

# AEMO Procedure Change Working Group (APCWG)

17 February 2025



# Ground rules and recording



Keep questions on topic



Mute when not speaking



Identify yourself



[WA.MarketDevelopment@aemo.com.au](mailto:WA.MarketDevelopment@aemo.com.au) for other questions



Meetings are recorded for the purpose of taking meeting minutes

## Recording our meetings

This meeting will be recorded by AEMO for minute taking purposes.

By attending the meeting, you consent to AEMO recording the meeting and using the record for this purpose.

No other recording of the meeting is permitted.



**We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.**

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.

**'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan**

AEMO Group is proud to have delivered its first Reconciliation Action Plan in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.

Read our  
RAP



# Agenda

1. Welcome
2. State Electricity Objective impacts on WEM Procedures
3. Discussion Item: WEM Procedure – Dispatch Settlement and Monitoring Data
4. Discussion Item: WEM Procedure – Certification of Reserve Capacity
5. Upcoming Procedures
6. Other Business

# State Electricity Objective

- On 6 February 2025 the State Electricity Objective came into effect.

The 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 —

- (a) the quality, safety, security and reliability of supply of electricity; and
- (b) the price of electricity; and
- (c) the environment, including reducing greenhouse gas emissions.

AEMO must review all its WEM Procedures to ensure they are consistent with the SEO. AEMO intends to do this:

- As WEM Procedures are amended.
- Revisit those not addressed at end 2025.



# WEM Procedure: Dispatch Settlement and Monitoring Data

Presenter: Hamish McKay

# Background

- This procedure covers two requirements:
  1. document the procedure to be followed by Rule Participants in providing settlement and monitoring data to AEMO [clause 7.13.3]; and
  2. specify:
    - I. the methods that AEMO will use to determine estimates under clause 7.13.6 [clause 7.13.8(a)];
    - II. the process of revising an estimate under clause 7.13.7 [clause 7.13.8(b)]; and
    - III. the information that a Market Participant must provide to AEMO for each of the Market Participant's Registered Facilities to support the preparation of estimates under clauses 7.13.6 and 7.13.7 [clause 7.13.8(c)]
- There are minor improvements on the drafting of the procedure, not resulting in any significant changes to processes for the SCED market.

# Settlement & Monitoring Data

- Any data that AEMO makes available under clause 7.13 (e.g. table below).
- Data is to be provided via the methods identified in the WEM Procedure: Communications & Control Systems.
- If data has not been provided, AEMO will request data to be provided via another method or via email, within a specific timeframe.

Settlement & Monitoring Data (MR 7.13)			
RTM Offer and Bid Quantities (In-Service + Available)	(Near) Binding Constraint equations	SCADA – MWh Injection/ Withdrawal	DSP – Constrained/ Unconstrained Withdrawal Quantity
RTM Submission Data	Minimum/ Additional RoCoF Control Requirement	SCADA – Data used to adjust ESS submissions	DSP – estimated Relevant Demand
Forecast (Unscheduled) Operational Demand and Withdrawal	Contingency Raise/ Lower Offset	SCADA – Charge Level	DSP – estimated sum of Minimum Consumption
FCESS quantity requirement	Facility Performance Factors	SCADA – Intermittent Load MWh output or consumption	DSP – estimated RCOQ
Projected Market shortfalls	Commissioning/ RC Tests	SCADA – EOI Quantity	DSP – (sum of) Forecast Capacity and Reduction
(Projected) Dispatch Targets/ Caps	Quantity of Not In-Service Capacity	SCADA – Operational Demand and Withdrawal	DSP – DI and requested decrease in Withdrawal
(Projected) ESS Enablement Quantities	Reference Trading Price	SCADA – Other	Facility/ Network Risks
(Projected) Market Clearing Prices	Temperature	Involuntary Load Shedding – estimate of energy not served	Interruptible Loads – estimate of change in Withdrawal from CRR
Estimated FCESS Uplift Payment	Congestion Rental		



# Summary of Changes

- 3.1.1 Where AEMO has identified data under clause 7.13 to be inaccurate, Market Participants must provide Settlement and Monitoring Data to AEMO in accordance with paragraph 1.5.
- The above change clarifies the process to provide data:
  - When AEMO identifies inaccurate data, it will advise Participants via email to send through data via existing processes.
  - If not possible, AEMO will request data to be provided through another method.
  - If not possible, data must be provided via email.
  - Participants must provide data to AEMO within one Business Day or unless otherwise specified by AEMO.

