

WHOLESALE ELECTRICITY MARKET

PROCEDURE CHANGE PROPOSAL NO: AEPC_2020_01

MARKET PROCEDURE: BALANCING FACILITY
REQUIREMENTS

MARKET PROCEDURE: BALANCING MARKET FORECAST

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EXECUTIVE SUMMARY

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|---|---|
| Change requested by: | AEMO |
| Date submitted: | 2 April 2020 |
| Type of Procedure Change Proposal: | Amendment |
| Market Procedures affected: | <ol style="list-style-type: none">Balancing Facility RequirementsBalancing Market Forecast |

The publication of this Procedure Change Proposal and the accompanying call for submissions commences the Procedure Change Process conducted by AEMO to consider proposed amendments to the Market Procedure: Balancing Facility Requirements and the Market Procedure: Balancing Market Forecast under the Wholesale Electricity Market Rules (**WEM Rules**).

The proposed amendments to the Market Procedures are required to implement revisions to the Balancing Merit Order tie-break methodology. The proposed amendments will assist AEMO manage the security of the power system during periods of low demand by enabling Facilities to offer minimum generation quantities as a separate tranche at the Minimum STEM Price. In low demand scenarios, Facilities with these minimum generation tranches will be curtailed after other energy tranches at the same price, reducing risks associated with the de-synchronisation of these Facilities.

AEMO invites stakeholders to suggest alternative options or drafting where they consider that these would improve the procedure or better meet the Wholesale Market Objectives in section 122(2) of the *Electricity Industry Act 2004* (and clause 1.2.1 of the WEM Rules).

Stakeholders are invited to submit written responses on the proposed Market Procedure by 5.00 pm (Perth time) on 5 May 2020, in accordance with the call for submissions published with this paper.



CONTENTS

| | |
|---|----------|
| EXECUTIVE SUMMARY | 2 |
| 1. PROCEDURE CHANGE PROCESS | 4 |
| 2. BACKGROUND | 5 |
| 2.1. Regulatory requirements | 5 |
| 2.2. Context for this consultation | 5 |
| 2.3. Consultation to date | 7 |
| 3. PROPOSED PROCEDURE CHANGE | 8 |
| 3.1. Detail of the proposed procedure change | 8 |
| 3.2. Proposed drafting | 8 |
| 3.3. Wholesale Market Objective assessment | 8 |
| 4. SUMMARY OF MATTERS FOR CONSULTATION | 8 |



1. PROCEDURE CHANGE PROCESS

Clause 2.10 of the WEM Rules outlines the Procedure Change Process. AEMO may initiate the Procedure Change Process in respect of Market Procedures (including Power System Operation Procedures and the Monitoring and Reporting Protocol) for which it is responsible by developing a Procedure Change Proposal. Rule Participants may notify AEMO where they consider an amendment or replacement of an AEMO Market Procedure would be appropriate.

If an Amending Rule requires AEMO to develop new Market Procedures or to amend or replace existing Market Procedures, then AEMO is responsible for the development, amendment, or replacement of Market Procedures so as to comply with the Amending Rule.

Under clause 2.9.3 of the WEM Rules, Market Procedures:

- (a) must:
 - (i) be developed, amended or replaced in accordance with the process in the WEM Rules;
 - (ii) be consistent with the Wholesale Market Objectives; and
 - (iii) be consistent with the WEM Rules, the Electricity Industry Act and the WEM Regulations; and
- (b) may be amended or replaced in accordance with section 2.10 of the WEM Rules and must be amended or replaced in accordance with section 2.10 of the WEM Rules where a change is required to maintain consistency with Amending Rules.

The 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.

AEMO has published this Procedure Change Proposal in accordance with the Procedure Change Process in clause 2.10 of the WEM Rules.

