



Government of Western Australia
Energy Policy WA

Reserve Capacity Mechanism Review Working Group Meeting 2023_09_04

4 September 2023

Working together for a
brighter energy future.

Meeting Protocols

- Please place your microphone on mute, unless you are asking a question or making a comment
- Please keep questions relevant to the agenda item being discussed
- If there is not a break in discussion and you would like to say something, you can use the 'raise your hand' function in Teams or comment in the meeting chat
- Questions and comments can also be emailed to EPWA - Energy Markets energymarkets@dmirs.wa.gov.au after the meeting
- The meeting will be recorded and minutes will be taken (actions and recommendations only)
- Please state your name and organisation when you ask a question
- If you are having connection/bandwidth issues, you may want to disable the incoming and/or outgoing video

Agenda

	Item	Responsibility	Type	Duration
1	Welcome and Agenda	Chair	Noting	2 min
2	Meeting Apologies/Attendance	Chair	Noting	2 min
3	Optional Expressions of Interest	RBP	Discussion	5 min
4	Demand Side Programmes	RBP	Discussion	15 min
5	Testing, Outages, and Refunds	RBP	Discussion	40 min
6	Relevant Level Method	RBP	Discussion	20 min
7	General business	Chair	Discussion	5 min
8	Next Steps	Chair	Noting	5 min

Purpose of Discussing the Rules

EPWA is seeking feedback from the RCM Review Working Group before finalising the rules for public consultation.

Objectives for today's meeting:

- Point out the key changes to the WEM Rules to implement the outcomes of the RCM Review
- Note important drafting choices that affect implementation or market functioning
- Opportunity for questions and clarifications

RCM Review Working Group members will have another opportunity to provide feedback through the public consultation.

In these slides, text in *italics* is directly from the draft Rules.

3. Optional Expressions of Interest

Rules for Expressions of Interest

Participants are no longer required to submit an Expression of Interest to be eligible for Certified Reserve Capacity.

4.2.1 The second half of the clause is deleted

4.8.2 Deleted

4.8.3 Deleted

Appendix 3 The prioritisation order for NAQ now selects Facilities for which an EOI was submitted ahead of Facilities for which no EOI was submitted

Note: These changes may require further consequential changes to the Indicative Facility Class determination, preliminary Constraint Equations, etc, which EPWA is discussing with AEMO

4. Demand Side Programmes

Key DSP Rules

4.5.12 AEMO must determine:

the *Indicative DSP Dispatch Threshold*, which is the 50% POE Peak Demand less the number of Capacity Credits on issue to Demand Side Programmes (DSPs)

the *DSP Dispatch Requirement*, which is the number of Trading Intervals in the 10% POE peak load scenario where demand exceeds the Indicative DSP Dispatch Threshold.

4.10.1(f) Aggregated DSPs must nominate a quantity of Certified Reserve Capacity in their application.

4.11.1(j) Aggregated DSP Certified Reserve Capacity must not exceed the nominated quantity.

7.10.6A DSPs with Associated Loads containing controllable electricity producing systems must not use them to reduce Individual Reserve Capacity Requirements while holding Capacity Credits. If seen to have done so, the association will be removed, and the Non-Dispatchable Load cannot be an Associated Load of another DSP for the next three years.

These amending rules do not include a dynamic baseline for DSP dispatch, which is being considered as part of the Demand Side Response Review.

5. Testing, Outages and Refunds

Key Testing Rules

Facilities will be tested twice for each of Peak Capacity and Flexible Capacity.

- 4.25.1B Flexible Capacity tests will occur once in summer and once in winter, and will focus on showing that the Facility still meets the minimum requirements for providing Flexible Capacity.
- 4.25.1C Facilities other than Demand Side Programmes can pass tests by observation.
- 4.25.3B Participants can ask for peak and flexible tests to be conducted at the same time, and AEMO has to do so unless there is a real risk to Power System Security or Power System Reliability.
- 4.25.3D/E If a Demand Side Programme fails a test, AEMO will determine a test shortfall amount which will result in refunds until the DSP passes a test or its Capacity Credits are reduced.
- 4.25.3G If a non-Demand Side Programme fails two Flexible Capacity tests, its Flexible Capacity Credits will be reduced.
- 4.25.4I Participants can request multiple Demand Side Programme retests during the Capacity Year. Other facilities are still restricted to one additional request.
- 4.25.4CC If a participant voluntarily surrenders Peak Capacity Credits associated with a Demand Side Programme, it will forfeit the relevant portion of its DSP Reserve Capacity Security.

