

# WHOLESALE ELECTRICITY MARKET

## PROCEDURE CHANGE REPORT: AEPC\_2020\_06

REDUCTION OF PRUDENTIAL EXPOSURE (PHASE 2)

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## EXECUTIVE SUMMARY

### Purpose

The publication of this Procedure Change Report and the accompanying Market Procedures completes the Procedure Change Process conducted by AEMO to consider proposed amendments to the Market Procedure: Prudential Requirements and the Market Procedure: Capacity Credit Allocation (Procedures) under the Wholesale Electricity Market Rules (WEM Rules).

### Proposed amendments

In July 2018, AEMO commenced the Reduction of Prudential Exposure (RoPE) project to address known issues with Prudential Requirements in the Wholesale Electricity Market (WEM). Phase 1 of the project ran from July 2018 to May 2019, and implemented the changes required under Rule Change Proposal: Reduction of the Prudential Exposure in the Reserve Capacity Mechanism (RC\_2017\_06)<sup>1</sup>, including amendments to the Individual Reserve Capacity Requirement, Capacity Credit Allocations and associated settlement and prudential processes.

AEMO commenced the Procedure Change Process to propose amendments to the Procedures to implement phase 2 of the RoPE project, which relates to improving the accuracy of the Outstanding Amount calculation. The Outstanding Amount calculation is used in assessing Market Participants' Trading Margins. The proposed amendments would implement a dynamic, daily Outstanding Amount calculation based on the settlement calculations specified in the WEM Rules, using the latest operational data or estimates of operational data when that data is not available.

AEMO also proposed minor updates to the Market Procedure: Capacity Credit Allocation to reflect amendments to the WEM Rules made by the Minister for Energy in February 2020 to introduce the concept of the Monthly Reserve Capacity Price for each Facility.

### Consultation

Draft versions of the proposed amended Procedures were presented at the AEMO Procedure Change Working Group meeting held on 21 May 2020. Following this meeting AEMO incorporated minor changes suggested by stakeholders. Details of this forum are available at:

<https://aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/wem-aemo-procedure-change-working-group>.

AEMO published the Procedure Change Proposal (AEPC\_2020\_06) on the Market Web Site and issued a call for submissions on 10 June 2020<sup>2</sup>.

The submission period closed on 15 July 2020<sup>3</sup>. One submission was received from Perth Energy regarding the inputs that may be used to estimate the Balancing Price. In response to Perth Energy's submission AEMO has included further clarification in the Market Procedure: Prudential Requirements to clarify the methodology used to estimate the Balancing Price where it is unavailable for the purposes of calculating the Outstanding Amount.

### AEMO's decision

AEMO's decision is to accept the Procedures, as amended following the consultation period. AEMO considers that the revised Procedures are consistent with the Wholesale Market Objectives, the Electricity

<sup>1</sup> [https://www.erawa.com.au/rule-change-panel/market-rule-changes/rule-change-rc\\_2017\\_06](https://www.erawa.com.au/rule-change-panel/market-rule-changes/rule-change-rc_2017_06)

<sup>2</sup> [https://www.aemo.com.au/consultations/current-and-closed-consultations/aepec\\_2020\\_06](https://www.aemo.com.au/consultations/current-and-closed-consultations/aepec_2020_06)

<sup>3</sup> AEMO extended the due date for submission beyond the standard 20-Business Day timeframe that would otherwise apply under clause 2.10.7 of the WEM Rules, to allow stakeholders sufficient time to consider the Procedures in conjunction with the associated system changes.



Industry Act 2004, the Electricity Industry (Wholesale Electricity Market) Regulations 2004, and the WEM Rules.

### **Next steps**

The revised Market Procedure: Prudential Requirements and the revised Market Procedure: Capacity Credit Allocation will commence at 8:00 am on 24 August 2020. This coincides with the new Prudential Services System go-live date to implement the system changes.



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## 1. BACKGROUND

### 1.1. Regulatory requirements

AEMO has published this Procedure Change Report in accordance with the Procedure Change Process specified in section 2.10 of the WEM Rules.

