower services and any primary frequency response that they provide.
- Contribution factors for each Energy Producing System or Load will be calculated as the ratio of its deviations in a Dispatch Interval to the sum of all deviations in the Dispatch Interval.
- The contribution factors will be used to apportion Regulation costs to each Facility in a Dispatch Interval.
    - The Regulation costs allocated to the residual Non-Dispatchable Loads will be allocated among the Market Participants that serve the residual Non-Dispatchable Loads in their proportion to the aggregate consumption of loads over reach Trading Interval.

Rationale:

As indicated in the Consultation Paper, the WEM Deviation Method is the preferred method to allocate Regulation service fees because it:

- is simple to implement, relative to the current and proposed causer-pays methods in the National Electricity Market;
- provides incentives for Market Participants to minimise variability of their generation and loads, which helps to reduce Regulation requirements and overall costs;
- avoids incentives for 'gaming' by Market Participants to avoid charges; and
- does not conflict with existing WEM frameworks (i.e., primary frequency response, Tolerance Ranges and provision of Regulation ESS).

Detailed design of the WEM Deviation Method was developed, in consultation with the CARWG, to address specific issues raised by Market Participants – see section 4.4 of this paper.

Some Market Participants suggested that a cost-benefit analysis should be conducted before implementing the WEM Deviation Method. Analysis of the proposed WEM Deviation Method found that it:

- can be implemented at moderate cost to AEMO and Market Participants; and

- will provide incentives for generators to reduce Regulation requirements, which will deliver material cost savings to the WEM – see section 4.3.2 of this Paper for details.

Review Outcomes – Contingency Reserve Raise Services

Adjust the Runway Method to separately allocate CRR costs to separate units within a Facility if each unit:

- can be dispatched independently; and
- has a separate network connection.

Rationale:

As indicated in the Consultation Paper, to ensure consistency with the causer-pays principle, the Facility Risk Value used in the Runway Method to allocate CRR costs should be amended to account for the lower risks associated with a Facility comprised of multiple units that have separate network connections. Applying the Runway Method to recover CRR costs on the basis of the aggregated unit's risks over-estimating their Facility Risk Value and over-recovering CRR costs from the relevant Market Participant.

This will not likely impact on the CRR requirements but would more efficiently distribute the costs to the causers of CRR requirements, consistent with the causer-pays principle.

There is a compelling case to proceed with this amendment because it may benefit some existing facilities and will likely benefit more facilities in the future.

Review Outcomes – Contingency Reserve Lower Services

Revise the cost allocation method to:

- allocate CRL costs to Loads for consumption above 120 MW using the Runway Method;
- prorate CRL costs to Loads for consumption below 120 MW; and
- separately allocate facility and network risks.

Rationale:

As indicated in the Consultation Paper, applying a modified Runway Method to allocate CRL costs:

- is consistent with the causer-pays principle; and
- may give developers an incentive to reduce the size of the loads that they connect to the South West Interconnected System (SWIS) to reduce their exposure to CRL costs, resulting in an efficient market outcome.

This will be important given the potential for large loads, including large ESR, to connect to the SWIS. Connecting large loads to the system (including ESR) could substantially increase the CRL requirements and these loads should bear the additional costs associated with the increased CRL requirements they are causing.

A Market Participant raised a concern that the proposed method to allocate CRL costs may negatively impact incentives to invest in ESR. The CARWG considered several other options, but found that the other options would not meet one or more of the guiding principles.

Review Outcomes – Other ESS

Retain the current cost recovery methods for System Restart Services and Non-Co-Optimised ESS (NCESS).

Rationale:

Stakeholders supported retention of the current cost recovery methods for System Restart Services and NCESS but sought clarification on some issues (see section 7.1 of this paper).

Next Steps

Step	Timing
(1) Publish the draft WEM Amending Rules to reflect the outcomes indicated in this Information Paper	31 July 2023
(2) Submissions due on the draft WEM Amending Rules	15 August 2023
(3) Commencement of the WEM Amending Rules	1 October 2025

The timing for commencement of the WEM Amending Rules is to be aligned with commencement of the WEM Amending Rules to implement five-minute settlement on 1 October 2025.

1. Introduction

The Coordinator of Energy (Coordinator) conducted the Cost Allocation Review under clause 2.2D.1 of the Wholesale Electricity Market (WEM) Rules. 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 WEM and the WEM Rules.

The Cost Allocation Review was a review of the allocation of Market Fees and Essential System Services (ESS) costs to Market Participants.

1.1 Background

During the Energy Transformation Strategy reform process, some stakeholders identified issues with the allocation of Market Fees and ESS costs to Market Participants. However, time constraints during this process did not allow the Energy Transformation Taskforce to fully address all of these concerns.

Further, the MAC maintains a Market Development Forward Work Program to track and progress issues that have been identified by stakeholders. Several issues on the MAC's Market Development Forward Work Program relate to the allocation of market costs.

The MAC established the Cost Allocation Review Working Group (CARWG) to assist with the Cost Allocation Review.

The Cost Allocation Review is being conducted in four steps, three of which are now complete with the publication of this paper:

- Step 1 policy assessment (complete);
- Step 2: practicality assessment (complete);
- Step 3: methodology development (complete); and
- Step 4: draft rule changes.

Further information on the Cost Allocation Review can be found at https://www.wa.gov.au/government/document-collections/cost-allocation-review-working-group, including the detailed Scope of Works for the review, the Terms of Reference for the CARWG, meeting papers and minutes for all CARWG and relevant MAC meetings, the Cost Allocation Review Consultation Paper and all submissions on the Consultation Paper.

1.2 Purpose of this Paper

This paper sets out the Review Outcomes regarding the allocation of Market Fees and ESS costs to Market Participants. This paper is structured as follows:

- Chapter 1 provides an introduction, with background and next steps;
- Chapter 2 summarises the consultation that was conducted under the Cost Allocation Review;
- Chapter 3 presents the Review Outcome regarding the allocation of Market Fees;
- Chapter 4 presents the Review Outcome regarding the allocation of Regulation Raise and Lower service costs;
- Chapter 5 presents the Review Outcome regarding the allocation of Contingency Reserve Raise (CRR) service costs;

- Chapter 6 presents the final position for the allocation of Contingency Reserve Lower (CRL) service costs;
- Chapter 7 presents the Review Outcome regarding the allocation of other ESS costs, including System Restart Service and Non-Co-Optimised Essential System Services (NCESS) costs; and
- Appendix A presents a summary of the submissions to the Cost Allocation Review Consultation Paper and the Coordinator's responses to those submissions.

1.3 Next Steps

Step	Timing
(1) Publish the draft WEM Amending Rules to reflect the Review Outcomes	31 July 2023
(2) Submissions due on the draft WEM Amending Rules	15 August 2023
(3) Commencement of the WEM Amending Rules	1 October 2025

The timing for commencement of the WEM Amending Rules is to be aligned with commencement of the WEM Amending Rules to implement five-minute settlement on 1 October 2025.

2. Consultation

The Coordinator has consulted on the Cost Allocation Review through three avenues.

2.1 The Market Advisory Committee

The MAC is a committee of industry and consumer representatives convened under clause 2.3 of the WEM Rules to provide advice in relation to Rule Change Proposals, Procedure Change Proposals, and the evolution of the WEM and the WEM Rules.

On 14 December 2021, the MAC considered and endorsed the Scope of Work for the Cost Allocation Review and established the CARWG to provide analysis and support to the Coordinator in conducting the Cost Allocation Review.

The MAC considered the work undertaken by the CARWG and provided guidance to the CARWG and advice to the Coordinator at MAC meetings between 17 May 2022 and 8 June 2023.

Further information on the MAC, including all meeting papers and minutes can be found at https://www.wa.gov.au/government/document-collections/market-advisory-committee.

2.2 The Cost Allocation Review Working Group

The CARWG was established to provide detailed advice and analysis on all aspects of the allocation of Market Fees and ESS costs identified in the Scope of Work for the review, including:

- identification of issues with the current approach to the allocation of Market Fees and ESS costs, and options to address these issues;
- application of the causer-pays principle to Market Fees and ESS costs;
- review of Energy Policy WA's (EPWA) analysis underpinning the Cost Allocation Review; and
- support for the high-level and detailed design for changes to the approach to allocate Market Fees and ESS costs.

The CARWG met eight times between 9 May 2022 and 2 May 2023. The Terms of Reference for the CARWG, a list of CARWG members, and meeting papers and minutes for all CARWG meetings can be found at https://www.wa.gov.au/government/document-collections/cost-allocation-review-working-group.

2.3 The Consultation Paper

On 16 December 2022, the Coordinator published a Cost Allocation Review Consultation Paper that:

- set out the Coordinator's preliminary assessment of the current cost allocation methods against the guiding principles for the review, including whether the methods are aligned with the causer-pays principle;
- proposed options for cost allocation methods that are more consistent with the guiding principles, where it was determined that the methods did not meet the guiding principles;
- provided a quantitative assessment of the impact of the proposed options on Market Participant costs in comparison to the status quo; and
- set out some proposals for changes to the cost allocation methods in the WEM Rules, where relevant.

The Coordinator also published an International Review Paper on 16 December 2022 that provided further information on how Market Fees and ESS costs are allocated to Market Participants in seven jurisdictions outside of the WEM.

The submission period for the Consultation Paper closed on 9 February 2023. The Coordinator received 7 written submissions and one verbal/email submission. A high-level summary of the submissions is provided in Table 1.

A more detailed summary of the submissions and EPWA's response to those submissions is provided in Appendix A.

The Consultation Paper, the International Review Paper and submissions received on the Consultation Paper can be found at https://www.wa.gov.au/government/document-collections/cost-allocation-review.

Table 1: Summary of Submissions Regarding the Proposed Changes to the Cost Allocation Methods from the Consultation Paper

Participants' Position	Market Fees		Regulation Raise and Lower		CRR	CRL	System Restart	NCESS
	(1)(a) Retain the current method for allocating Market Fees to Market Participants	(1)(b) Ignore recharge energy when allocating Market Fees to storage facilities	(2)(a) Adopt the WEM Deviation Method to allocate Regulation costs in 2024/25	(2)(b) Reassess the new NEM Causer-Pays method to allocate Regulation costs in 2027, for potential implementation in 2028/29	(3) Where a Facility has multiple units with separate network connections, adjust the Runway Method to treat each unit separately	(4) Apply a modified Runway Method to allocate CRL costs	(5) Retain the current System Restart cost allocation method	(6) Retain the current NCESS cost allocation method
Support	Unanimous support.	Broad support. Perth Energy suggested allocating Market Fees based on recharge rather than discharge.	General support. AEMO favoured participants' providing ex ante forecasts to determine dispatch targets (including Semi-Scheduled Facilities) for applying the WEM Deviation Method.	Moderate support.	Broad support.	Broad support.	Broad support.	Broad support.
Opposed		AEMO recommended charging Electric Storage Resources (ESR) based on both withdrawal and injection.			Shell Energy did not support.	Neoen proposed (by email) alternative methods to allocate CRL costs.		

Participants' Position	Market Fees		Regulation Raise and Lower		CRR	CRL	System Restart	NCESS
	(1)(a) Retain the current method for allocating Market Fees to Market Participants	(1)(b) Ignore recharge energy when allocating Market Fees to storage facilities	(2)(a) Adopt the WEM Deviation Method to allocate Regulation costs in 2024/25	(2)(b) Reassess the new NEM Causer-Pays method to allocate Regulation costs in 2027, for potential implementation in 2028/29	(3) Where a Facility has multiple units with separate network connections, adjust the Runway Method to treat each unit separately	(4) Apply a modified Runway Method to allocate CRL costs	(5) Retain the current System Restart cost allocation method	(6) Retain the current NCESS cost allocation method
Clarification		Synergy asked how hybrid facilities will be treated. Shell Energy asked for an assessment of the benefits of the proposal.	Synergy and Alinta Energy asked for a cost-benefit assessment. The Australian Energy Council (AEC) suggested avoiding the imposition of extra costs on renewables.	AEC suggested that the new NEM Causer-New method should only be adopted if necessary. Several participants asked for cost-benefit analysis of this recommendation, including Synergy, Alinta Energy and Shell Energy.	AEMO asked for further work on practical implementation.		Synergy sought clarification on: (1) whether costs are recovered by a simple share of MWh, and (2) the treatment of ESR.	AEC wanted further analysis to understand whether penalties and refunds could be applied for facility Forced Outages that cause the NCESS requirement. Synergy said that cost signals could be provided to participants to minimise the requirement for this service.
Coordinator Response		Given the complexity of implementation, the Coordinator has revised the proposal. ESR will	A high-level cost-benefit analysis of the WEM Deviation Method is provided in this	If the WEM Deviation Method works as intended, then there may not be a need to implement the new	AEMO has indicated that there may be some existing facilities in the SWIS that could			

Participants' Position	Market Fees		Regulation Raise and Lower		CRR	CRL	System Restart	NCESS
	(1)(a) Retain the current method for allocating Market Fees to Market Participants	(1)(b) Ignore recharge energy when allocating Market Fees to storage facilities	(2)(a) Adopt the WEM Deviation Method to allocate Regulation costs in 2024/25	(2)(b) Reassess the new NEM Causer-Pays method to allocate Regulation costs in 2027, for potential implementation in 2028/29	(3) Where a Facility has multiple units with separate network connections, adjust the Runway Method to treat each unit separately	(4) Apply a modified Runway Method to allocate CRL costs	(5) Retain the current System Restart cost allocation method	(6) Retain the current NCESS cost allocation method
		be charged on the basis on recharge and discharge (i.e., current practice).	paper (see section 4.3.2).	NEM Causer-Pays method in the WEM in the future.	potentially benefit from this proposal.			
Final Position	Approved. No implementation required (status quo).	Revised.	Approved. WEM Deviation Method to be implemented in 2025.	EPWA to undertake a review of the new NEM Causer-Pays once it is implemented (~2027).	Approved. Implement in 2025.	Approved. Implement in 2025.	Approved. No implementation required (status quo).	Approved. No implementation required (status quo).

3. Market Fees

3.1 Proposal in the Consultation Paper

The Consultation Paper made the following proposal.

Proposal 1 – Market Fees

(a) Retain the current method for allocating market services costs to Market Participants.

(b) Ignore recharge energy when allocating Market Fees to storage facilities.