Key Outage Rules

3.21.6 – 3.21.8C The Capacity Adjusted Planned Outage (CAPO) and Capacity Adjusted Forced Outage (CAFO) rules are amended to become Peak CAPO and Peak CAFO, dealing solely with Peak Capacity.

3.21.11 – 3.21.19 New rules to calculate *Flexible Capacity Adjusted Planned Outage* and *Flexible Capacity Adjusted Forced Outage*. These are based on outages for the “Flexible Capacity” Outage Capability, which will have a maximum capability of the Flexible Certified Reserve Capacity associated with the Facility.

A Facility has a single *Reserve Capacity Obligation Quantity (RCOQ)*, even if it has different quantities of Flexible and Peak Capacity Credits. This means Flexible Capacity relates to the portion of capacity starting at the RCOQ and ending at RCOQ minus the quantity of Flexible Capacity Credits.

4.11.1(hA) A Facility with a historical Forced Outage rate above 10% will have its Certified Reserve Capacity reduced the following year, unless it has demonstrated to AEMO’s satisfaction that the underlying issues have already been resolved.

DSP outages

- 4.26.2B – 4.26.2CH DSPs can no longer lodge Consumption Deviation Applications when on outage.
- 4.26.1A(a)(ii)(5) A DSP outage may result in a shortfall for Peak Capacity, which is assessed using actual DSP Load rather than Relevant Demand as it was previously.
- 4.26.4(a)(ii)(4) DSP shortfalls for Flexible Capacity are also assessed using actual DSP Load.

Key Refund Rules

4.26.1(b) Peak Capacity refund calculations are amended so that non-zero Electric Storage Resource Reserve Capacity Obligation Quantities outside the Peak Electric Storage Resource Obligation Intervals do not affect Electric Storage Resource refunds. This amendment also affects various other Peak Capacity refund clauses.

4.26.1(h) – 4.26.1(k) New calculations for *Flexible Trading Interval Refund Rate*, refund factor, and per Trading Interval refund price.

The flexible capacity refund factor can be between one and six, based on the ramp rate in the Trading Interval. It is one when the Trading Interval ramp rate is less than half of the forecast annual four-hour maximum, and six when the Trading Interval ramp rate is more than three times the forecast annual four hour maximum.

Flexible Capacity refunds only occur outside the Hot Season, to preserve the refund pool to provide incentive when it is most needed.

4.26.1A(a)(ii)(5) now includes *PDSPTS*, the Peak DSP test shortfall. The equivalent *FDSPTS* is in 4.26.4(a)(ii)(4).

4.26.4 – 4.26.18 New Flexible Capacity refund calculations. These parallel the Peak Capacity calculations, except there is no STEM refund for Flexible Capacity.

4.28A No changes to Intermittent Load refunds – they relate only to Peak Capacity.

Capacity Rebates

4.26.4 – 4.26.6 Participant Capacity Rebate Calculations are deleted

4.28.4 *Peak Shared Reserve Capacity Cost (PSRCC)* is now offset by any refunds paid by Peak Capacity providers who have not met their capacity obligations.

PSRCC also includes an offset for any forfeited Reserve Capacity Security

4.28.4A *Flexible Shared Reserve Capacity Cost (FSRCC)* is offset by Flexible Capacity refunds

FSRCC does not include an offset for Reserve Capacity Security rebates, as there is no additional security held in relation to Flexible Capacity.

9.8.3 Participant Capacity Rebate is no longer included in the *Peak Capacity Provider Payment*.

6. Relevant Level Method

Relevant Level Method – Introduction

Appendix 9 is completely replaced.

Where the previous RLM used data to the end of the previous Hot Season, the new RLM Reference Period is the five-year period ending at 8AM the previous 1 October. This allows consistent use of ESOO forecasts (which are on a capacity year basis).