# Constrained Estimates

- Where AEMO issues a Dispatch Cap to a Registered Facility containing an Intermittent Generating System or issues a direction to curtail to a Non-Scheduled Facility, AEMO will produce an estimate to support the Relevant Level Method, using either:
  1. Market Participant data using elements of the IGS or NSF that continue to operate unconstrained after the Dispatch Cap or Direction.
  2. A predictive algorithm provided to AEMO by the Market Participant.
  3. A predictive algorithm developed by AEMO.
  4. Similar conditions assessment.

# Summary of Changes

- 2.1.1 Where AEMO issues a Dispatch Cap to a Registered Facility containing an Intermittent Generating System or issues a direction to curtail to a Non-Scheduled Facility, AEMO will produce an estimate for the purposes of clause 7.13.6, using one of the following methods:
  - a. ~~an estimate, using Market Participant data provided to AEMO, that uses data from elements of the Intermittent Generating System or Non-Scheduled Facility that continued to operate unconstrained after the Dispatch Cap or direction, where the data is appropriately scaled to represent an estimate for the entire Intermittent Generating System or Non-Scheduled Facility;~~
  - b. a predictive algorithm provided to AEMO via email by the Market Participant, providing an assessment of the Intermittent Generating System's or Non-Scheduled Facility's sent-out MWh quantity from relevant independent variables, ~~including those listed in paragraph 2.1.4~~ over the Dispatch Interval;
  - c. a predictive algorithm developed by AEMO, providing an assessment of the Intermittent Generating System's or Non-Scheduled Facility's sent-out MWh quantity from relevant independent variables over the Dispatch Interval; ~~or~~
  - d. where relevant, an assessment by AEMO based on output of the Non-Scheduled Generator in any past Dispatch Interval under similar conditions. ~~;~~ ~~or~~
  - e. ~~an estimate, using Market Participant data provided to AEMO, that uses data from elements of the Intermittent Generating System or Non-Scheduled Facility that continued to operate unconstrained after the Dispatch Cap or direction, where the data is appropriately scaled to represent an estimate for the entire Intermittent Generating System or Non-Scheduled Facility~~
- Reordered list to indicate the preferred method by AEMO.

# Summary of Changes

- ~~2.1.4 Independent variables that may be considered in any predictive algorithm created under paragraph 2.1.1(a) may consist of, but are not limited to, measurements of local weather conditions such as wind speed, solar insolation, dry-bulb temperature, and wet-bulb temperature.~~
  - Removed identification of specific independent variables, to avoid perceived limitations of the variables able to be used.
- 2.1.11 If AEMO makes a request under paragraph 2.1.10~~1~~, the Market Participant must provide the requested information via reply email to [wa.operations@aemo.com.au](mailto:wa.operations@aemo.com.au) AEMO as soon as practicable.
  - Removed requirement to respond to a specific email address.

# Questions

## *Questions regarding the proposed amendments*

- Are there any questions regarding the proposed amendments?

## *Questions outside of APCWG*

- Any questions regarding the proposed amendments should be sent to [WA.MarketDevelopment@aemo.com.au](mailto:WA.MarketDevelopment@aemo.com.au), allowing enough time for a response prior to the closure of the consultation period.

# Next Steps

- Consultation on the WEM Procedure: Dispatch Settlement and Monitoring Data closes on 5 March 2025.
- The expected commencement date is 12 March 2025.
- All submissions should be submitted to [WA.MarketDevelopment@aemo.com.au](mailto:WA.MarketDevelopment@aemo.com.au) by COB on the date of closure.