As indicated in the Consultation Paper, there may be some equity benefits to changing the method for allocating Market Fees, but changing the allocation method is unlikely to impact on Market Participants' use of the relevant services and there would likely be material costs to make any changes. AEMO would have to develop new systems and procedures to implement any changes, and Market Participants would have to implement changes to their settlement and billing systems and make changes to their contractual arrangements.

Further, changing the method to allocate Market Fees would not increase the affordability, reliability, safety or security of supply and would provide no major identifiable benefit to Market Participants or end customers.

Under Proposal 1(b), grid connected ESR, including hybrid facilities, would only be charged for gross exports to the grid (equivalent to sent-out generation), rather than gross imports (ESR recharging) and gross exports (ESR discharging). The intent of this proposal was to ensure consistent treatment with competitive technologies, such as gas peaking plants.

3.2 Key Issues Raised in Submissions

All participants were in favour of proposals 1(a) and 1(b), except AEMO, who proposed to charge Market Fees to energy storage facilities using the current practice, based on grid withdrawal and injection.

AEMO's rationale for retaining the current cost recovery method for ESR included:

- it may be difficult to implement the proposed changes (i.e., changes to billing algorithm for Market Fees);
- as the current billing determinants are generation and consumption at the node, reducing cost recovery from loads by ignoring ESR recharge effectively puts a greater burden on other Market Participants (i.e., Market Generators and Market Loads);
- for a hybrid facility that has load, generation and ESR behind the meter, it would be difficult to identify ESR recharging, so separate metering would be required for the load and the ESR;
- an ESR Facility co-located with a load could attempt to minimise non-ESR consumption to avoid Market Fees; and
- generation facilities are charged Market Fees for any consumption during their synchronisation, or periods of consumption when not operating/undertaking repairs, or when creating inertia by consuming energy to spin the turbines. The proposal would create an inconsistency in the treatment of generating systems, which can be net importers of energy for some Trading Intervals and ESR facilities.

3.3 How the Issues have been Addressed

The Coordinator acknowledges and agrees with the issues raised by AEMO, particularly the cost to implement the change and the difficulty of applying the proposal to hybrid facilities, which are likely to increase in the future.

3.4 Review Outcomes – Market Fees

No changes will be made to current method for allocating Market Fees.

4. Regulation Services

4.1 Proposal in the Consultation Paper

The Consultation Paper made the following proposal.

Proposal 2 – Regulation

(a) Implement the WEM Deviation Method to allocate Regulation costs in 2024/25, following the implementation of the new WEM arrangements on 1 October 2023, subject to a cost/benefit analysis.

(b) Reassess adoption of the new NEM Causer-Pays Method to allocate Regulation costs in 2027, for potential implementation in 2028/29.

Under Proposal 2(a), the WEM Deviation Method would be implemented using:

- SCADA data to measure deviations from linear dispatch targets in a 30-minute period; and
- summation of the absolute value of deviations from the linear target.

As indicated in the Consultation Paper, the WEM Deviation Method is the preferred method to allocate Regulation Raise and Lower service fees because it:

- is simple to implement, relative to the current and proposed causer-pays methods in the NEM;
- provides incentives for Market Participants to minimise variability of generation and loads;
- does not provide incentives for 'gaming' by Market Participants to avoid charges; and
- is consistent with existing WEM concepts (i.e., primary frequency response, Tolerance Ranges and Regulation ESS).

4.2 Key Issues Raised in Submissions

Participants had the following concerns with Proposal 2(a):

- measuring deviations from a linear dispatch target in a 30-minute period is inconsistent with the 5-minute dispatch periods under the new Real-Time Market;
- even if the measurement of deviations were adjusted to 5-minute Dispatch Targets, which are established by the Wholesale Electricity Market Dispatch Engine (WEMDE) for Scheduled Facilities and for Semi-Scheduled Facilities that provide Frequency Co-Optimised Essential System Service ESS, there are no Dispatch Targets for Semi-Scheduled or Non-Scheduled Facilities, or Non-Dispatchable Loads; and
- a cost-benefit analysis should be undertaken to demonstrate that adopting a causer-pays methodology, like the WEM Deviation Method, will change Market Participant behaviour and reduce the requirement for Regulation Raise and Lower services and that these benefits will exceed implementation costs for AEMO and Market Participants.

4.3 How the Issues have been Addressed

4.3.1 Changes to the WEM Deviation Method

The following changes to the WEM Deviation Method were discussed by the CARWG on 2 May 2023:

- apply the method to each 5-minute Dispatch Interval, consistent with the Real-Time Market;
- use the Dispatch Target from WEMDE for each 5-minute Dispatch Interval to set the targets for Scheduled Facilities and Semi-Scheduled Facilities that provide ESS;
- AEMO could be made responsible for determining dispatch forecasts for each Semi-Scheduled Facility and Non-Scheduled Facility, consistent with current default practices in the NEM for applying the Frequency Control Ancillary Services (FCAS) causer-pays method;
- Facilities could have the option to provide their own forecasts rather than rely on AEMO default forecasts;
- Facilities that are scheduled to provide Regulation Services could be excluded from any liability under the WEM Deviation Method (up to the quantity of Regulation they provide) and any non-performance in the provision of Regulation Services will be managed under the relevant WEM Rules/Procedures; and
- AEMO would need to develop a method to exclude from the WEM Deviation method any deviations that result from Facilities providing primary frequency response.

If Market Participants can provide more accurate forecasts for Semi-Scheduled Generators than AEMO's default forecasts, this could help reduce the future requirements for Regulation services.

Conversely, if Market Participants do not provide credible forecasts, AEMO will utilise its default forecasts for Semi-Scheduled Generation.

4.3.2 High Level Cost Benefit Analysis

The Consultation Paper stated that a cost-benefit analysis of the WEM Deviation Method should be undertaken before accepting the recommendation to adopt a new cost allocation method.

This section provides a high-level qualitative cost-benefit analysis of adopting the WEM Deviation Method.

The implementation costs for the WEM Deviation Method are likely to be moderate for AEMO and Market Participants because:

- WEMDE will set 5-minute Dispatch Targets for Scheduled Facilities and Semi-Scheduled Facilities providing ESS from the commencement of the new WEM on 1 October 2023;
- AEMO will set default dispatch forecasts for Semi-Scheduled and Non-Scheduled Facilities, which would reduce the cost burden on Market Participants;
- Market Participants can opt to develop their own forecasts, but this is not required; and
- AEMO does not need to develop an expensive system to apply the WEM Deviation Method to calculate causer pays factors.[2]

[2] A spreadsheet model has been used since 2001 to operate the NEM Causer-Pays method, which is a considerably more complicated algorithm than the WEM Deviation Method.

While the costs of implementing the WEM Deviation method are modest, the costs of providing Regulation Raise and Lower services in the WEM are rising rapidly, which provides a justification for implementing a causer-pays method to help minimise further increases in these requirements.

As demonstrated in Table 2, Load Following Ancillary Services (LFAS) requirements have increased substantially since 2018/19.

Table 2: Historical LFAS Requirements (MW)

Year	Peak LFAS requirement	Peak LFAS implemented by AEMO	Off Peak LFAS requirement	Off Peak LFAS implemented by AEMO
2018/19[3]	72	NA	72	NA
August 2019 to September 2020[4]	85	85	50	50
September 2020 to July 2021[5]	105	95	70	70
July 2021 to June 2022[6]	110	100	65	65
July 2022 to December 2022[7]	110	110	65	NA

Source: AEMO, Ancillary Service Reports

Analysis undertaken by AEMO has indicated that increases in the LFAS requirement in the WEM is partly due to increased Variable Renewable Energy (VRE). This is demonstrated in Figure 1, which shows that increases in the capacity of solar photovoltaic (PV) and grid connected renewables has resulted in requests by AEMO to the Economic Regulation Authority (ERA) to increase the Peak LFAS requirement. Most of the increases in the LFAS requirements have been implemented, although AEMO has delayed the implementation of the increased LFAS requirement in some circumstances.[8]

3 Price periods are constant across all time periods.

4 The Peak Period is between 5:30am and 7:30pm and the Off Peak Period between 7:30pm and 5:30am.

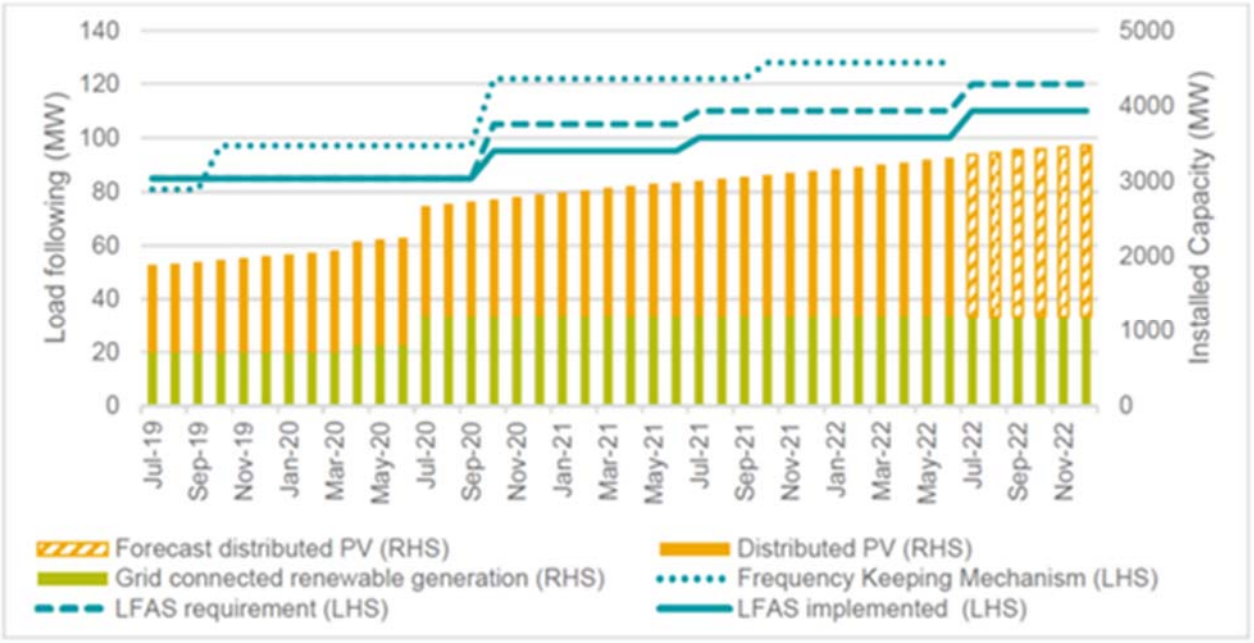
5 The Peak Period is between 5:30am and 7:30pm and the Off Peak Period between 7:30pm and 5.30am.

6 The Peak Period is between 5:30am and 8:30pm and the Off Peak Period between 8:30pm and 5.30am.

7 The Peak Period is between 5:30am and 8:30pm and the Off Peak Period between 8:30pm and 5:30am.

8 Some delays occur because of the difficulty of estimating the impact of additional renewables and distributed PV on Regulation requirements (and reliability) and when the increase in Regulation requirements needs to be implemented.

Figure 1: Peak LFAS Requirements and the Level of VRE in the SWIS



Source: ERA, Decision on the AEMO's 2022/23 ancillary services requirements, 27 June 2022, p. 11.

Implementing a causer-pays method to allocate Regulation services costs has the potential to change Market Participant behaviour and reduce future requirements for Regulation services. The potential avoided costs of increasing future Regulation requirements in the WEM are substantial:

- the ERA estimated that a 10 MW increase in the LFAS quantity from July 2021, from ±100 MW to ±110 MW could cost an additional $5.6 million (8.3%) over a 12-month period;[9]
- AEMO estimated that a further increase in LFAS requirements, from ±110 MW to ±120 MW could increase costs by a further $7.4 million (10.2%) annually;[10] and
- Marsden Jacob Associates (MJA) estimated that cumulative increases in Regulation service requirements could result in costs increasing by $43.3 million by 2026/27 (see Table 3).

If the WEM Deviation Method can help reduce Regulation requirements by ±10 MW, then annual savings of around $7.4 million can be achieved with a modest increase in implementation and operational costs.

9 ERA, Decision on the AEMO's 2022/23 ancillary services requirements, 27 June 2022, p. 14.

10 Ibid.

Table 3: Future Costs of Peak Regulation Requirements[11]

Year	Peak Regulation Requirements (MW)	Annual Cost ($ millions)	Annual Cost Increase ($ millions)	Cumulative Cost Increase ($ millions)
2021-22	99	35.17		
2022-23	110	39.26	4.09	4.09
2023-24	120	42.82	3.57	7.66
2024-25	140	49.96	7.14	14.80
2025-26	170	60.67	10.71	25.50
2026-27	220	78.51	17.84	43.34

Source: Marsden Jacob 2023

While the avoided further increases in Regulation services costs are substantial, adopting a causer-pays cost allocation mechanism for Regulation Raise and Lower will help to reduce the future Regulation requirements.

Analysis has indicated that the adopting the WEM Deviation Method could result in the following contribution factors (i.e., cost recovery level) for each facility type in the WEM:

- Loads will bear about 50% of the Regulation Raise and Lower costs (loads bear around 90% under the current cost recovery method);
- grid connected facilities will bear the other 50% of costs, and for the grid connected facilities:
  - about 47% of costs will be attributed to wind farms;
  - about 5.4% will be borne by solar farms in the SWIS; and
  - the balance (47.6%) will be borne by coal and gas generators.

The higher contribution factor (cost recovery percentage) for wind farms is due to there being a significantly higher installed capacity of wind (1,034 MW) than solar (141 MW) generation in the SWIS. The contribution factor per unit of installed capacity in the SWIS is significantly higher for wind farms (4.54% increase in contribution factor per MW) than for solar farms (0.35% increase in contribution factor per MW) due to the higher variability of wind generation within a 5-minute dispatch period compared to solar farm generation.

These estimated contribution factors are illustrated in Figure 2.