### 1.2. Context

The amendments to the Procedures are required to implement phase 2 of the RoPE project, which relates to improving the accuracy of the Outstanding Amount calculation. Currently, a Market Participant's Outstanding Amount is calculated based on settlement outcomes that are up to 70 days out of date. This means the calculation does not accommodate real-time changes in a Market Participant's trading behaviour. This lack of real-time responsiveness increases the risk of a default levy under the WEM Rules if the Outstanding Amount calculation underestimates actual prudential exposure, and/or requires Market Participants to provide excess Credit Support in the event that the Outstanding Amount overestimates actual exposure.

AEMO has observed a shift towards more frequent changes in trading behaviour by Market Participants across the WEM, meaning the current Outstanding Amount method does not accurately reflect exposure in the market in real time. AEMO's analysis indicates that the current Outstanding Amount calculation may overestimate or underestimate actual exposure by as much as \$25 million across all Market Participants. Overestimation may tie up Market Participants' security unnecessarily, whereas underestimation increases the magnitude of a Default Levy in the event of a Market Participant default event. AEMO considers it prudent to minimise the likelihood of this occurring.

AEMO therefore proposed to amend the Outstanding Amount calculation to deliver a dynamic, daily Outstanding Amount calculation based on the settlement calculation specified in the WEM Rules, the latest operational data (e.g. Balancing Price, STEM Price, SCADA data, Outages) or estimates of operational data when that data is not available.

The Procedure Change Proposal was progressed in parallel with trials and Market Participant testing of the new Prudential Services System<sup>4</sup>. This allowed Market Participants to see both the current and new Outstanding Amount calculations to aid Market Participants' assessment of the operational impacts of the amended calculations and processes.

This Procedure Change Proposal also included minor updates to the Market Procedure: Capacity Credit Allocation to reflect amendments to the WEM Rules made by the Minister for Energy in February 2020 in relation to Reserve Capacity Price arrangements. These changes reflect the need for a Monthly Reserve Capacity Price to be determined for each Facility, which will result in various Reserve Capacity Prices in any one Capacity Year.

### 1.3. Procedure Change Process and timetable

On 10 June 2020, AEMO published a Procedure Change Proposal (AEPC\_2020\_06) for the Market Procedure: Prudential Requirements and the Market Procedure: Capacity Credit Allocation and issued a call for submissions.

The proposal was progressed using the Procedure Change Process specified in section 2.10 of the WEM Rules. In accordance with clause 2.10.17 of the WEM Rules, AEMO extended the due date for submissions beyond the standard 20-Business Day timeframe that would otherwise apply under clause 2.10.7 of the

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<sup>4</sup> Project costs for development of the new system were previously approved by the Economic Regulation Authority in the 2019 Allowable Revenue process. Refer to <https://www.erawa.com.au/electricity/wholesale-electricity-market/annual-price-setting/allowable-revenue-and-forecast-capital-expenditure-determinations>



WEM Rules, to provide stakeholders with sufficient time to consider the proposed Procedures with the associated system and process changes. The submission period closed on 15 July 2020.

## 2. PROPOSED PROCEDURE CHANGE

This section details the changes that AEMO proposed when the call for submissions was published.

### 2.1. Detail of the proposed Procedure change

The changes that were proposed for each of the Procedures are summarised below:

#### *Market Procedure: Prudential Requirements*

Amendments to step 5 of the Market Procedure to:

- amend the variables used in the calculation of the Outstanding Amount so that the estimated exposure for a Market Participant is calculated using known settlement data available at the time of the calculation (step 5.1); and
- specify the methodology for undertaking estimates in circumstances where AEMO is required to estimate input data that is unavailable at the time of the calculation (step 5.2).

The calculation formulation document that is referred to in proposed steps 5.1.2 and 5.1.3 of the Market Procedure is available on AEMO's website<sup>5</sup>. This document creates a mathematical representation of the WEM Rules settlement process, including:

- Representation of sets for use within the document.
- Mathematical representation of the estimation methodology outlined in the proposed amendments to the Market Procedure: Prudential Requirements.
- Mathematical representation of the WEM Rules pertaining to settlements.
- Specifications for the variables used by AEMO's calculation system.
- Trading Margin calculations for Market Participants.
- Monthly (Non-STEM) and Weekly (STEM) settlement.