# WEM Procedure: Certification of Reserve Capacity



Presenter: Katelyn Rigden

# Background

- The [RCM Review Rules](#) introduced the new Flexible Capacity product to incentivise capacity that can start, stop, and ramp quickly.
- Market Participants may apply for Flexible Certified Reserve Capacity (Flexible CRC) in addition to Peak CRC in the 2025 Reserve Capacity Cycle (2027-28 Capacity Year).
- Applications for Peak and Flexible CRC open on 14 April in line with the 2025 Reserve Capacity timetable published [here](#).
- Market Participants must provide the information listed under clause 4.10.1(fE) when applying for Flexible CRC.
- Facilities that meet the minimum eligibility requirements (published [here](#)) will be assigned Flexible CRC.



# Summary of changes

- The HoP under clause 4.9.10 has not changed, but any reference to CRC now covers both Peak CRC and Flexible CRC
- Flexible CRC changes:
  - How Market Participants can apply for Flexible CRC
  - How AEMO will assign Flexible CRC
- Miscellaneous changes:
  - Updating “Certified Reserve Capacity” to “Peak Certified Reserve Capacity” where required
  - Defined “Significant Maintenance” for the purpose of the Outage rate calculations
  - Clarification of an edge case when calculating the Outage rates
  - Clarification of the treatment of dual fuelled Facilities when assessing fuel requirements

# How Market Participants can apply for Flexible CRC

- New paragraph 3.1.14 to explain how Market Participants can apply for Flexible CRC
- 3.1.14. A Market Participant wishing to apply for Flexible Certified Reserve Capacity, as well as Peak Certified Reserve Capacity, must select the related checkbox in the WEMS application form and provide the information listed in clause 4.10.1(f).

Apply for Flexible CRC

Flexible Quantity\* ⓘ  
(MW)

Maximum Ramp Up Rate\* (MW/min)

Maximum Ramp Down Rate\* (MW/min)

Minimum Ramp Up Rate\* (MW/min)

Minimum Ramp Down Rate\* (MW/min)

Minimum Required Running Time \*

Minimum time between receiving a Dispatch Instruction in a cold state and operating at the minimum stable loading level \*

Minimum time after receiving a Dispatch Instruction to ramp down from the minimum stable loading level to zero output \*

Minimum time before the component can be restarted after it is shut down \*

Minimum Stable Loading Level\* ⓘ  
(MW)

0 minutes ▼ 0 seconds ▼

0 minutes ▼ 0 seconds ▼

0 minutes ▼ 0 seconds ▼

0 minutes ▼ 0 seconds ▼

# How AEMO will assign Flexible CRC – ESR/NIGS/IGS

- If a Component meets the minimum eligibility requirements, AEMO will determine a quantity of Flexible CRC.
- In accordance with clause 4.11.1(bF), the Flexible CRC cannot exceed:
  - Peak CRC;
  - Maximum output that a Component could reach four hours after receiving a Dispatch Instruction in a cold state.
- Maximum Output Assessment (paragraph 9.2):

9.2.1. AEMO must determine the maximum output (in MW) that a Component specified in paragraph 9.1.1(a) or 9.1.1(b) could reach four hours after receiving a Dispatch Instruction in a cold state equal to the minimum of:

- (a) nameplate capacity provided under clause 4.10.1(dA); and
- (b) four-hour ramp output determined under paragraph 9.2.2.

# How AEMO will assign Flexible CRC – ESR/NIGS/IGS

9.2.2. The four-hour ramp output is calculated as follows:

$$\text{MinStableLevel}(c) + (240 - \text{MinStableTime}(c)) \times \text{RampRate}(c)$$

where:

Variable	Units	Definition
<b>MinStableLevel(c)</b>	MW	The minimum stable loading level of the Component provided under clause 4.10.1(fE)(vii).
<b>MinStableTime(c)</b>	minutes	The minimum time required for the Component to operate at its minimum stable loading level after receiving a Dispatch Instruction while in a cold state as provided under clause 4.10.1(fE)(viii).
<b>RampRate(c)</b>	MW/min	The minimum ramp up rate of the Component provided under clause 4.10.1(fE)(iv).