AEMO’s indicative timeline for this consultation is outlined below. Dates may be adjusted depending on the number and complexity of issues raised in submissions and any meetings with stakeholders.

| Process stage | Indicative date |
|---|-----------------|
| Procedure Change Proposal published | 2 April 2020 |
| Submissions due on Procedure Change Proposal | 5 May 2020 |
| Procedure Change Report published | 29 May 2020 |
| Proposed commencement of amended Market Procedures | 1 June 2020 |

Prior to the submission’s due date, stakeholders may request a meeting with AEMO to discuss the issues and proposed changes raised in this Procedure Change Proposal.



2. BACKGROUND

2.1. Regulatory requirements

Clause 7A.1.6 of the WEM Rules provides:

7A.1.6 *AEMO must specify the following matters in a Market Procedure:*

- (a) *the technical and communication criteria that a Balancing Facility (or a type of Balancing Facility) must meet, including:*
 - (i) *Facility quantity parameters and limits for participation in the Balancing Market;*
 - (ii) *the manner and forms of communication to be used while participating in the Balancing Market, including when receiving Dispatch Instructions; and*
 - (iii) *ramp rate limitations; and*
- (b) *the type of conditions AEMO may impose under clause 7A.1.11(b) and the manner and circumstances in which they may be imposed and lifted.*

The current version of the Market Procedure: Balancing Facility Requirements, developed pursuant to clause 7A.1.6, commenced on 1 July 2019.

Clause 7A.3.3 of the WEM Rules provides:

7A.3.3 *AEMO must document in a Market Procedure the processes it must follow when:*

- (a) *determining Forecast BMOs and providing them to System Management;*
- (b) *preparing and publishing Balancing Forecasts; and*
- (c) *assigning priority to Facilities in the case where there is a tie in a Forecast BMO or Forecast LFAS Merit Order.*

The current version of the Market Procedure: Balancing Market Forecast, developed pursuant to clause 7A.3.3, commenced on 1 July 2019.

2.2. Context for this consultation

2.2.1. Background

In October 2019, the Balancing Price in the Balancing Market cleared at the Minimum STEM Price of -\$1,000 MW/h for the first time. Low demand was the main contributor to this price event, with demand falling to 1,159 MW.

Where the market clears at that Minimum STEM Price, the dispatch order is determined by assigning tied Facilities to categories, and then within each category, ordering the Facilities according to a random number.

The current categories do not differentiate between other energy that can be curtailed, and the tranches of energy that are minimum generation quantities for Facilities and which therefore, if dispatched off, would require de-synchronisation and potentially lead to the system security issues discussed in Section 2.2.2.

2.2.2. Power system security

Fluctuations in forecast demand and Non-Scheduled Generation are increasing. The current environment often has variations in excess of 100 MW in short timeframes.