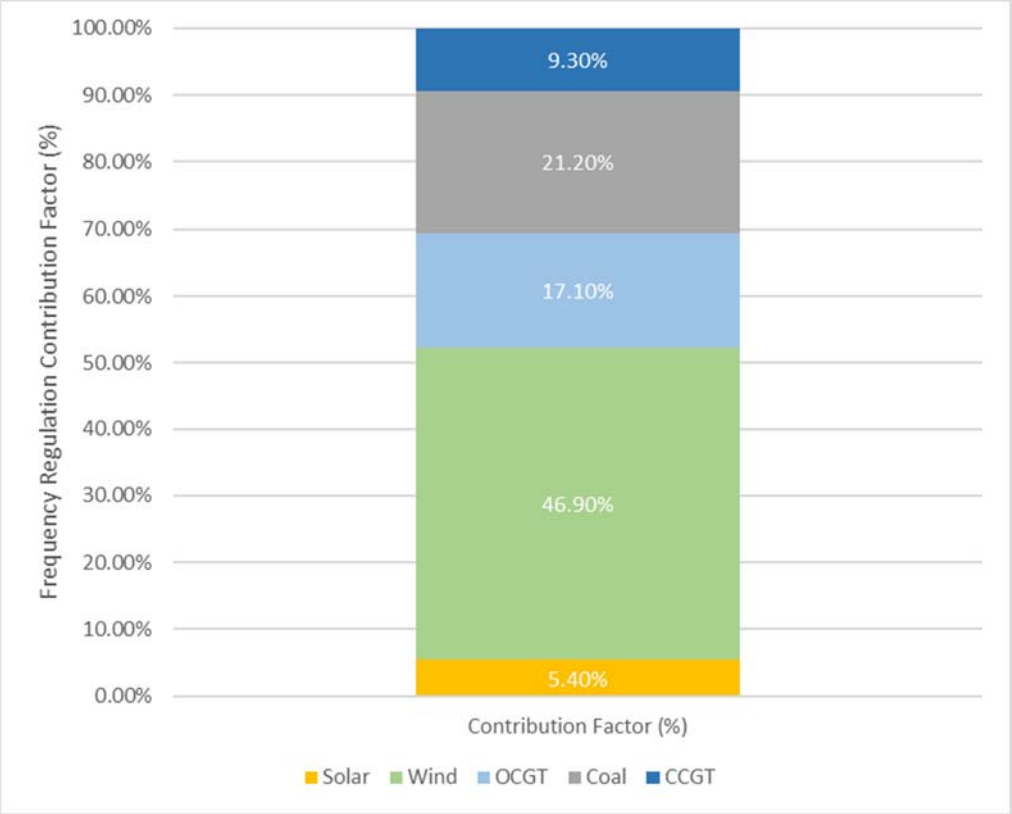
[11] Notes:

(a) MJA estimated future peak Regulation Requirements given the increase in the amount of VRE capacity that will connect to the SWIS by 2026-27.

(b) Using average LFAS Up and LFAS Down prices in the 2021/22 year (April 2021 to March 2022), MJA calculated the annual cost increase due to increased future Peak Regulation Requirements; and

(c) These estimates are based on increases in average FCAS costs, so these estimates will likely be below the incremental cost estimates calculated by the ERA and AEMO (see the previous page).

Figure 2: Regulation Contribution Factors – by Facility Type



Source: Marsden Jacob 2023

Applying these contribution factors provides an incentive for generators to minimise deviations between forecast and actual generation and potentially reduce Regulation service requirements. Actions that generators could take to minimise deviations include:

- Scheduled Facilities and Semi-Scheduled Facilities providing ESS must follow Dispatch Targets in the new market and will face costs if they deviate from the 5-minute Dispatch Interval target;
- Semi-Scheduled Facilities could provide more accurate generation forecasts (considering weather related factors), which would help to minimise forecast errors and regulation requirements; and
- Semi-Scheduled Facilities could minimise variations in their metered injections by installing onsite storage.

Projects funded by the Australian Renewable Energy Agency have demonstrated the potential for reducing future FCAS costs in the NEM. The Proa Solar Farm Short Term Forecasting Project has demonstrated how better forecasting has substantially reduced causer-pays factors for the Kidston Solar Project from of 0.383 to 0.200 (average over 5 months). This reduction in the causer-pays factor represents a 52% reduction in regulation costs for the Kidston Solar Project.[12]

While better forecasting has the potential to reduce Market Participant Regulation costs, it can also reduce the Regulation requirement, since better short-term solar forecasting (ex-ante forecasts) means greater certainty of demand and supply for each 5-minute Trading Interval. This helps to reduce the Regulation requirement that is used to manage supply and demand deviations.

12 https://arena.gov.au/assets/2020/07/proa-analytics-solar-forecasting-lessons-learnt-report-2.pdf

4.4 Review Outcomes – Regulation Services

Implement the WEM Deviation Method in October 2025 based on the following design.

4.4.1 Calculation of Regulation Contribution Factors by Facility using the WEM Deviation Method

Regulation costs will be allocated to Energy Producing Systems and Loads based on deviations from average energy production or load over a 5-minute Dispatch Interval. This will be based on 4-second SCADA data (metered or implied) and measured as actual deviations from a hypothetical linear dispatch target that is calculated ex-post (i.e., average energy production or load over a 5-minute Dispatch Interval). The steps for the WEM Deviation Method are:

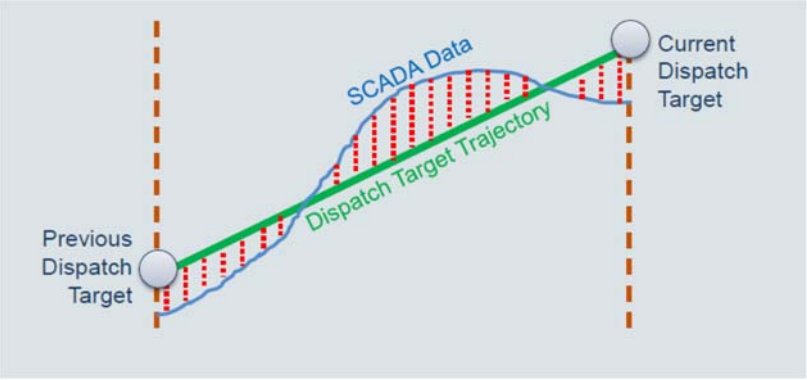
(1) Calculate the deviations for Scheduled Facilities and Semi-Scheduled Facilities providing ESS as the difference between:

- the SCADA metering data for the Facility; and
- a straight line between the Facility's previous and current Dispatch Targets.

Dispatch Targets for Scheduled Facilities and Semi-Scheduled Facilities providing ESS will be set in the Real-Time Energy Market, based on a 5-minute Dispatch Interval.

Step (1) is illustrated in Figure 3.

Figure 3: Illustration of the WEM Deviation Method for Scheduled Facilities and Semi-Scheduled Facilities providing ESS



(2) Calculate the deviations for other Semi-Scheduled Facilities and Non-Scheduled Facilities[13] as the difference between:

- the SCADA metering data for the Facility; and
- a straight line between the Facility's previous and current dispatch forecasts.

See section 4.4.3 for more information on dispatch forecasts.

(3) Calculate the deviations for Non-Dispatchable Loads with SCADA metering as the difference between:

- the SCADA metering data for the Facility; and

[13] It is assumed that all registered Non-Scheduled Facilities (generators less than 10 MW and ESR less than 5 MW) have SCADA metering. EPWA will confirm this and changes may need to be made the WEM Deviation Method if there are Non-Scheduled Facilities that do not have SCADA metering.

- a straight line continuation of the Facility's initial metered MW level at the start of the current Dispatch Interval.

Step (3) is illustrated in Figure 4.

Figure 4: Illustration of the WEM Deviation Method for Non-Dispatchable Loads with SCADA Metering

(4) Calculate the deviations for the residual Non-Dispatchable Loads (i.e., the Non-Dispatchable Loads that do not have SCADA metering) as the difference between:

- the implied SCADA metering quantity for the residual Non-Dispatchable Loads (see below); and
- a straight line between previous and current dispatch forecasts.

See section 4.4.3 for more information on dispatch forecasts.

The implied SCADA metering quantity for the residual Non-Dispatchable Loads will be calculated by deducting the sum of the metered quantities of all Scheduled Facilities (Loads only) and Non-Dispatchable Loads with SCADA metering from the sum of all Energy Producing Systems injection quantities over 4-seconds.

Figure 3 (above) demonstrates how deviations are calculated for the residual Non-Dispatchable Loads, except that the WEM Deviation Method will use previous and current dispatch forecasts, not targets such as those established for Scheduled Facilities and Semi-Scheduled Facilities providing ESS.

(5) Contribution factors for each Energy Producing System or Load will be calculated as the ratio of its deviations in a Dispatch Interval to the sum of all deviations in each Dispatch Interval.

(6) The contribution factors will be used to apportion Regulation costs to each Energy Producing System or Load in a Dispatch Interval.

(7) The Regulation costs that are apportioned to the residual Non-Dispatchable Loads for each Dispatch Interval will be aggregated to a Trading Interval and then allocated to each Market Participant that serves any of the residual Non-Dispatchable Loads based on their proportion of the aggregate MWh consumption in each Trading Interval.

(8) For settlement purposes, the Regulation costs for each Market Participant will be calculated over the 7-day billing cycle.

A weekly billing cycle provides timely feedback to Market Participants so that they can factor the costs incurred over that billing cycle into their future operations and forecasts, which will minimise generation and load deviations per Facility in subsequent billing cycles. Theoretically, if individual Facilities are able to minimise all deviations, then 100% of Regulation costs could be allocated to

residual Non-Dispatchable Loads. However, this outcome is highly unlikely as the investment in grid connected intermittent generation increases in the SWIS.

4.4.2 Adjustments for Facilities Providing ESS and Primary Frequency Response

Facilities that are scheduled to provide Regulation Raise and Lower services will have their deviations reduced by the amount of Regulation services that they provide in a Dispatch Interval. Any non-performance in the provision of Regulation services will be managed under the relevant WEM Rules/Procedures.

Primary frequency response is necessary to ensure that system frequency is kept within the Normal Operating Frequency Band. Facilities that provide primary frequency response will have their deviations adjusted so that this response is not considered in the calculation of their deviations.

4.4.3 Responsibility for Creating dispatch forecasts

Application of the WEM Deviation Method will require the creation of dispatch forecasts for Semi-Scheduled Facilities that do not provide NCESS, Non-Scheduled Facilities and Non-Dispatchable Loads (those with SCADA metering and the residual).

AEMO will be responsible for determining the dispatch forecasts.

Semi-Scheduled Facilities that do not provide ESS will have the option to provide their own dispatch forecasts rather than rely on AEMO default dispatch forecasts. If participants do not provide credible forecasts for Semi-Scheduled Facilities, AEMO will utilise the default forecasts in the WEM scheduling and dispatch processes.

5. Contingency Reserve Raise Services

5.1 Proposal in the Consultation Paper

The Consultation Paper made the following proposal.

Proposal 3 – Contingency Reserve Raise

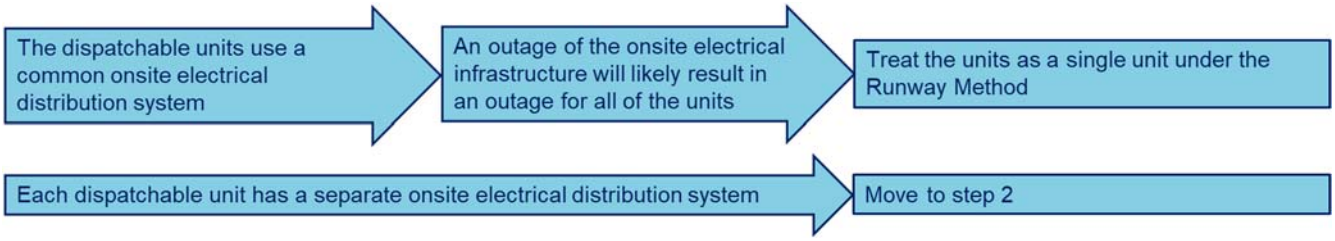
Application of the Runway Method should be adjusted to cater for situations in which a Facility is comprised of multiple units each with a separate network connection. In this situation, each unit should be treated separately in the runway method (i.e., they should have separate Facility MW for the purposes of CRR cost recovery).

As indicated in the Consultation Paper, to ensure consistency with the causer-pays principle, the Facility Risk Value used in the Runway Method to allocate CRR costs should be amended to take into account the reduced risks associated with a Facility comprised of multiple units and a number of network connections, which allow the units to be dispatched independently.

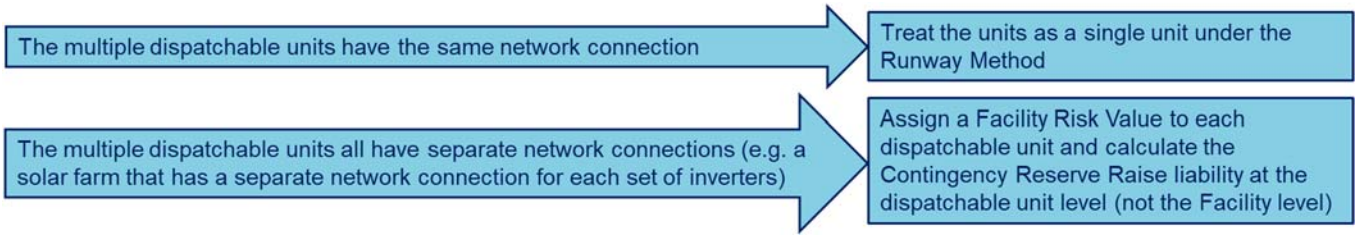
In certain circumstances, the multiple units should not be aggregated when applying the Runway Method to recover CRR costs, as aggregating the units would over-estimate their Facility Risk Value and over-recover CRR costs from the relevant Market Participant.

Under this proposal, AEMO is required to assess whether the multiple dispatchable units at a Facility are likely to have a simultaneous outage using, for example, the following steps:

1. Does each dispatchable unit (or set of inverters) have its own onsite electrical distribution system (or set of inverters)?



2. Does each dispatchable unit have a separate network connection?



5.2 Key Issues Raised in Submissions

AEMO agreed that it should have discretion to establish criteria to determine when to separately treat facilities with multiple connections for allocation of CRR costs and that the method for making this determination should be specified in a WEM Procedure. It was proposed to amend the WEM Rules to require AEMO to include this assessment in a WEM Procedure.

While AEMO agreed that facilities with units that have separate connection points may represent a lower risk, the proposed approach of separately treating each unit within a Facility may require substantial changes to the registration framework.