## Example: NIGS

Minimum ramp up rate	12 MW/min
Nameplate	212 MW
Minimum stable loading level	30 MW
Min time from cold state to min stable loading level	15 min

Maximum output after four hours =  $\text{Min}(212, 30 + (240 - 15) \times 12)$

Flexible CRC =  $\text{Min}(\text{Peak CRC}, 212)$

## Example: ESR

Minimum ramp up rate	20 MW/min
Nameplate	100 MW
Minimum stable loading level	0 MW
Min time from cold state to min stable loading level	0 min

Maximum output after four hours =  $\text{Min}(100, 0 + (240 - 0) \times 20)$

Flexible CRC =  $\text{Min}(\text{Peak CRC}, 100)$

# How AEMO will assign Flexible CRC – DSPs

- If a DSP meets the minimum eligibility requirements, AEMO will determine a quantity of Flexible CRC
- In accordance with clause 4.11.1(jA), the Flexible CRC equals:
  - If the DSP has multiple loads: requested Flexible Capacity quantity (capped at Peak CRC)
  - If the DSP has one load: Peak IRCR

*Note: this is the same process when assigning Peak CRC*

# Miscellaneous changes

- Added a definition for Significant Maintenance

## Significant Maintenance

Works deemed significant by AEMO, in its sole discretion, the scope and duration of which represent a risk for the late or failed return to service of the Facility, such that it would affect the Facility's ability to meet its Reserve Capacity Obligations. Examples of significant maintenance include, but are not limited to, major refurbishments of a Facility, and circumstances where major repairs or reconstruction of a Facility are required.

- Clarification in paragraph 4.4.5 for how AEMO will calculate Forced Outage rates when a Facility is not assigned Capacity Credits during the relevant period

4.4.5. If a Facility or Separately Certified Component, where relevant, does not hold Capacity Credits for the entire relevant 36-month period, AEMO will exclude the Trading Intervals where the Facility or Separately Certified Component does not hold Capacity Credits from the calculation under paragraph 4.4.1 or 4.4.2.

- Clarification in paragraph 5.3.2 of the treatment of dual fuelled Facilities when assessing fuel requirements

5.3.2. Where a Component or Facility Upgrade is capable of operating on primary and alternative fuels and the Market Participant has nominated only one fuel under clause 4.10.1(e)(v)(1)(ii), AEMO's assessment under paragraph 5.3.1 is limited to that fuel.

# Miscellaneous changes

- Added a paragraph encouraging a Market Participant to include any risk mitigation strategies for foreseeable issues that may restrict fuel supply in their CRC application, the paragraph includes an example

5.3.5. For the purposes of paragraph 5.3.4(b)(iv), as an example of risk mitigation, a Market Participant may structure its application to include a primary fuel supply arrangement and at least one back-up fuel supply arrangement which, if triggered, would enable the Non-Intermittent Generation System to operate at its full capacity during Capability Class 1 Availability Assessment Intervals on Business Days.

# Questions

## *Questions regarding the proposed amendments*

- Are there any questions regarding the proposed amendments?

## *Questions outside of APCWG*

- Any questions regarding proposed amendments should be sent to [WA.MarketDevelopment@aemo.com.au](mailto:WA.MarketDevelopment@aemo.com.au), allowing enough time for a response prior to the closure of the consultation period.
- Note that the WA Capacity Investment & Assessment team will be running CRC information sessions in March and will inform stakeholders once the session dates are finalised. Please contact [wa.capacity@aemo.com.au](mailto:wa.capacity@aemo.com.au) for any queries on the 2025 CRC process.



# Next Steps

- Consultation on the proposed amendments to WEM Procedure: Certified Reserve Capacity is currently scheduled to be released on 14 February 2025 for a consultation of 20 business days.
- The expected commencement date is 14 April 2025.
- All submissions should be submitted to [WA.MarketDevelopment@aemo.com.au](mailto:WA.MarketDevelopment@aemo.com.au) by COB on the date of closure.

# Upcoming Procedures

Procedure Name	New/ Amendment	Proposed timing for Consultation Release*
RCM Limit Advice	Amendment	March 2025
MTPASA	Amendment	March 2025
Low Reserve Conditions	New	March 2025
Facility Registration	Amendment	March 2025
Identification of Affected Dispatch Intervals	Amendment	March 2025
Supplementary Capacity	Amendment	March 2025
Network Modelling Date, Communications and Control, IMS Interface	Amendment	March 2025 These Procedures will be combined for the purposes of consultation.

\*Proposed consultation dates are subject to change

# Any Other business?



For more information visit  
[demo.com.au](https://demo.com.au)