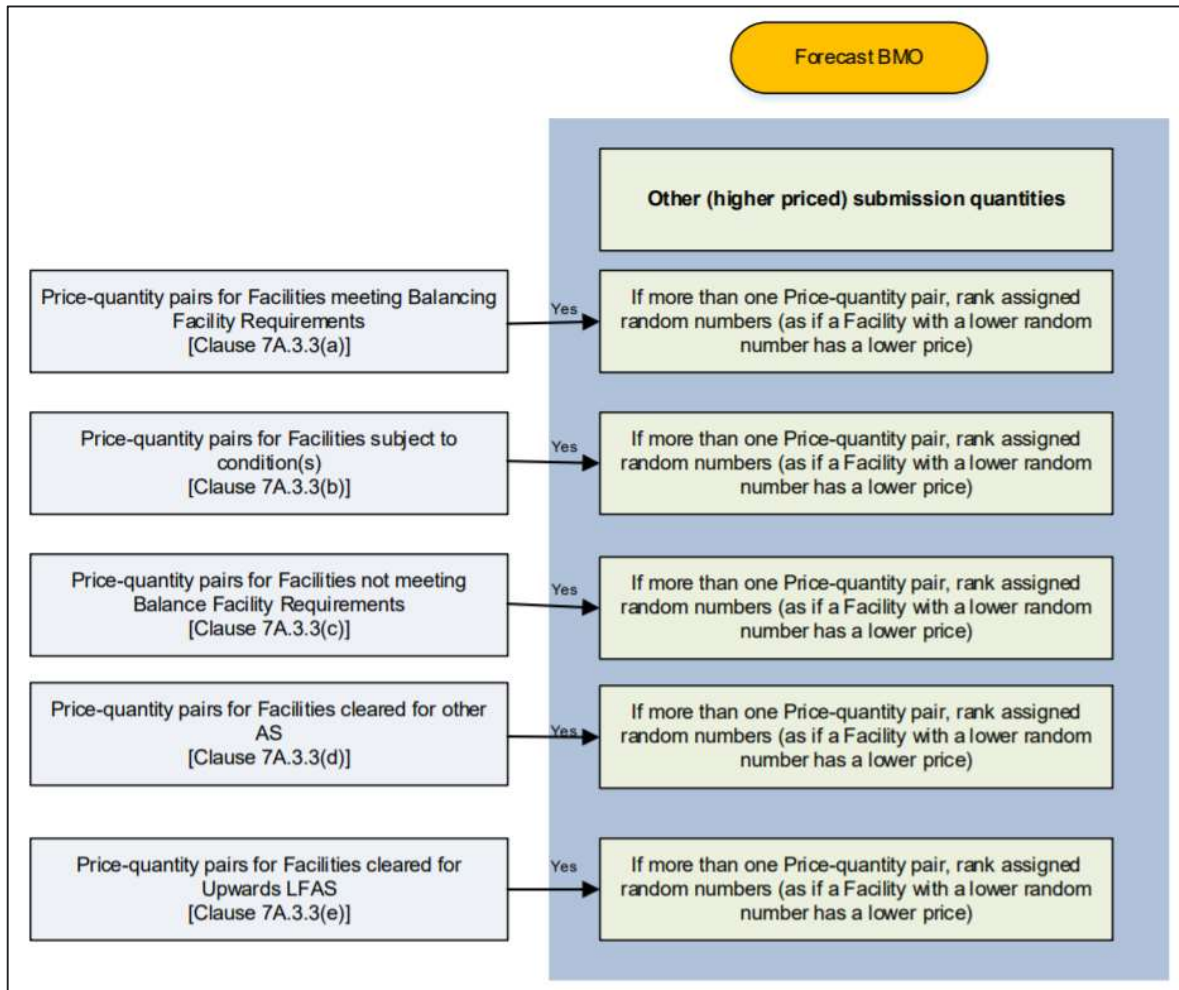
The current tie-break methodology, combined with the short-term fluctuations referred to earlier, could result in undesirable outcomes for the operation of the power system. In particular, outcomes that could occur are:

- Unexpected decommitment: Scheduled Generators are unable to operate below minimum generation. Therefore, a Dispatch Instruction which requires that generator to reduce generation by 1 MW below the minimum generation level will result in that generator decommitting. This could lead to an instantaneous generation shortfall of up to 120 MW.
- Violation of security assumptions: All power system security assessments are based on assumptions. One of these assumptions is the level of reactive power in particular locations, which may be violated by the decommitment of a Scheduled Generator.
- Ongoing dispatch disruptions: Once decommitted, the relevant Market Participant would need to revise its bids to allow the dispatch process to return to normal. Given the current gate closure timeframes, dispatch could be disrupted for at least three Trading Intervals.
- Potential shortfall of generation at the next peak: In particular situations, if a large Scheduled Generator with a long restart time was decommitted, there could potentially be insufficient generation at the daily peak.

An optimal response to these scenarios takes time to prepare. In many cases, AEMO will only be able to respond to the situation in real time. To mitigate the risk of these outcomes, AEMO is proposing revisions to the tie-break methodology.