AEMO indicated that some existing facilities may benefit from the proposal. However, it is likely that more facilities will benefit in the future due to increased investment in renewable facilities to achieve net zero emissions in the SWIS by 2050. This could include wind or solar farms that have individual sets of inverters with a separate network connections.

AEMO also sought more guidance on the application of this proposal in practice.

5.3 How the Issues have been Addressed

AEMO raised concerns that the creation of separate dispatchable units for a single Facility would require major changes to the registration framework. However, each set of inverters will only be treated as separate dispatchable units for application of the Runway Method for CRR cost recovery, not for WEM participation.

Given that some existing facilities may benefit from the proposal, and that more facilities are likely to benefit in the future, there is a compelling case for proceeding with the proposal.

This proposal is not likely to reduce CRR requirements but would more efficiently distribute the costs to the causers of CRR requirements, consistent with the causer-pays principle.

Further work is required to clarify the proposal, which would include:

- delineating between risk at separate connection points for a facility comprising multiple units, which could be managed using SCADA similar to the current treatment of Intermittent Loads; and
- changes to the Facility Registration process to ensure that AEMO has the necessary information to implement this proposal.

5.4 Review Outcomes – Contingency Reserve Raise Services

Adjust the Runway Method to separately allocate CRR costs to separate dispatchable units within a Facility if each unit

- has its own onsite electrical distribution system (or set of inverters); and
- has a separate network connection.

EPWA will draft the Amending Rules to implement these changes in consultation with AEMO and Western Power.

6. Contingency Reserve Lower Services

6.1 Proposal in the Consultation Paper

The Consultation Paper made the following proposal.

Proposal 4 – Contingency Reserve Lower

Apply a modified Runway Method to allocate CRL costs.

If a Network Contingency sets the CRL requirement in a trading interval, the costs of procuring contingency reserves are proposed to be split into two components (Load CRL and Network CRL) and costs are proposed to be allocated as follows:

(1) Load CRL cost allocation:

- apply a runway method to allocate the individual load component of CRL costs, treating all loads with capacity less than or equal to 120 MW as if they were a single 120 MW load; and
- apply the existing allocation method to allocate load CRL costs (pro-rata based on energy consumption) to loads with capacity less than or equal to 120 MW.

(2) Network CRL cost allocation as follows:

- apply a runway method to allocate the network component of CRL costs to loads in excess of 120 MW (if there is only one large load in excess of 120 MW, that load sets the Network Contingency and will bear 100% of Network CRL costs).

If a Load Contingency sets the Contingency Reserve Requirement in a trading interval, only the Load CRL cost allocation (1) process will be used.

As indicated in the Consultation Paper, applying a modified Runway Method to allocate CRL costs:

- is consistent with the causer-pays principle; and
- may give developers an incentive to reduce the size of the loads that they connect to the SWIS to reduce their exposure to CRL costs, resulting in an efficient market outcome.

This will be important given the potential for large loads (e.g. large size ESR) to connect to the SWIS. Connecting large loads to the system could substantially increase the CRL requirements and these loads should bear the additional costs associated with the increased CRL requirements.

6.2 Key Issues Raised in Submissions

At the 21 March 2023 CARWG meeting, EPWA discussed the use of the Runway Method to allocate CRL costs to Loads above a 120 MW threshold.

Some CARWG members raised concerns with this proposal:

- a full causer-pays cost allocation under the Runway Method could result in the initial large size ESR paying up to 60-70% of CRL costs when recharging, which would place a significant cost burden on ESR systems;
- ESR are needed to firm up VRE to replace retiring coal plant, and these charges could be a significant barrier to entry in the WEM;
- information from the NEM suggested that the probability of an ESR having a forced outage is low (https://arena.gov.au/knowledge-bank/lake-bonney-operational-report-2/), so it is unlikely that an ESR would contribute to an increase in the CRL service requirement; and

- the most likely cause of an increase in the CRL service requirement is a transmission asset outage, which results in the ESR not being able to recharge during the outage.

There are significant network constraints on the SWIS currently, which increases the likelihood of an ESR locating on common transmission assets. Large loads locating on common transmission assets (i.e., a 330 kV line) would significantly increase CRL service requirements.

While the facility outage risk may be low, the network outage risk could be higher and AEMO would have to establish the CRL service requirement on the basis of the aggregate of discrete loads (i.e., ESR, mineral processing loads, etc.) on that common transmission asset. This establishes a strong case to apply the Runway Method to large loads (above 120 MW) to ensure that they have incentives to reduce the size of individually connected loads and to reduce the future CRL service requirements.

6.3 How the Issues have been Addressed

The CARWG identified an option to set the CRL requirements based only on the network risk (instead of separately allocating facility and network risk) because a focus on the network risk reflects the likelihood of a network outage impacting an ESR/large load, not a facility outage (which has a low likelihood for ESR).

This option was discussed with AEMO, which indicated that:

- while the facility risk for a grid connected ESR is low, the risk exists and cannot be ignored when setting CRL requirements – AEMO will factor in both facility and network risks when establishing the CRL requirement; and
- this proposal ignores other types of loads that may be above 120 MW and that could have a material facility risk (i.e. new mining loads or hydrogen production facilities).

EPWA undertook an assessment of CRL cost recovery to see if the burden of cost recovery could be reduced for a grid connected ESR. Three cost recovery options were considered:

- Option 1 – prorating based on energy consumed in a trading interval (the current allocation method);
- Option 2 – apply the Runway Method above 120 MW and prorate below 120 MW, and separately allocate facility and network risks (the option presented to the CARWG on 21 March 2023); and
- Option 3 – apply the Runway Method above 120 MW and prorate below 120 MW, but only allocate costs according to the network risk (the option identified by the CARWG on 21 March 2023).

The following new entry assumptions were made for grid connected ESR:

- Scenario 1 – entry of a 400 MW ESR1 and a 200 MW ESR2 on separate network elements; and
- Scenario 2 – entry of a 400 MW ESR1 on one network element and two 200 MW ESR2 and ESR3 on another network element.

Other assumptions:

- 15 large commercial loads between 11 MW and 120 MW are modelled separately;
- small loads (<10MW each) are aggregated to 950 MW; and
- there are two networks with the large commercial loads distributed randomly across the two networks and half of the small loads on each network.

6.3.1 Analysis of Scenario 1

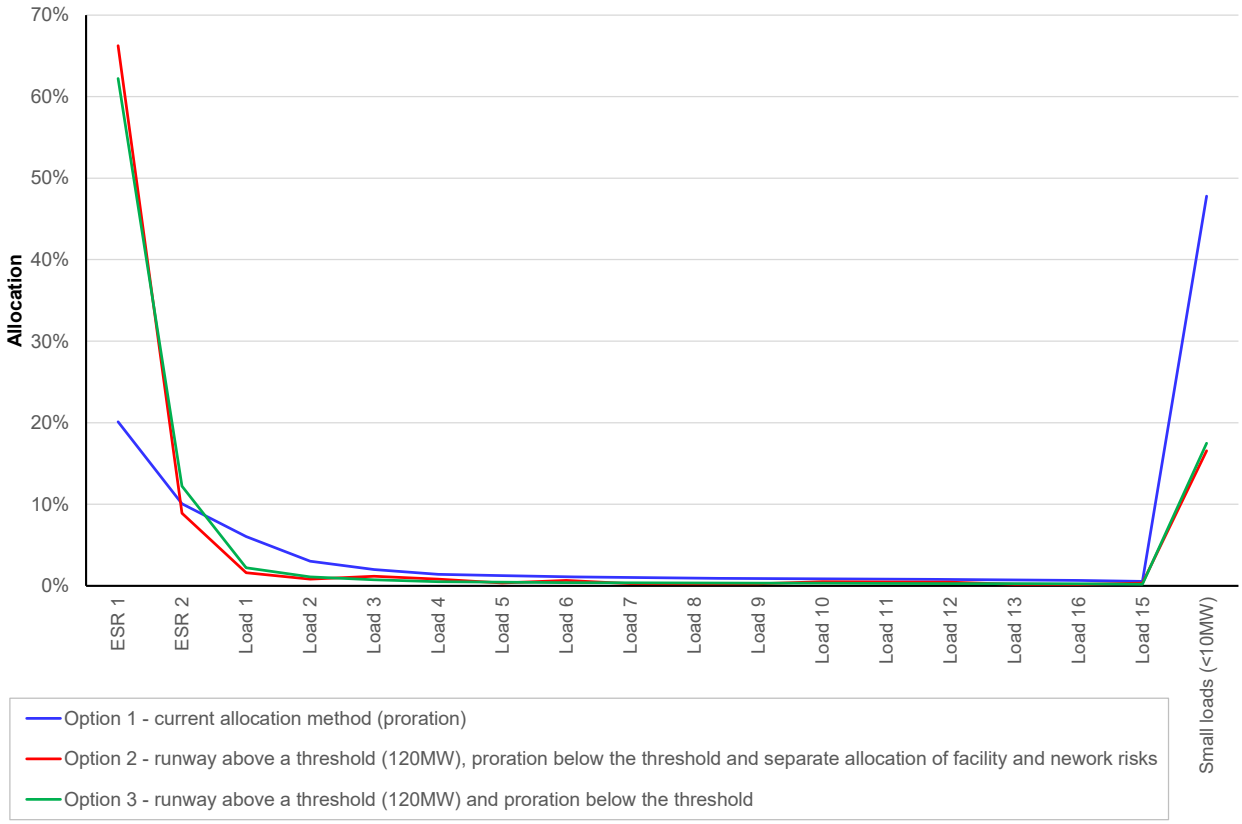
Under the current method (Option 1), ESR1 is allocated 20.1% of CRL costs when recharging and ESR2 is allocated 10.1%.

Under a full causer-pays cost recovery method (Option 2), ESR1 is allocated 66.2% of CRL costs and ESR2 is allocated 8.9%. This highlights that the Runway Method allocates the majority of costs to the largest unit that is operating. However, the largest load that is consuming is also causing an increase in the CRL service requirement, so adopting a causer-pays approach means the largest ESR would bear that cost.

Under Option 3, in which costs for the CRL requirement are allocated based only on network risk (not individual load risk), ESR1 is allocated 62.2% and ESR2 is allocated 12.2%.

The results for Scenario 1 are presented in Figure 5.

Figure 5: CRL Cost Recovery under Scenario 1



Source: EPWA 2023

The results for Option 2 and Option 3 are similar under Scenario 1 because the ESR facilities are on different network elements, which suggests that their impact on the CRL service requirements is similar (set at 549 MW) for both options. As a result, applying the Runway Method under Option 2 and Option 3 yields similar results.

6.3.2 Analysis of Scenario 2

Under the current method (Option 1), ESR1 is allocated 18.3% of CRL costs when recharging, while ESR2 and ESR3 are each allocated 9.1%.

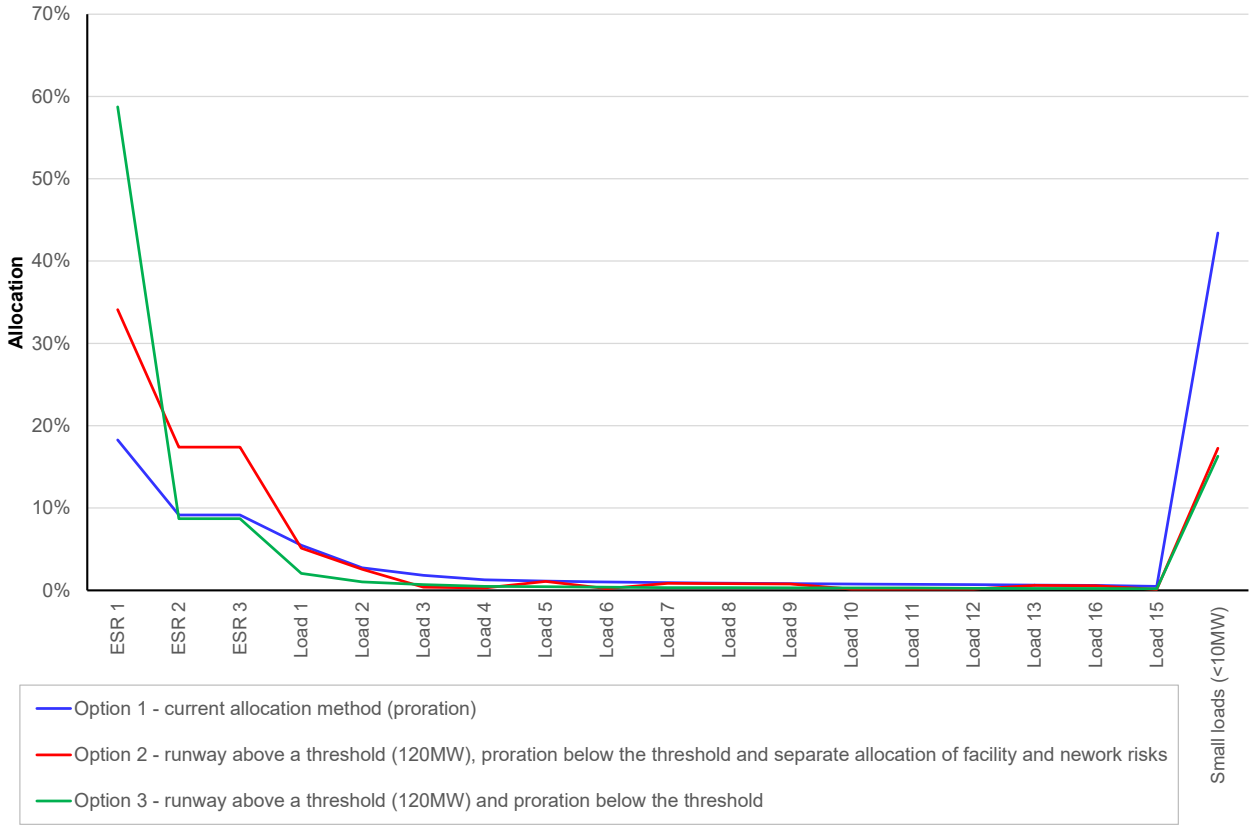
Under a full causer-pays cost recovery method (Option 2), ESR1 is allocated 34.1% of CRL costs, while ESR2 and ESR3 are each allocated 17.4%. The cost allocation to ESR2 in Scenario 2 is

significantly higher than in Scenario 1 (8.9%) because the network risk for ESR2 has increased, because ESR2 and ESR3 are located on a common transmission element. While the CRL requirement has not increased overall (still 549 MW), ESR2 now bears more of the CRL costs compared to ESR1.