#### *Market Procedure: Capacity Credit Allocation*

Amendments to:

- Step 8 of the Market Procedure to require AEMO to use the latest Capacity Credit Allocation information to update the Outstanding Amount calculation when considering whether a Market Participant's Trading Margin is likely to be negative after a Capacity Credit Allocation is established or reversed.
- Minor updates to reflect amendments to the WEM Rules made by the Minister for Energy in February 2020 in relation to Reserve Capacity Price arrangements. These changes reflect the need for a Monthly Reserve Capacity Price to be determined for each Facility, which will result in various Reserve Capacity Prices in any one Capacity Year.

Minor typographical and formatting changes were also made to both Procedures.

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<sup>5</sup> Available at <https://aemo.com.au/en/energy-systems/electricity/wholesale-electricity-market-wem/procedures-policies-and-guides/guides>



## 2.2. Proposed drafting

AEMO published a draft of the proposed Procedures for consultation. Clean and change-marked versions are available at: [https://www.aemo.com.au/consultations/current-and-closed-consultations/aepec\\_2020\\_06](https://www.aemo.com.au/consultations/current-and-closed-consultations/aepec_2020_06).

## 3. CONSULTATION PROCESS

### 3.1. Market Advisory Committee or Working Group

The Market Advisory Committee (MAC) has delegated its advisory role with respect to AEMO Procedure Change Proposals to the AEMO Procedure Change Working Group (APCWG), in accordance with clause 2.3.17(a) of the WEM Rules.

Draft versions of the proposed amended Procedures were presented at the APCWG meeting held on 21 May 2020. Minor changes were suggested. The minutes and papers from the meeting are available at: <https://aemo.com.au/en/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/wem-aemo-procedure-change-working-group>.

AEMO incorporated the changes suggested at the APCWG meeting, together with minor amendments to the proposed Procedures, prior to publishing the Procedure Change Proposal.

In accordance with clause 2.10.9 of the WEM Rules, AEMO notified the MAC once the Procedure Change Proposal was published and noted that the Rule Change Panel would convene a meeting of the MAC if two or more members requested it. The MAC did not hold a meeting for this Procedure Change Proposal.

### 3.2. Public workshops

AEMO engaged with Market Participants on the RoPE project, including the Procedures and system changes, through the WEM Rule Change Working Group<sup>6</sup>. This forum provided an opportunity for AEMO to present concepts, showcase development, receive feedback and provide information on go-live plans for the new 'Prudential Services System' that will be used to implement the new Outstanding Amount calculation. The new system will go-live from the effective date of the amended Procedures which is proposed to be 24 August 2020. This will allow sufficient time for AEMO and Market Participants to make the required changes.

### 3.3. Submissions received during consultation period

AEMO received one submission from Perth Energy during the consultation period. Perth Energy generally supported the proposed changes to the Procedures and considered the Procedures to be consistent with the Wholesale Market Objectives. However, Perth Energy queried:

*How does the methodology take into consideration Intermittent Generation and Peaking Power Station which can change generation output on any given interval on any given day, which would have implications on Balancing Price, which acts as a signal in the Balancing Market?*

AEMO notes that for the purpose of calculating the estimated Outstanding Amount where the Provisional Balancing price is unavailable, the Balancing Price is estimated using the Forecast Balancing Merit Order (BMO). This information is included in step 5.2.15 of the proposed Market Procedure: Prudential Requirements:

*Where the Provisional Balancing Price for Trading Interval  $i$  is unavailable, it may be estimated using the Forecast BMO and Relevant Dispatch Quantity for Trading Interval  $i$ .*

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<sup>6</sup> <https://www.aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/wem-rule-change-working-group>



The methodology for determining the Forecast BMO is then outlined in step 3.4 of the Market Procedure: Balancing Market Forecast. AEMO considers that further clarification should be included to explicitly linking step 5.2.15 of the Market Procedure: Prudential Requirements to the Market Procedure: Balancing Market Forecast.

AEMO considers the use of the price from the Forecast BMO to be appropriate for use as an input into the estimated Outstanding Amount where the Provisional Balancing Price is unavailable, and highlights that this price:

- incorporates the best forecast of the output of each generation facility (including from Intermittent Generators and peaking plant) at the time; and
- is only used for one of the 40 or 70 days included in the Outstanding Amount calculation and is therefore unlikely to significantly affect the outcome.