2.2.3. Categories

Figure 1 Current Price-Quantity Pair categories



AEMO is proposing the creation of a new category which will allow Minimum Generation to be bid as a separate tranche from other energy at the Minimum STEM Price. Facilities with quantities in this tranche category will clear ahead of Non-active Balancing Facilities and remaining non-Ancillary Services energy.

2.3. Consultation to date

The proposed changes to the tie-break methodology were discussed with stakeholders at a workshop on 3 December 2019¹. AEMO then varied the proposed tie-break methodology in response to comments from stakeholders at the workshop.

Draft versions of the proposed amended Market Procedures were presented at the AEMO Procedure Change Working Group meeting held on 20 February 2020. Stakeholders raised the following matters concerning revisions to the proposed amendments:

- The Minimum Generation level for a generating unit could be temperature dependent, and this may need to be taken into account in order to reduce the risk of inefficient non-compliance follow ups where the Minimum Generation tranche reasonably differed from Standing Data.

¹ Available at https://www.aemo.com.au/-/media/files/stakeholder_consultation/working_groups/wa_meetings/wem-pcwg/2019/workshop-on-revised-bmo-tie-break-proposal-for-stakeholders.pdf?la=en.



- Upwards LFAS may need to be considered when sorting the tie-break categories.
- The terms Facility and Balancing Facility have different definitions under the Market Rules.

The minutes and papers from the AEMO Procedure Change Working Group meeting can be found 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 has incorporated changes to address the matters raised at the AEMO Procedure Change Working Group meeting and has made minor typographical amendments to the proposed Market Procedures.

3. PROPOSED PROCEDURE CHANGE

3.1. Detail of the proposed procedure change

The proposed changes to each of the Market Procedures are specified below:

Market Procedure: Balancing Facility Requirements

- Added an ability for Market Participants to include a Balancing Price-Quantity Pair in the new Minimum Generation category at the Minimum STEM Price.
- Added a requirement that the quantity submitted in the Minimum Generation category must not be inconsistent with the Facility's relevant Standing Data.

Market Procedure: Balancing Market Forecast

- Specifying the previously omitted Balancing Price-Quantity Pair categories that are used when breaking a tie at the Alternative Maximum STEM Price, Maximum STEM Price and Minimum STEM Price.
- Specifying the inclusion of the new Minimum Generation category when breaking a tie at the Minimum STEM Price.
- Clarifying that there is no change to the ordering within each category (the random number process will continue).
- Consequential changes to clarify the tie-break methodology for the Load Following Ancillary Services Market.

3.2. Proposed drafting

AEMO has published a draft of the Market Procedure: Balancing Facility Requirements and a draft of the Market Procedure: Balancing Forecast incorporating the changes AEMO proposes for consultation. Clean and change-marked versions are available at https://aemo.com.au/en/consultations/current-and-closed-consultations/aepec_2020_01.

3.3. Wholesale Market Objective assessment

The steps outlined in this revised Market Procedure describe the process, procedure, formats and methods required by the clauses detailed in Section 2.1. AEMO considers that the steps are drafted in a way that does not change the objectives of the WEM Rules. As a result, AEMO considers that the revised Procedure, as a whole, is consistent with the Wholesale Market Objectives.

4. SUMMARY OF MATTERS FOR CONSULTATION

AEMO invites stakeholders to suggest alternative options for drafting, where they consider these would improve the procedure or better meet the Wholesale Electricity Market Objectives.



Stakeholders are invited to submit written responses on the proposed amended Market Procedure by 5:00 pm (Australian Western Standard Time) on 5 May 2020, in accordance with the call for submissions published with this paper.

Stakeholders with questions in relation to the proposed amended Market Procedures or this Procedure Change Proposal can contact AEMO via email at wa@aemo.com.au. All correspondence in relation to this Procedure Change Proposal must be entitled "AEPC_2020_01: Revisions to the Balancing Merit Order tie-break methodology – [Name of the submitting company or individual]".