Under Option 3, in which costs for the CRL requirement are allocated based only on network risk (not the ESR facility risk), ESR1 is allocated 58.7% of the CRL costs, while ESR2 and ESR3 are each allocated 8.7%.

The results for Scenario 2 are presented in Figure 6.

Figure 6: CRL Cost Recovery under Scenario 2



Source: EPWA 2023

Under Option 3, ESR1 would bear most of the CRL costs because it is the largest unit (400 MW). However, while ESR2 and ESR3 create a combined 400 MW CRL requirement by locating on a common transmission element, they would not provide a cost-reflective contribution to CRL cost recovery.

6.3.3 Summary of Options

In summary:

- Options 2 and 3 yield significantly higher cost allocations to large loads compared to the current cost allocation method (Option 1) in both scenarios. This is consistent with the causer-pays principle, whereby large loads (i.e., ESR in the above scenarios) that connect to the SWIS pay for the increase in CRL service requirements that they cause.
- Options 2 and 3 yield similar cost allocations if grid connected ESR are located on separate transmission elements. Cost recovery from ESR1 was between 62.2% and 66.2%. In effect, the largest load that is operating determines most of the requirement for the CRL service.

- Options 2 and 3 yield very different results if grid connected ESR share transmission infrastructure. In Scenario 2, with ESR2 and ESR3 sharing a common transmission element, cost recovery was 34% for ESR1, and 34% in aggregate for ESR2 and ESR3 (17% each). Under Option 3, ESR1 would bear 58.7% of CRL service costs.

In conclusion, Option 3, is not consistent with the causer-pays principle because it allocates most CRL costs to the largest load on the SWIS, even if the sum of the smaller loads on another transmission element create the largest risk (and determine the CRL requirement).

6.4 Review Outcomes – Contingency Reserve Lower Services

Revise the cost allocation method to:

- allocate CRL costs to Loads for consumption above 120 MW using the Runway Method;
- prorate CRL costs to Loads for consumption below 120 MW; and
- separately allocate facility and network risks.

7. Other Essential System Services

The method for allocating Rate of Change of Frequency (RoCoF) Control services was out of scope for the Cost Allocation Review. However, the Review considered the methods to allocate System Restart Service and NCESS.

The Consultation Paper made the following proposals:

Proposal 5 – System Restart Services

System Restart pricing is primarily focused on achieving cost recovery from beneficiaries, so the cost for System Restart Services should be borne by loads, as per the current practice.

Proposal 6 – NCESS

Recovery of NCESS should occur as follows:

- where AEMO procures the NCESS, the NCESS costs should be allocated to beneficiaries of the services (Market Customers), given that the current focus of NCESS charges is cost recovery and not market efficiency; and
- where Western Power procures the NCESS, these services are a substitute for network investments, so it is appropriate for Western Power to recover these costs via network access charges.

7.1 Key Issues Raised and EPWA Responses

Most CARWG members were supportive of maintaining the current approach to cost recovery for the System Restart Service and NCESS. However, some members wanted clarifications of current practices.

Synergy sought clarification on the cost recovery method for System Restart Services, which included:

(1) whether costs are recovered by a simple share of MWh, and

(2) the treatment of ESR.

The current practice is to recover System Restart costs from Market Participants based on electricity consumed by their customers at the node, consistent with beneficiary-pays principle.

Since a grid connected ESR is not a causer of the requirement for System Restart Services, nor a customer or beneficiary of this service, energy used by ESR should not be levied for System Restart Services. Ultimately, the energy stored by the ESR will be discharged for use by loads in the SWIS, and loads will pay for the System Restart Service costs.

In the case of a hybrid facility, which could contain a large load, ESR and onsite generation, total electricity consumed by the facility would be charged for System Restart Services. The electricity stored in the ESR may be used by the load at another time, to reduce, for example, the loads' Individual Reserve Capacity Requirement (IRCR) s. As the load is the beneficiary of the System Restart Service, allocating the cost of the System Restart Service on the hybrid facility is consistent with the beneficiary-pays principle.

The Australian Energy Council (AEC) wanted to understand whether penalties/refunds could be applied to a Facility that has a Forced Outage and is the 'causer' of the NCESS requirement. This issue has been addressed in the Reserve Capacity Mechanism Review.[14]

Synergy suggested that locational signals could be provided to Market Participants to minimise the requirement for NCESS. Synergy provided an example that:

> …if a Market Participant ignored locational investment signals before building a generator and this resulted in NCESS procurement, all NCESS costs should instead be allocated to that Participant.[15]

As indicated in the Consultation Paper, NCESS was only implemented recently and, based on the NCESS procurements already undertaken by AEMO, is likely to address various scenarios (e.g. Minimum Demand vs Peak Demand issues). Therefore, it is difficult to attribute costs for NCESS procured by AEMO to particular loads or Energy Producing Systems, at this stage.

It is also likely that future NCESS procurements undertaken by a Network Operator will be aimed at addressing locational issues. Costs for NCESS procured by Western Power will be recovered through network tariffs, which EPWA considers remains appropriate.

It should also be noted that Synergy's issue will be partially addressed by the proposal under the Reserve Capacity Mechanism Review to distribute capacity refunds to Market Participants that are responsible for Loads rather than to capacity providers.[16]

Therefore, the review outcome is that the allocation of NCESS costs should be reviewed again once the WEM has more experience with NCESS.

7.2 Review Outcomes for Other ESS

Retain the current cost recovery methods for System Restart Services and NCESS.

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14 Section 2.4.5 of the *Reserve Capacity Mechanism Review, Information Paper (Stage 1) and Consultation Paper (Stage 2)*, published on 3 May 2023, and available at https://www.wa.gov.au/system/files/2023-05/epwa_reserve_capacity_mechanism_review_information_and_consultation_paper.pdf.

15 Page 4 of Synergy's submission to Cost Allocation Review Consultation Paper (https://www.wa.gov.au/system/files/2023-02/Submission%20-%20Cost%20Allocation%20Review%20Consultation%20Paper%20-%20Synergy.pdf)

16 See Proposal S in the *Reserve Capacity Mechanism Review – Information Paper (Stage 1) and Consultation Paper (Stage 2)* at https://www.wa.gov.au/system/files/2023-05/epwa_reserve_capacity_mechanism_review_information_and_consultation_paper.pdf.

Appendix A. Summary of Submissions to the Consultation Paper and Responses to those Submissions

Participant	Issues	Response
Proposal (1)(a) Retain the current method for allocating Market Fees to Market Participants		
AEMO	Supports, but recommends reviewing at an appropriate time in the future.	
Alinta Energy	Broadly supports.	
AEC	Supports.	
Expert Consumer Panel (ECP)	Supports.	
Perth Energy	Supports.	
Shell Energy	Supports retaining the current fee allocation method, but notes that it is not necessarily the most fit for purpose.	
Synergy	Agrees, noting the limited efficiency benefits of implementing a new WEM Hybrid Method for allocating Market Fees. Notes that some Market Fees borne by Market Participants are due to non-Market Participant queries and that it may be relevant for AEMO to minimise these. If the WEM Hybrid Method is reviewed at a later stage, then use of customer's IRCR may not be a fair measure for allocating Market Fees.	

Participant	Issues	Response
Proposal (1)(b) Ignore recharge energy when allocating Market Fees to storage Facilities		
AEMO	Recommends that storage Facilities are charged on both withdrawal and injection, as this is the basis on which costs are incurred in managing the system and the market. Ignoring recharge when allocating Market Fees would result in associated costs being recovered from other Market Participants.	The Coordinator acknowledges and agrees with the range of issues raised by AEMO in both formal submissions and other correspondence. This proposal has been revised – see section 3 of this paper.
Alinta Energy	Broadly supports.	
AEC	Supports.	
Perth Energy	Agrees that storage Facilities should only be charged once but recharge energy is a more appropriate measure, as this is a fairer parallel to charging generators and loads on their gross usage.	
Shell Energy	Consider the implementation costs associated with suggested treatment of storage Facilities to ensure that there is a net benefit.	
Synergy	Agrees in principle, but further consideration is needed as to how this will work for hybrid Facilities, and if the treatment for hybrids will differ depending on the Facility structure.	One of the rationales for withdrawing this proposal is that it would be difficult to apply to hybrid facilities. Separate metering of loads, generation and ESR that is BTM may be required, at extra cost, and there could be incentives for hybrid facilities to minimise non-ESR consumption (not an efficient outcome).

Participant	Issues	Response
Proposal (2)(a) Adopt the WEM Deviation Method to allocate Regulation costs in 2024/25		
AEMO	The proposed method ignores forecasts for sent-out generation from Semi-Scheduled Facilities and instead apportions costs based on deviations from a hypothetical linear dispatch target. As a result, there is no incentive for Semi-Scheduled Facilities to meet their expected output, only to maintain a linear ramp to avoid Regulation costs. Where actual output deviates from expected output and a Semi-Scheduled Facility maintains a linear ramp, the Regulation service to meet the deviation would be distributed to other Facilities. Fails to provide incentives to minimise both volatility and forecasting accuracy. Recommends that forecasts be determined ex-ante.	The WEM Deviation Method has been amended to address the concerns raised by AEMO – see section 4 of this paper.
Alinta Energy	Concerned that the WEM Deviation Method and the new NEM Causer-Pays Method will both impose additional costs on large-scale renewable generators and will not address BTM PV customers' contribution to frequency deviations or deliver substantial benefits. Propose re-considering the current NEM forecasting method (AEMO responsible for central forecasting of intermittent generation with generators having the option to provide forecasts) because this may improve the forecast accuracy and minimise regulation requirements without imposing additional costs and may improve consistency (but note that Market Participants may not improve forecasting if their contracts allow them to pass through these costs).	The purpose of the WEM Deviation Method is to allocate costs to the facilities that cause frequency deviations due to deviations in their output or withdrawal. It is anticipated that Semi-Scheduled Facilities will be a significant contributor to these frequency deviations and should therefore be allocated a higher proportion of the Regulation costs. It is estimated that 50% of Regulation costs would be allocated to loads (via retailers and aggregators) under the WEM Deviation Method. If the retailer or aggregator has customers with PV in their retail portfolio that cause significant deviations in output, then retailers can pass these costs through to their customers. However, allocation of costs to retail customers is out of scope for the Cost Allocation Review.

Participant	Issues	Response
AEC	Avoid any approach that will impose additional costs on renewable projects. Payments from large-scale renewable projects should be proportional to the Regulation costs they cause and those caused by rooftop PV.	See the response to Alinta Energy's comments.
Perth Energy	Supports the WEM Deviation Method.	
Shell Energy	Supports the WEM Deviation Method.	
Synergy	Further investigation of the WEM Deviation Method and the new NEM Causer-Pays Method is required and there would be cost savings from implementing one method rather than implementing one and later replacing it with the other. Incentives are needed for normal loads (not aggregators) to operate BTM batteries in a way to minimise load variations – this will need to be done by regulated tariffs. Query whether using a linear dispatch target is appropriate for modelling, as ramping is not typically linear, and whether there are different targets for each 5-minute Dispatch Interval. Loads may not be able to be incentivised to minimise deviations in generation because they are subject to regulated tariffs due to the complexity involved with explaining this mechanism to retail customers.	The focus of the Cost Allocation Review is allocation of Regulation costs to Market Participants (not retail customers) to provide them incentives to reduce Regulation costs by minimising generation and load deviations. Incentives for improving the behaviour of retail customers to reduce wholesale costs is out of scope for the Cost Allocation Review. Measuring deviations from a linear dispatch target over five minutes is a standard approach in the NEM.

Participant	Issues	Response
(2)(b) Reassess the New NEM Causer-Pays method to allocate Regulation costs in 2027, for potential implementation in 2028/29		
AEMO	Supports	
Alinta Energy	Support conducting a cost-benefit analysis of the reforms, but it should not be required in 2027 – instead, EPWA should reserve the right to initiate a review at its discretion.	A high-level cost-benefit analysis of implementing a causer-pays method to allocate Regulation costs is provided in section 4.3.2 of this report.
AEC	Adopting the new NEM Causer-Pays Method should only take place if there is pressing need as it will divert limited resources and result in significant implementation costs.	See the response to Alinta Energy's comments.
Perth Energy	Supports, but if the new causer-pays method requires a significant rebalance in allocation of costs, consideration should be given to the appropriate timing for introduction.	Implementation of the WEM Deviation Method will be delayed until October 2025 to align with implementation of 5-minute settlement and to put less pressure on AEMO given the commencement of the new wholesale market arrangements on 1 October 2023.
Shell Energy	A cost-benefit analysis is required to inform the recommended method.	See the response to Alinta Energy's comments.
Synergy	Unable to consider the expected costs of implementation as a cost-benefit analysis has not yet been completed. Further investigation of the WEM Deviation Method and the new NEM Causer-Pays Method is required and there would be cost savings from implementing one method rather than implementing one and later replacing it with the other.	See the response to Alinta Energy's comments.