The previous rules notionally reused the previous RLM calculations, but in practice had to recalculate them all each time. The new rules explicitly calculate the full five-year period each time.

The appendix is structured in four parts:

- Part A defines terms
- Part B contains the core method
- Part C is a subroutine to determine the total Certified Reserve Capacity to assign to a given candidate fleet
- Part D is a subroutine to determine expected unserved energy for a given fleet and time period, using Monte Carlo simulation of forced outages

Relevant Level Method – Part B (1)

Part B contains the core method.

Step B.1 Determine the historical output for each relevant Facility. This step uses estimates for:

- Trading Intervals before commissioning, and
- Trading Intervals where Facility output was curtailed

Step B.2 Determine the *Reference Demand Profile* by:

- Adding back any load curtailment, including DSP dispatch and interruptible load events
- Adjusting to account for the change in behind-the-meter solar generation penetration between the historical year and year 3 of the current Reserve Capacity Cycle
- Removing the Capacity Year with the lowest DER adjusted peak demand (current drafting uses historical peak)
- Scaling each historical Capacity Year to the forecast year 3 10% POE peak demand

Step B.3 Determine parameters relating to *Non-Candidate Facilities* (those in Capability Class 1 and 2), for use in the Monte Carlo analysis

Step B.4 Determine the *Facility Average Performance Level* for each relevant Facility as the average output during historical IRCR intervals

Relevant Level Method – Part B (2)

Steps B.5 through B.8 determine the Relevant Levels for each of four groups of candidate facilities. The groups are evaluated sequentially because facilities in each group can be allocated Certified Reserve Capacity at different times.

- Committed Candidates – Facilities which are in commercial operation or are committed to be so for the relevant Capacity Year
- Proposed Candidates – Facilities which could be commissioned for the relevant Capacity Year, but are not committed
- Early Candidates – Facilities for which Early Certified Reserve Capacity has been requested for a future capacity cycle (i.e. they will be commissioned in a year after the relevant Capacity Year, but have to commit some years ahead)
- Conditional Candidates – Facilities for which Conditional Certified Reserve Capacity has been requested for a future capacity cycle (for greater certainty further ahead of a commitment decision)

Relevant Level Method – Part B (3)

Each step B.5 through B.8:

- Uses Part C to determine the fleet Equivalent Load Carrying Capacity (ELCC)
- Determines the fleet scaling factor as the fleet ELCC divided by the sum of Facility Average Performance Levels (during historical IRCR intervals) for the fleet
- Determines the Relevant Level for each Facility in the fleet as the Facility Average Performance Factor multiplied by the fleet scaling factor.

If the total nameplate capacity of the Proposed, Early, or Conditional fleet is less than 5 MW, it is likely too small to generate ELCC results that are meaningfully different from the previous fleet. A fleet of less than 5 MW is assumed to have the same ratio of nameplate capacity to ELCC as the previous fleet.

Step B.9 sets out publication requirements for RLM inputs (B.9.1) and outputs (B.9.2)

Relevant Level Method – Part C

Part C calculates the ELCC for a given fleet of Candidate Facilities. It uses Part D to determine:

- A Whole Period ELCC (C.2) for the ELCC Reference Period (which excludes the Capacity Year with the lowest peak demand)
- A Capacity Year ELCC for each Capacity Year in the ELCC Reference Period (C.3)

It then uses those ELCCs to determine:

- The Mean Capacity Year ELCC, which is the average of the Capacity Year ELCCs (C.4)
- The Fleet ELCC, which is the lesser of the Whole Period ELCC and the Mean Capacity Year ELCC (C.5)

Relevant Level Method – Part D

Part D calculates the ELCC for a given fleet of Candidate Facilities and a given period of time.

It determines the difference between:

- The demand that could be met by Non-Candidate Facilities while meeting a specific level of expected unserved energy (given by the Planning Criterion).
- The demand that could be met by Non-Candidate Facilities and the candidate fleet while meeting that same quantity of expected unserved energy.

Expected unserved energy for a particular demand profile is estimated by taking the average across 50 random forced outage scenarios, using the Non-Candidate Forced Outage Rates identified in step B.3.