## **4. AEMO'S ASSESSMENT**

### **4.1. Further changes to the Procedures**

Minor changes were made to:

- Step 1.3 of the Market Procedure: Prudential Requirements to update referencing.
- step 5.2.15 of the Market Procedure: Prudential Requirements to reference the methodology for determining the Forecast BMO in step 3.4 of the Market Procedure: Balancing Market Forecast in response to Perth Energy's submission; and
- correct typographical errors in the Market Procedure: Capacity Credit Allocation.

These further changes are highlighted (yellow) in the marked-up version of the Procedures released with this Procedure Change Report<sup>7</sup>.

### **4.2. Consistency with Electricity Industry Act, WEM Regulations, and WEM Rules**

The revised Procedures have been reviewed by AEMO to ensure compliance with the relevant provisions in the:

- Electricity Industry Act 2004;
- Electricity Industry (Wholesale Electricity Market) Regulations 2004 (WEM Regulations); and
- WEM Rules.

### **4.3. Consistency with Wholesale Market Objectives**

The amended Procedures seek to minimise the prudential risk arising from inaccurate estimates of Market Participants' Outstanding Amounts.

The prudential framework set out in Chapter 2 of the WEM Rules and the associated Procedures directly affect all Market Participants (and ultimately consumers) who provide the required Credit Support, and are subject to the Default Levy under clause 9.24.5 of the WEM Rules in the event of a Payment Default by a Market Participant. Therefore, the prudential framework aims to facilitate an efficient balance between costs and risk mitigation to provide the necessary security for Market Participants.

The current calculation of a Market Participant's Outstanding Amount does not provide an accurate, timely indication of the exposure to the market. Based on AEMO's analysis, the current calculation may

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<sup>7</sup> Available at: [https://www.aemo.com.au/consultations/current-and-closed-consultations/aepec\\_2020\\_06](https://www.aemo.com.au/consultations/current-and-closed-consultations/aepec_2020_06)



overestimate or underestimate overall market exposure by as much as \$25 million. Overestimation may tie up Market Participants' security unnecessarily, whereas underestimation increases the magnitude of a Default Levy in the event of a Market Participant default event.

AEMO considers that reducing the prudential risk in the market, and correctly accounting for the reduced risk in the prudential requirements by improving the Outstanding Amount calculation:

- promotes economic efficiency, consistent with Wholesale Market Objective (a); and
- minimises the long-term cost of electricity, consistent with Wholesale Market Objective (d).

The minor updates to the Market Procedure: Capacity Credit Allocation reflect amendments to the WEM Rules made by the Minister for Energy in February 2020. Therefore, in addition to the requirement in clause 2.9.3(b) of the WEM Rules for this Market Procedure to be amended to maintain consistency with Amending Rules, the proposed minor updates are consistent with the Wholesale Market Objectives.

#### **4.4. Implementation of the Procedures**

The new 'Prudential Services System' was developed as part of the implementation of the new Outstanding Amount calculation. Market trials and parallel testing of the system were conducted with Market Participants from 25 June 2020 in conjunction with this Procedure Change Process.

The original target date for the proposed commencement of the Procedures and go-live date for the system changes was 1 August 2020. Market Participants did not raise any issues with implementing the system changes and the Procedures by this date. However, this date has now been revised to 24 August 2020 to allow further time for AEMO to complete the project testing, acceptance and readiness activities.

Consequently, AEMO proposes that the Procedures will commence at 8:00 am on 24 August 2020.

#### **4.5. AEMO's decision and commencement**

AEMO's decision is to accept the Procedures as amended following the consultation period. The amended Market Procedure: Prudential Requirements and the amended Market Procedure: Capacity Credit Allocation will commence at 8:00 am on 24 August 2020.

AEMO has made this decision on the basis that the new Procedures:

- are consistent with the Wholesale Market Objectives;
- are consistent with the Electricity Industry Act, WEM Regulations, and WEM Rules; and
- have the general support of Market Participants through the consultation with the APCWG and the submission received during the consultation period.

The revised Market Procedure: Prudential Requirements and the revised Market Procedure: Capacity Credit Allocation (clean and marked-up) are available at: [https://www.aemo.com.au/consultations/current-and-closed-consultations/aepc\\_2020\\_06](https://www.aemo.com.au/consultations/current-and-closed-consultations/aepc_2020_06).