Participant	Issues	Response
Proposal (3) Where a Facility has multiple units with separate network connections, adjust the runway method for CRR so that each unit is treated separately		
AEMO	Supports the policy intent but further work is required on practical implementation, including how costs will be assigned for aggregations based on Facility risk and on defining how multiple aggregated assets with multiple different risk profiles will be treated.	EPWA will draft WEM Amending Rules to implement these changes, in consultation with AEMO and Western Power.
Alinta Energy	Broadly supports.	
ECP	Generally, supports. Suggest that the Facility Risk value to be used for allocating the costs should use the largest single credible contingency that could occur for a Facility, even for Facilities with multiple units and more than one network connection. It may be necessary for Western Power and the Facility owner to determine the largest credible contingency for a Facility in some instances.	
Perth Energy	Generally, supports but it is essential that AEMO ensure that there are no other points of common mode failure that could take all units off-line simultaneously	
Shell Energy	Does not support. Need to consider what behavioural change this will drive. Queried if modelling has been undertaken of Facilities with multiple connections to determine the risk value of such Facilities, as the risk value should not necessarily decrease due to multiple connections. Noted that: (a) if the proposal is simply an improvement on the existing method, then it is hard to build an argument against the	Individual dispatchable units at a site are highly unlikely to have a coincident Forced Outage unless they are connected to the network through a single connection that fails. If a facility has multiple connections and is configured in a way that allows the units to be dispatched independently, then the Facility Risk value should be calculated on the basis of the individual dispatchable units, not in aggregate for the Facility. Aggregating the individually dispatchable units will over-

Participant	Issues	Response
	concept of treating the output from separately connected units as two distinct contingencies; (b) there is no transparency as to how an assessment of Facilities' Risk value would be conducted; (c) the assessment of a Facilities' Risk value is likely to be subjective; and (d) the change is unlikely to result in a net-benefits to customers and the overall cost of Contingency Reserve is unlikely to change, so the implementation costs are unlikely to be recovered.	estimate the risks and over-recover Contingency Reserve Rise costs from that Facility.
Synergy	Supports the intent of this Proposal. AEMO should only apply this method for Facilities where units are truly operated independently of each other. Need to ensure that Facilities are given the right incentives to minimise power system risk, without incentivising the avoidance of costs via aggregating multiple units and benefitting from treatment as single units.	
Proposal (4) Apply a Modified Runway Method to Allocate CRL Costs		
AEMO	Agrees with the principle of the proposed approach, but is unclear on implementation, and would like to consult further on detailed design.	
Alinta Energy	Broadly supports.	
Neoen (verbal submission)	Concerned that the application of the modified Runway Method above 120 MW may create bias against ESR in the SWIS. ESR has a very low risk factor, and this must be considered.	The CARWG discussed options to address Neoen's concerns –see section 6 of this paper.

Participant	Issues	Response
Perth Energy	Supports.	
Synergy	Supports the approach. Notes that aggregating small loads may create inconsistencies in the allocation of costs to loads above/below 120MW. Supports adjusting the methodology to cater for future load contingencies exceeding 120 MW.	
Proposal (5) Retain the current System Restart cost allocation method		
AEMO	Supports	
Alinta Energy	Broadly supports.	
Perth Energy	Supports.	
Shell Energy	Supports	
Synergy	Not opposed to the proposal but seeks clarification on: • whether these costs will be recovered based on a simple share of MWh; and • the treatment of ESR.	A grid connected ESR does not cause the requirement for System Restart services and is not a consumer or beneficiary of the service and, so ESRs should not be charged for System Restart services.
Proposal (6) Retain the current NCESS cost allocation method		
AEMO	Agrees, noting it may be appropriate to revisit once there is sufficient operational experience with the framework.	
Alinta Energy	Broadly supports.	
ECP	Supports.	Incentives for Facilities to be available and minimise Forced Outages and, as a consequence, reduce the requirements

Participant	Issues	Response
	Want to understand if there is an opportunity to improve the NCESS and related processes by directing penalties/refunds for non-performance that results in additional capacity being required through NCESS (e.g., long duration Forced Outages and fuel supply problems) to partly fund the NCESS rather than continuing to levy penalties/refunds to other generators, which requires all of the additional costs of NCESS to be borne by loads (consumers).	for NCESS, have been addressed in the Reserve Capacity Mechanism Review.
Perth Energy	Supports, but would not support significant changes without sufficient time to notify customers.	No changes are proposed.
Shell Energy	Supports	
Synergy	Further consideration as to the causers of NCESS requirements may be warranted before this cost recovery method is implemented (e.g., if a Market Participant ignores locational investment signals before building a generator and this resulted in NCESS procurement, then all NCESS costs should be allocated to that Market Participant).	As outlined in the Consultation Paper, it is difficult to identify 'causers' of the requirements for NCESS, and as such, it is appropriate to recover costs from beneficiaries rather than providing price signals to reduce NCESS requirements.
Other Comments		
ECP	Generally supportive of the proposed directions on the Consultation Paper. Ensuring the costs are accurately calculated and attributed to the Market Participant (generator, retailer or other party) who is in the best position to manage those costs is a foundational principle for the ECP. Unlikely to support changes to methodologies unless it is clear that they will incentivise behaviour that will drive down costs and support system security and/or decarbonisation objectives.	

Participant	Issues	Response
	Keen to resolve these matters and direct resources to the highest priorities – those which go to retirement of the State's legacy fossil fuel generation.	
Perth Energy	Generally supportive but note the importance of costs being predictable. Market Participants should, as far as practical and efficient, pay costs and receive payments directly linked to their specific operations. Will large batteries require CRR to be sustained at close to current levels to cover a trip?	

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Department of Mines, Industry Regulation and Safety
Energy Policy WA

Agenda Item 9: Scope of Work for the WEM Investment Certainty Review

Market Advisory Committee (MAC) Meeting 2023_06_08

Purpose

To seek the MAC's support for the commencement of the Wholesale Electricity Market (WEM) Investment Certainty (WIC) Review.

Recommendation

That the MAC:

(1) supports the commencement of the WIC Review; and

(2) reviews, discusses and provides comments on the proposed Scope of Work for the WIC Review (Attachment 1).

Background

The Coordinator has conducted several WEM reviews since the start of 2022, in consultation with the MAC, to address issues associated with the transformation of the South West Interconnected System.

These reviews have identified the need for further WEM reforms to incentivise investment in new renewable energy facilities to help the Government achieve its decarbonisation targets, while maintaining system security and reliability and without unduly increasing costs to consumers.

On 9 May 2023, the Minister for Energy announced that Government is considering the following five reforms to achieve these aims:

(1) changing the Reserve Capacity Price (RCP) curve so it sends sharper signals for investment when demand for new capacity is stronger;

(2) a 10-year RCP guarantee for new technologies, such as long-duration storage;

(3) a wholesale energy price guarantee for renewable generators, to top up their energy revenues as WEM prices start to decline, in return for them firming up their capacity;

(4) emission thresholds for existing and new high emission technologies in the WEM; and

(5) a 10-year exemption from the emission thresholds for existing flexible gas plants that qualify to provide the new flexibility service.

The Coordinator of Energy plans to conduct the WIC Review to consider, design and implement these five specific reforms.

The WIC Review will be conducted under clause 2.2D.1 of the WEM Rules. 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.

Energy Policy WA has developed a draft Scope of Work for the WIC Review for consideration by the MAC (Attachment 1).

Attachments

(1) Draft Scope of Works for the WIC Review.

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

Scope of Work for the WEM Investment Certainty Review

1. Introduction

The Coordinator of Energy (Coordinator) is conducting the Wholesale Electricity Market (WEM) Investment Certainty (WIC) Review under clause 2.2D.1 of the WEM Rules. 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 WEM and the WEM Rules.

The WIC Review aims to ensure that the WEM will provide incentives for sufficient new renewable capacity, while maintaining system security and reliability and without unduly increasing the cost to consumers. The WIC Review will consider the following five specific reforms that were announced by the Minister for Energy on 9 May 2023:

(1) changing the Reserve Capacity Price (RCP) curve so it sends sharper signals for investment when demand for new capacity is stronger;

(2) a 10-year RCP guarantee for new technologies, such as long-duration storage;

(3) a wholesale energy price guarantee for renewable generators, to top up their energy revenues as WEM prices start to decline, in return for them firming up their capacity;

(4) emission thresholds for existing and new high emission technologies in the WEM; and

(5) a 10-year exemption from the emission thresholds for existing flexible gas plants that qualify to provide the new flexibility service.

The Coordinator is conducting the WIC Review in 2023/24 and intends to develop changes to the WEM Rules and submit these for approval by the Minister in 2024.

2. Background

2.1 Energy Market Transformation

Electricity markets around the world are undergoing a major transition in the move to a net zero emissions energy sector. The South West Interconnected System (SWIS) continues to experience a significant uptake of distributed photovoltaic and large scale wind generation.

As indicated in the SWIS Demand Assessment that was released by the Minister for Energy on 9 May 2023,[1] a number of factors are likely to influence demand growth in the SWIS in the coming decade, including the electrification of major industrial processes.

At the same time, the electricity supply mix in the SWIS is rapidly changing with:

- the forthcoming exit of baseload fossil fuelled generators (coal), followed by the progressive exit of the rest of the fossil fuelled facilities (gas and diesel);
- the current and continued entry of renewable intermittent generation (wind and solar); and
- the uptake of electric storage resources (ESR).

[1] SWIS Demand Assessment 2023 to 2042 (www.wa.gov.au).

Significant network, renewable generation and ESR investment will be required in the SWIS over the next decade to continue to deliver on the energy trilemma of reliable, affordable and environmentally responsible electricity supply.

The Coordinator has commenced a number of electricity market reviews since the start of 2022 to address issues associated with this electricity transformation, including:

- the Reserve Capacity Mechanism (RCM) Review;[2]
- the Cost Allocation Review;[3]
- the Market Power Mitigation Strategy review;[4]
- the Supplementary Reserve Capacity (SRC) Review;[5] and
- the Demand Side Response (DSR) Review.[6]

These reviews address a number of issues associated with the transformation of the SWIS, but have also highlighted the need for further WEM reforms to incentivise investment in new renewable energy facilities and to help the Government achieve its decarbonisation targets, while maintaining system security and reliability and without unduly increasing costs to consumers.

2.2 Investment Certainty

Concerns have been raised about the ability of the WEM to deliver price signals that drive efficient investment in renewable generation capacity because of an increased risk that sufficient revenue will not be available to make the investments viable due to:

- the potential decrease in energy market prices when renewable generators with low operating costs set the market price more frequently in the future; and
- the lack of a mechanism to price the market externality associated with greenhouse gas emissions.

EPWA conducted some preliminary economic modelling as part of the RCM Review to forecast the financial viability of new intermittent renewable generation and ESR developments.[7] While this modelling was based on conservative assumptions, it indicated the following:

ESR: Revenues from the RCM (both the peak and flexible capacity products), the energy market and Essential System Service (ESS) markets are likely to be sufficient to support entry of ESR for the whole modelling horizon (to 2050).

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2 Information on the RCM Review is available at Reserve Capacity Mechanism Review (www.wa.gov.au). The MAC established a RCM Review Working Group (RCMRWG) to assist with this review. Information on the CARWG is available at. Reserve Capacity Mechanism Review Working Group (www.wa.gov.au).

3 Information on the Cost Allocation Review is available at Cost Allocation Review (www.wa.gov.au). The MAC established a Cost Allocation Review Working Group (CARWG) to assist with this review. Information on the CARWG is available at Cost Allocation Review Working Group (www.wa.gov.au).

4 Information on the Market Power Mitigation Strategy is available at Market Power Mitigation Strategy (www.wa.gov.au).

5 Information on the SRC Review is available at Supplementary Reserve Capacity Review (www.wa.gov.au).

6 Information on the DSR Review is available at Demand Side Response Review (www.wa.gov.au). The MAC established a Demand Side Response Review Working Group (DSRRWG) to assist with this review. Information on the DSRRWG is available at Demand Side Response Review Working Group (www.wa.gov.au).

7 See section 9 of the *Reserve Capacity Mechanism Review Information Paper (Stage 1) and Consultation Paper (Stage 2)* , which is available at epwa_reserve_capacity_mechanism_review_information_and_consultation_paper.pdf (www.wa.gov.au).

The economic modelling under the RCM Review was deliberately conservative on the participation of renewables in non-energy services, so the revenue adequacy for renewables would likely improve with more realistic assumptions.

Wind: Revenues from the RCM (the peak capacity product only), the energy market and Large-Scale Generation Certificates (LGCs) under the Renewable Energy Target (RET) are likely to be sufficient to support entry of new wind Facilities until around 2030.

Building sufficient new wind Facilities to meet the Planning Criterion past 2030 will likely result in decreasing energy prices to the point that total WEM revenues may be insufficient to cover the fixed and capital costs for new wind Facilities.

Solar: Revenues from the RCM (the peak capacity product only), the energy market and LGCs are likely insufficient to support entry of new utility scale solar generators for the whole modelling horizon.

This risk of non-recovery could stall investment in renewable generation capacity at the required scale and in the required timeframe to meet the State decarbonisation targets.

2.3 Emissions Reductions

The RET is the current national scheme to incentivise emissions reductions.[8] At present, the RET is due to cease in 2030, at which point there will be no specific mechanism to incentivise emissions reductions by electricity generators in Western Australia.

The Minister provided a draft *Statement of Policy Principles: Penalties for High Emission Technologies in the Wholesale Electricity Market* (Policy Statement) to the Coordinator in September 2022 and the Coordinator consulted with the MAC on the draft Policy Statement.[9]

Energy Policy WA (EPWA) subsequently commenced its assessment of options to implement this policy, and consulted on this as part of the RCM Review.[10]

The MAC accepted that implementing the penalty on high emissions technologies by establishing two emissions thresholds – an emissions rate threshold (tCO_2e/MWh) and an emissions quantity threshold (tCO_2e/MW) – and only providing Capacity Credits to Facilities that are below the thresholds was the preferred option. However, EPWA did not arrive at a final design for this threshold arrangement under the RCM Review.

3. Project Scope

The Government is delivering on the outcomes of a number of WEM reviews, the most significant of which is the review of the RCM.

The RCM Review will result in more incentives for investment in the type of capacity needed by the WEM. The proposed flexibility product, which will top up capacity revenues for flexible capacity, such as storage and flexible gas plant, is an example of the kind of incentives delivered through the RCM Review.

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8 The RET is an Australian Government scheme that is administered by the Clean Energy Regulator and is designed to reduce greenhouse gas emissions from the electricity sector and to encourage the additional renewable generation. Further information is available at About the Renewable Energy Target (cleanenergyregulator.gov.au).

9 The draft Policy Statement was tabled for discussion by the MAC on 13 October 2022 (Out-of-Session Meeting Papers.pdf (www.wa.gov.au)) and a revised draft on 13 December 2022 (MAC 2022_12_13 - Combined Meeting Papers.pdf (www.wa.gov.au)).

10 The MAC and RCMRWG discussed development of a penalty on high emissions technologies, identified six options, and recommended an emissions threshold as the preferred approach. For more information, see the papers for the MAC meetings on 9 August 2022, 13 December 2022, 2 February 2023 and 16 March 2023; and the papers for the RCMRWG meetings on 13 October 2022, 24 November 2022, 2 March 2023 and 22 March 2023.

The RCM Review also assessed options to implement penalties for high emissions technologies, and has highlighted a number of issues related to certainty for investment in reserve capacity. While not directly part of the RCM Review, these issues require attention.

As a result, Government is considering a package of WEM reform initiatives aimed at enhancing investment certainty for renewable and storage proponents. Better certainty for investors in new flexible energy technologies will help meet emission reduction targets while maintaining reliability in the SWIS. These initiatives were announced by the Minister for Energy on 9 May 2023.

3.1 Initiative 1: Changing the Reserve Capacity Price curve so it sends sharper signals for investment when demand for new capacity is stronger

Objective

The current RCP curve was established in the WEM Rules when there was significant excess of reserve capacity in the WEM. Recent market developments, including fuel supply limitations and increases in forecast demand, have resulted in capacity margins being tighter than the WEM has typically experienced.

While the existing mechanisms in the WEM are designed to address such circumstances, the objective of Initiative 1 is to change the RCP curve so it is steeper if capacity is short but flatter if capacity is oversupplied. This will provide stronger incentives for investment in capacity by increasing the RCP faster when AEMO projects a capacity “shortage”.

Issues

The review of the RCP will consider:

(1) whether the overall methodology for setting the RCP appropriate;

(2) whether the shape of the price curve (i.e. the segments of the price curve) appropriate;

(3) whether the parameters for the price curve are appropriate, including:

  (a) the Price Cap;

  (b) the Absolute Zero Point;

  (c) the Economic Zero Point;

(4) whether the Transitional Arrangements appropriate (i.e. the price floor and price cap);

(5) what changes need to be made to the WEM Rules to enable the outcomes of the review of the RCP; and

(6) any other RCP-related issues identified in the course of the review.

3.2 Initiative 2: A 10-year RCP guarantee for new technologies, such as long-duration storage

Objective

Under the current WEM Rules, proponents of new facilities can request to fix their RCP for five years. The objective of Initiative 2 is to allow proponents of new flexible technologies, such as long-duration storage, to increase the length of the RCP to 10 years, from five.

This will provide longer price certainty for long-duration storage, additional incentive for investment in these technologies, and allow more variable renewable generation to connect without compromising reliability.

Issues

The options for implementing this initiative will examine:

(1) what new technologies should be eligible for a 10-year RCP guarantee; and

(2) what does “long-duration” storage mean in the application of this initiative and should this change over time.

3.3 Initiative 3: A wholesale energy price guarantee for renewable generators, to top up their energy revenues as WEM prices start to decline, in return for them firming up their capacity

Objective

The RCM Review modelling indicated that the profitability of wind and solar generation may decrease in the later part of the decade, potentially resulting in insufficient WEM revenues for renewable generation past 2030. This is driven by:

- a potential decrease in average wholesale electricity prices (renewable generators have very low variable cost, so WEM energy prices are likely to rapidly decline as fossil fuel plant exits the market); and
- the lack of a mechanism to price the market externality associated with greenhouse gas emissions once the LGC revenues are not available.

The objective of Initiative 3 is to consider the need for a “top-up” of WEM revenues for renewable generators to address the risk that the renewable generators may not recover enough revenue to justify investment due to the potential for declining wholesale energy market prices. The intent is to create revenue certainty for renewable generators, while not increasing energy prices.

The top-up of WEM revenues would be available to renewable generators that can demonstrate in the RCM certification that they have firmed up their capacity by, for example, contracting with a storage facility.

Issues

The development of options for the application of this initiative is to consider:

(1) the overall approach to the scheme;

(2) when should the scheme commence and when should it end;

(3) under what circumstances should the top-up be provided, including:

  (a) what should be the trigger for the commencement of the scheme;

  (b) which types of technologies should be eligible;

(4) what firming requirements should be put in place;

(5) how should the top-up be calculated, including determining:

  (a) when there is a revenue adequacy problem and what is the magnitude of the problem;

  (b) the projected revenues for an eligible Facility, including from:

    (i) the RCM (both the peak and flexible capacity products);

(ii) the energy market;

(iii) the ESS markets;

(iv) LGCs or any other mechanism(s) to price carbon emissions externalities;

(6) how should the cost of the top-up be recovered in the WEM;

(7) how the scheme should be administered;

(8) what arrangements are required to amend or cease the scheme if another (State and/or Commonwealth) regime is established to price the carbon externality;

(9) the design of the Amending Rules to implement the scheme and

(10) any other issues that are identified in the course of developing the scheme.

3.4 Initiative 4: Emission thresholds for existing and new high emission technologies in the WEM

Objective

The objective of Initiative 4 is to introduce emission thresholds into the WEM Rules for both existing and new generators and to only provide Capacity Credits to facilities with emissions below these thresholds. The intent would be to gradually reduce the thresholds for existing facilities.

Signalling the emissions thresholds years in advance will provide increased certainty to AEMO of the ongoing viability of existing thermal generators and when existing generators are likely to no longer be available to contribute to the Reserve Capacity Target. This would also create opportunity for low emission technologies, such as renewable generators, to enter the market once fossil fuel plants lose their Capacity Credits.

Issues

The design of the Emissions Thresholds Scheme is to be based on the work on the penalties on high emissions technologies that was done under the RCM Review and is to include:

(1) the type(s) of thresholds that are to apply to existing and new Facilities, including consideration of:

(a) an emissions rate threshold ($tCO2_e$/MWh);

(b) an emissions quantity threshold ($tCO2_e$/MW);

(2) the level of the thresholds for existing and new Facilities at the commencement of the scheme;

(3) the rate of decline for the thresholds over time;

(4) timing for commencement of the arrangements;

(5) the design of the Amending Rules to implement the Emissions Thresholds Scheme; and

(6) any other issues identified in the course of developing the Emissions Thresholds Scheme.

3.5 Initiative 5: Introducing a 10-year exemption from the emission thresholds for existing flexible gas plants that qualify to provide the new flexibility service

Objective

The objective of Initiative 5 is to ensure an orderly transition to a zero carbon emissions system and to maintain system reliability, by providing a 10-year exemption from the emission thresholds for existing flexible gas plant.

This will ensure that the flexible gas plant that is required to maintain reliability does not prematurely exit the market. Together with the penalties regime, this would allow the exit of high emission generators from the RCM, while maintaining the presence of efficient gas generation and reliability in the WEM.

Issues

The design of this initiative is to include:

(1) the conditions of the exemption and whether it should apply to existing plant only;

(2) timing for commencement of the arrangements;

(3) the design of the Amending Rules to implement the Emissions Thresholds Scheme; and

(4) any other issues identified in the course of developing the Emissions Thresholds Scheme.

4. General Principle

All reforms under the WIC Review must meet the Wholesale Market Objectives, as well as being simple, flexible, sustainable and practical.

The Government is currently undertaking a process to enact a new State Electricity Objective[11] that will replace the Wholesale Market Objectives. The general principle will be that all of the above reforms must be consistent with the State Electricity Objective.

5. Stakeholder Engagement

EPWA will consult on the WIC Review via:

- discussions with the MAC;
- forming a MAC working group – the WEM Investment Certainty Working Group (WICWG) – to discuss:
    - the market modelling approach and assumptions to support the WIC Review;
    - detailed design elements of all five reforms initiatives under the WIC Review;
- publication of a public Consultation Paper and seeking submissions on that paper;

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[11] The proposed State Electricity Objective is to:

> promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity in relation to:
>
> - quality, safety and reliability of supply of electricity; and
> - price; and
> - the environment, including the reduction in greenhouse gas emissions.

Further information on the process to enact the new State Electricity Objective is available at Project Eagle Energy and Governance Legislation Reform (www.wa.gov.au).

- publication of an Information Paper to advise on the outcomes of the WIC Review; and
- publication of draft Amending Rules to implement the outcomes of the WIC Review and seeking submissions on the draft Amending Rules.

6. Project Schedule

Tasks/Milestones	Timing
(1) Preliminary Steps	
(a) MAC comments on the Scope of Work for the review	8 June 2023
(b) Coordinator approval and publication of the Scope of Work	15 June 2023
(c) MAC approval of the Terms of Reference for the WICWG	20 July 2023
(d) Appointment of consultants	20 July 2023
(e) First meeting of the WICWG	3 August 2023
(2) WICWG and MAC Discussions	
(a) Scenarios design and assumptions	August-September 2023
(b) Initiatives 1-2 and 4-5	September 2023-November 2024
(c) Initiative 3	October 2023-December 2024
(3) Consultation Paper	
(a) Consult with the MAC on a draft of the Consultation Paper	February 2024
(b) Publish the Consultation Paper	February 2024
(c) Submissions on the Consultation Paper	March 2024
(4) Further MAC and WICWG Discussions	
(a) All Initiatives	March-April 2024
(5) Information Paper and Draft Amending Rules	
(a) Consult with the MAC on: • a draft of the Information Paper • draft WEM Amending Rules	May 2024
(b) Publish the Information Paper and draft WEM Amending Rules	May 2024
(c) Submissions on the draft WEM Amening Rules	June 2024
(6) Finalisation and Commencement	
(a) Ministerial approval of the WEM Amending Rules	July 2024
(b) Commencement	Various

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

Agenda Item 10: Scope of Work for the Review of the Market Advisory Committee

Market Advisory Committee (MAC) Meeting 2023_06_08

Purpose

To seek the MAC's support for the commencement of a review of the process and operations of the MAC (MAC Review).

Recommendation

That the MAC:

(1) supports the commencement of the MAC Review; and

(2) reviews, discusses and provided comments on the proposed Scope of Work for the MAC Review (Attachment 1).

Background

The MAC was established in 2006 and was initially administered by the Independent Market Operator (IMO). The purpose, structure, process and operation of the MAC has subsequently been revised several times as responsibility for administration of the rule change function has shifted from the IMO, to the Rule Change Panel, and then to the Coordinator of Energy (Coordinator).

The MAC has been operating under its current governance arrangements since July 2021, so it is now appropriate to review the MAC to ensure that it remains fit for purpose. In particular, that it operates efficiently and provides balanced, timely and useful advice to the Coordinator.

Clause 2.2D.1(h) of the Wholesale Electricity Market (WEM) Rules 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.

Energy Policy WA has developed a draft Scope of Work for the MAC Review for consideration by the MAC (Attachment 1).

Attachments

(1) Draft Scope of Works for the Review of the MAC.

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

Scope of Work for the Review of the Market Advisory Committee

1. Introduction

The Market Advisory Committee (MAC) is a committee of industry and consumer representatives convened under clause 2.3 of the Wholesale Electricity Market (WEM) Rules to provide advice in relation to Rule Change Proposals, Procedure Change Proposals and the evolution of the WEM and the WEM Rules. The MAC was established at the commencement of the WEM in 2006.

The Coordinator of Energy (Coordinator) is conducting a review of the MAC under clause 2.2D.1(h) of the WEM Rules in June to October 2023 and plans to implement any changes to the WEM Rules resulting from the review in November 2023. 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 WEM Rules.

2. Background

Following its establishment, the MAC was administered by the Independent Market Operator (IMO). At that time, the IMO was responsible for most aspects of the WEM, including market operations, rule and procedure changes, and market monitoring and compliance.

The roles of the IMO were redistributed in April 2017, when responsibility for:

- market and system operations were transferred to AEMO;
- rule changes were transferred to the Rule Change Panel (RCP);
- market monitoring and compliance were transferred to the Economic Regulation Authority (ERA); and
- procedure changes were split between AEMO, the RCP and the ERA.

The RCP became responsible for administration of the MAC at that time, and the WEM Rules and the MAC Constitution were amended to be consistent with the new governance structure. The MAC was given the role to advise:

- the RCP on Rule Change Proposals; and
- AEMO, the RCP and the ERA on Procedure Change Proposals.

Further changes to the WEM governance arrangements were made in July 2021, when responsibility for administration of rule changes was transferred to the Coordinator and changes were made to the Rule Change Process. The Coordinator was also given responsibility for the evolution of the WEM and for reviewing the effectiveness of the WEM.

In addition, the role of WEM Procedures was amended as part of the Energy Transformation Strategy. The WEM Rules now require several parties to develop and operate in accordance with WEM Procedures, including AEMO, the Coordinator, the ERA and Network Operators.

The role of the MAC was amended at that time so that:

- the MAC is to advise the Coordinator on the evolution of the WEM and WEM Rules; and
- the MAC is to be chaired by an independent person (the independent Chair), with the Coordinator providing administrative support to the independent Chair.

Appendix A provides a summary of the key elements of clause 2.3 of the WEM Rules.

Clause 2.3.2 of the WEM Rules requires the Coordinator to develop and publish a MAC Constitution.[1] Appendix B provides a summary of the key elements of the MAC Constitution.

3. Roles and Responsibilities of MAC Members

The role of the MAC, as prescribed in Clause 2.3.1 of the WEM Rules, is to:

(a) advise the Coordinator regarding Rule Change Proposals;

(b) advise AEMO, the ERA, the Coordinator and Network Operators regarding Procedure Change Proposals;

(c) advise the Coordinator, AEMO and the ERA on the development of Rule Change Proposals where requested by the Coordinator, AEMO or the ERA;

(d) advise the Coordinator regarding matters concerning, and the Coordinator's plans for the evolution and development of the WEM and WEM Rules; and

(e) provide assistance to the Coordinator in its role of monitoring the effectiveness of the WEM.

MAC members are expected to demonstrate:

- knowledge and experience relating to energy sector issues;
- broad understanding of the technical, design and commercial aspects of the WEM;
- commitment to actively and impartially contribute to the MAC, including an ability to:
    - understand and adequately represent the interests of the membership group that they are appointed to represent;
    - contribute constructively to MAC discussions;
    - assess proposed rule and procedure changes against the Wholesale Market Objectives;
    - understand the subject matter in proposals made to the MAC; and
    - consider market design issues and options for the evolution of the WEM and the development of the WEM Rules;
- understanding of the WEM Rules and the other relevant legislation including the *Electricity Industry Act 2004*, *Electricity Industry (Wholesale Electricity Market) Regulations 2004*, Metering Code, Access Code and Technical Rules; and
- understanding of the powers and obligations of the Coordinator, ERA and AEMO and the governance frameworks in which they operate.

4. MAC Operations

Energy Policy WA (EPWA) provides administrative support to the independent Chair on behalf of the Coordinator. The Coordinator maintains a MAC webpage[2] that contains:

- a schedule of MAC meeting dates;
- a list of MAC members;
- the MAC Constitution;

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1 https://www.wa.gov.au/system/files/2023-02/Wholesale%20Electricity%20Market%20Rules%20-%201%20March%202023.pdf.

2 https://www.wa.gov.au/government/document-collections/market-advisory-committee.

- meeting papers and minutes for all MAC meetings (dating back to February 2007);
- information on annual composition reviews of the MAC;
- links to webpages for all MAC Working Groups that contain:
    - the Terms of Reference for the Working Groups;
    - lists of members for the Working Groups; and
    - meeting papers and minutes for all Working Group meetings.

The independent Chair of the MAC establishes arrangements for the MAC operations, including:

- Meeting Schedule:

  The MAC meets eight times per year, with additional meetings if required. Meetings are scheduled for every six weeks, commencing in February of each year, and avoiding school holidays where practicable. The MAC agrees to its meeting schedule for each year at the meeting in November of the previous year.

- Observers:

  The Coordinator and the ERA may appoint observers to attend MAC meetings. In addition, the Coordinator and the Chair can invite observers to attend MAC meetings.

  The Chair's general policy is to not invite observers to MAC meetings apart from exceptional circumstances, such as when a non-MAC member is presenting a new Rule Change Proposal to the MAC.

  If a Market Participant has a particular concern regarding an issue on the MAC agenda, the Chair expects that participant to discuss the matter with one or more of the representatives on the MAC that were are appointed to represent the interest of the relevant participant class, and for those representatives to raise the issue at the MAC.

- Meeting papers and minutes:

  Meeting papers are distributed to MAC members and are published on the MAC webpage one week in advance of MAC meetings. Meeting papers follow a standard format and are assembled in a standard order.[3]

  The MAC Secretariat takes detailed minutes of each MAC meeting and Working Group meeting. These minutes are more of a meeting record than minutes that specify:

    - the issues discussed;
    - the MAC discussion, including the positions taken by each MAC member;
    - any action items, including who is to undertake the action and when it is due; and
    - any positions taken by the MAC, including when there is consensus or dissenting views.

  These minutes are comprehensive to aid transparency and generally form the MAC's advice provided to the Coordinator. In addition to the minutes, the Chair may write to the Coordinator to provide direct advice on specific material issues, after consulting with the MAC on the content of this advice.

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[3] The standard items are addressed at the start of meetings, are usually concluded in a matter of minutes and include:

1. Welcome and Agenda;
2. Meeting Apologies/Attendance;
3. Minutes of the Previous Meeting;
4. Action Items;
5. Market Development Forward Work Program;
6. Update on Working Groups; and
7. Update on Rule Changes.

Substantive items follow the standard items, as appropriate from meeting-to-meeting.

5. Review Objective and Guiding Principles

The objective is to review the MAC's purpose, representation, process and operations.

This is to ensure that the MAC is fit for purpose, and in particular, that it operates efficiently and provides balanced, timely and useful advice to the Coordinator.

The review is to also assess whether the MAC's deliberations are focused on bettering the performance of the WEM against the Wholesale Market Objectives[4] rather than on representing the specific interest of any organisation or person.

The guiding principles for the review of MAC are that:

(1) the MAC should provide advice that:

  (a) is consistent with, or betters the Wholesale Market Objectives;

  (b) is in the best interest of the WEM and electricity consumers;

  (c) is delivered in a balanced and timely manner; and

(2) the MAC should operate in a balanced and efficient manner.

6. Review Scope

6.1 MAC's Role and Responsibilities

(1) The review will assess whether the role and responsibilities of the MAC, as outlined in section 3:

  (a) are conducive to the effective contribution of the MAC; and

  (b) if not, what changes to the role and responsibilities of the MAC may improve its effectiveness.

6.2 Representation

(2) Clause 2.3.2 of the WEM Rules deals with the composition of the MAC. The review will assess whether.

  (a) the composition of the MAC conducive to the effective contribution of the MAC;

  (b) the composition of the MAC should be changed to ensure that the MAC provides a balanced view that represents the interests of the WEM and consumers;

  (c) there should be more/fewer Market Participant representatives, or more/fewer representatives of any particular class, that would improve the effective contribution of the MAC;

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[4] The current Wholesale Market Objectives are:

  (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.

  The Minister for Energy is currently undertaking a process to enact a new State Electricity Objective that will replace the Wholesale Market Objectives. Further information on this process is available at https://www.wa.gov.au/government/document-collections/energy-and-governance-legislation-reform.

(d) a party that is both a generator and retailer (a gentailer) should be allowed to fill either a generator or retailer position on the MAC or there should be an additional separate category for gentailers, with the rest of the roles filled by parties that are either a generator or a retailer only; and

(e) there should be any other MAC member classes?

(3) The review will assess whether the MAC Constitution should be changed to ensure that the MAC provides a balanced view that represents the interests of the WEM and consumers.

6.3 Process and Operation

(4) Clause 2 of the MAC Constitution specifies the requirements for what the MAC must consider. The review will assess whether:

(a) the requirements for what the MAC must consider are appropriate; and

(b) there are any other matters that the MAC should be required to consider.

(5) Regarding MAC Meetings, the review should consider whether:

(a) the structure, order and timeframes of MAC meetings are conducive to the MAC providing effective advice to the Coordinator;

(b) all MAC members are able to contribute effectively to the MAC proceedings;

(c) there is sufficient information and documentation available about the MAC that is readily and easily accessible;

(d) the MAC meeting schedule or length are appropriate, and does the MAC meets often enough or too infrequently.

(6) Regarding MAC papers, the review should consider whether:

(a) the MAC papers are distributed and published in sufficient time to ensure effective MAC discussions;

(b) the form and content of papers for the standard agenda items are efficient, or any additional standard agenda items are required, or any existing items are not necessary;

(c) papers for the material agenda items generally contain an appropriate level of detail; and

(d) the length and content of the MAC minutes are appropriate and contain an appropriate level of detail;

(7) The review will consider whether:

(a) the MAC's quorum requirements are appropriate; and

(b) there any other issues related to the MAC governance arrangements or operations that need to be addressed.

7. Stakeholder Engagement

EPWA will consult on the review of the MAC by:

- conducting a survey and/or direct interviews with interested stakeholders, including MAC members; and
- developing draft changes to the WEM Rules and MAC Constitution, and conducting a public consultation on these draft changes.

8. Project Schedule

The intent is to complete the review of the MAC by mid-November 2023 so that the new arrangements are in place for the 2023 MAC Composition Review.

Tasks/Milestones	Timing
(1) MAC review of, and comments on, the Scope of Works for the review	8 June 2023
(2) Survey of and/or interviews with stakeholders	June/early July 2023
(3) Develop and publish: (a) consultation paper; (b) draft WEM Amending Rules; and (c) draft amendments to the MAC Constitution	Mid-August 2023
(4) Submissions due	Mid-September 2023
(5) Develop and publish: (a) information paper; (b) draft WEM Amending Rules; and (c) draft amendments to the MAC Constitution	Early October 2023
(6) Ministerial approval of WEM Amending Rules	Early November 2023
(7) Coordinator approval of revised MAC Constitution	Mid November 2023
(8) Commencement of the new MAC arrangements	Late November 2023

Appendix A: Summary of the MAC-Related Clauses from the WEM Rules

The Purpose of the MAC

- Clause 2.3.1 of the WEM Rules specifies that the MAC's purpose is to:
  - (a) advise the Coordinator regarding Rule Change Proposals;
  - (b) advise AEMO, the ERA, the Coordinator and Network Operators regarding Procedure Change Proposals;
  - (c) advise the Coordinator, AEMO and the ERA on the development of Rule Change Proposals where requested by the Coordinator, AEMO or the ERA;[5]
  - (d) advise the Coordinator regarding matters concerning, and the Coordinator's plans for the evolution and development of the WEM and WEM Rules; and
  - (e) provide assistance to the Coordinator in its monitoring role.[6]

The MAC Constitution

- Clause 2.3.2 of the WEM Rules specifies that the Coordinator must publish a MAC Constitution that deals with:
  - (a) the process for convening the MAC;
  - (b) the terms of reference of the MAC;
  - (c) the membership terms of MAC members;
  - (d) the process for appointing and replacing MAC members by the Coordinator;
  - (e) the conduct of MAC meetings;
  - (f) the role of the MAC Secretariat in supporting the MAC;
  - (g) interactions between the MAC and the Coordinator, AEMO, the ERA and Network Operators;
  - (h) the ability of the MAC to delegate any of the roles to a Working Group; and
  - (i) the governance arrangements to for any MAC Working Groups.

The Composition of the MAC

- Clause 2.3.2 of the WEM Rules specifies the composition of the MAC as:
  - (a) six to eight members representing Market Participants, excluding Synergy;
  - (b) one to two members representing Contestable Customers;
  - (c) one to two members representing Network Operators, of whom one must represent Western Power;
  - (e) at least two independent members representing small-use consumers (nominated by the Minister);
  - (g) two members representing AEMO;

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5 Clauses 2.5.1A, 2.5.1B and 2.5.1C of the WEM Rules require AEMO, the ERA and the Coordinator (respectively) to consult with the MAC before commencing development of a Rule Change Proposal or providing material assistance to another party to develop a proposal. These rules specify the matters that AEMO, the ERA and the Coordinator must consult on with the MAC.

6 See clauses 2.16.13A and 2.16.13B of the WEM Rules.

(h) one member representing Synergy; and

(i) an independent Chair, to be appointed by the Minister.

- Clause 2.3.5A of the WEM Rules requires the Coordinator to use reasonable endeavours to ensure equal representation of generators[7] and retailers[8] when appointing Market Participant representatives under clause 2.3.5(a).
- Clause 2.4.5B WEM Rules specifies that any organisation (other than AEMO) cannot be represented by more than one MAC member.
- Clauses 2.3.6 and 2.3.7 of the WEM Rules allow the Minister and the ERA to each nominate an observer to the MAC.
- Clause 2.3.7A of the WEM Rules allows the Coordinator and independent Chair to invite a person attend MAC meetings as an observer.
- Clause 2.3.9 of the WEM Rules required the Coordinator to annually review the composition of the MAC, in consultation with the independent Chair, and may remove and appoint members following the review.

The Independent Chair

- Clause 2.3.8A of the WEM Rules requires the Minister to appoint an independent Chair who, in the Minister's opinion:

  (a) is free from any business or other relationship that could materially interfere with the independent exercise of the independent Chair's judgment; and

  (b) has the skills and experience necessary to carry out the responsibilities and functions of the independent Chair of the MAC.

- Clause 2.3.8B of the WEM Rules limits each independent Chair to a three-year term with the possibility of one three-year extension.

Convening MAC Meetings

- Clause 2.3.15 of the WEM Rules specifies that the independent Chair must convene the MAC on any occasion when:

  (a) the WEM Rules require a meeting to discuss a Rule Change Proposal;

  (aA) the WEM Rules require a meeting to discuss a Procedure Change Proposal;

  (c) two or more MAC members have informed the Chair in writing that they wish to discuss a matter before the MAC regarding the evolution or the development of the WEM or the WEM Rules; and

  (d) the Coordinator has informed the Chair that they wish to discuss a matter before the MAC regarding the evolution or the development of the WEM or the WEM Rules.

Working Groups

- Clause 2.3.17 of the WEM Rules allows the MAC to establish and disband Working Groups comprising representatives of Rule Participants and other interested parties to assist the MAC in advising the Coordinator, ERA, AEMO and Network Operators.

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7 Market Participants that own, control or operate Energy Producing System(s).

8 Market Participants that sell electricity to customers.

Appendix B: Summary of the MAC Constitution

Terms of Reference

- Clause 2.1 of the MAC Constitution specifies the purpose for the MAC, consistent with clause 2.3.1 of the WME Rules.
- Clause 2.2 of the MAC Constitution requires the MAC to have regard to the Wholesale Market Objectives and any recommendation of the MAC must be consistent with the Wholesale Market Objectives.
- Clause 2.3 of the MAC Constitution requires MAC members and their proxies to act in the best interests of the WEM.

Membership Terms

- Clauses 3.5 and 3.6 of the MAC Constitution specify two classes of MAC members:
    - Compulsory class members: members who represent a single entity (AEMO, Synergy and Western Power) and small-use customer representatives; and
    - Discretionary class members: those who represent a class of participants and are not compulsory class members (i.e. Market Participants, Network Operator and Contestable Customers).
- Clause 3.7 to 3.9 of the MAC Constitution deals with proxies:
    - compulsory class members and observers from the Minister and ERA can send proxies to meetings; and
    - discretionary class members can request to send a proxy to meetings, and permission is at the discretion of the independent Chair.

Appointing and Replacing Members

- Clause 4.3 indicates that AEMO, Synergy and Western Power must nominate their compulsory class members to the Coordinator.
- Clause 4.4 indicates that the Coordinator will advertise for discretionary class members on the Coordinator's website, via RulesWatch and by direct contact with appropriate industry groups.
- Clauses 4.5 and 4.6 indicate that the usual term for each member is two years, but that the Coordinator can appoint members for a shorter term to maintain the balance on the MAC, and that MAC members cannot be a member for more than six consecutive years (excluding any years before January 2022).
- Clause 4.15 provides that the MAC can continue to operate if a MAC position becomes vacant at any point, but the Coordinator must use best endeavours to fill the vacancy.

Convening the MAC

- Clause 5.1 requires the independent Chair to convene the MAC:

    (a) in relation to a Rule Change Proposal, where the independent Chair or Coordinator considers that MAC advice is required;

    (b) in relation to a Procedure Change Proposal, where the independent Chair, Coordinator, AEMO, the ERA or a Network Operator considers that MAC advice is required;

    (c) in relation to a Rule Change Proposal, where two or more MAC members have advised the Chair that MAC advice is required;

(d) on any occasion where two or more MAC members advise the Chair that they wish to bring an issue to the MAC for discussion;

(e) on any occasion where the Coordinator advises the Chair that they wish to bring a matter to the MAC for discussion; and

(f) where practicable, consistent with the provisional schedule of MAC meetings.

Conduct of Meetings

- Clause 6.4 indicates that the quorum requirement for the MAC is:

  (a) 50% of total current members;

  (b) one member representing small-use customers;

  (c) two discretionary class members that are generators; and

  (d) two discretionary class members that are retailers.

- AEMO, Synergy and Western Power must nominate their compulsory class members to the Coordinator.

Conduct of Meetings

- Section 7 specifies the role of the MAC Secretariat.
- Section 8 specifies how the MAC, the Coordinator and the independent Chair are to interact.
- Section 9 specifies the governance arrangements between the MAC and Working Groups.