

# WEM Procedure: Mid Peak and Flexible Electric Storage Resource Obligation Intervals



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## Version Release History

Version	Effective Date	Summary of Changes
1.0	1 July 2021	New WEM Procedure.
2.0	11 July 2023	Updated to reflect changes to clause 4.11.3A of the WEM Rules on 17 April 2023.
3.0	1 July 2024	Updated to reflect changes to clause 4.11.3A and Chapter 11 (Glossary) of the WEM Rules on 13 December 2023.
4.0	20 June 2025	Amendments to reflect changes to clause 6.3.1 under the <i>Wholesale Electricity Market Amendment (Miscellaneous Amendments No. 3) Rules 2024, Schedule 2</i> , which commenced 7 October 2024, to require AEMO to determine and record additional Mid Peak Electric Storage Resource Obligation Interval data; and to clause 4.11.3A under the <i>Wholesale Electricity Market Amendment (Reserve Capacity Reviews Sequencing) Rules 2025, Schedule 1</i> , which commenced 15 January 2025, to extend the scope of the Procedure to include Flexible Electric Storage Resource Obligation Intervals.

### IMPORTANT NOTICE – EXPLANATORY NOTES

#### Disclaimer

Explanatory notes included in this document as shaded in-line text are provided for explanatory purposes only to assist with comprehension and readability. The information contained in these explanatory notes does not constitute legal or business advice and should not be relied on as a substitute for obtaining detailed advice about the *Electricity Industry Act 2004* (WA), the ESM Rules, or any other applicable laws, procedures or policies. AEMO has made reasonable efforts to ensure the quality of the information, but cannot guarantee its accuracy or completeness.

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# Contents

<b>1.</b>	<b>Introduction</b>	<b>4</b>
1.1.	Purpose and scope	4
1.2.	Definitions	5
1.3.	Interpretation	5
1.4.	Related documents	6
<b>2.</b>	<b>Mid Peak Electric Storage Resource Obligation Intervals</b>	<b>7</b>
2.1.	Year 1 of Reserve Capacity Cycle	7
2.2.	Years 2 and 3 of Reserve Capacity Cycle	8
2.3.	Next 8 Trading Days in Years 3 and 4 of Reserve Capacity Cycle	9
<b>3.</b>	<b>Flexible Electric Storage Resource Obligation Intervals</b>	<b>11</b>
3.1.	Year 1 of Reserve Capacity Cycle	11
3.2.	Years 2 and 3 of Reserve Capacity Cycle	12
<b>Appendix A.</b>	<b>Relevant clauses of the ESM Rules</b>	<b>14</b>

# Tables

Table 1	Definitions.....	5
Table 2	Relevant clauses of the ESM Rules .....	14

# 1. Introduction

## 1.1. Purpose and scope

- 1.1.1. This WEM Procedure: Mid Peak and Flexible Electric Storage Resource Obligation Intervals (Procedure) is made in accordance with AEMO's functions under clause 2.1A.2(h) of the Electricity System and Market (ESM) Rules.
- 1.1.2. The *Electricity Industry Act 2004* (WA), the ESM Regulations and the ESM Rules prevail over this Procedure to the extent of any inconsistency.
- 1.1.3. In this Procedure, where obligations are conferred on a Rule Participant, that Rule Participant must comply with the relevant obligations in accordance with clause 2.9.7A, 2.9.7D or 2.9.8 of the ESM Rules, as applicable.
- 1.1.4. The purpose of this Procedure is to document:
  - (a) the processes to be followed by AEMO for determining changes to the Trading Intervals that will be classified as Mid Peak Electric Storage Resource Obligation Intervals and Flexible Electric Storage Resource Obligation Intervals under clauses 4.11.3A(a), 4.11.3A(aA), 4.11.3A(aB), and 4.11.3A(b) **[Clause 4.11.3A(c)(i)]**;
  - (b) the processes to be followed by AEMO for publishing the Trading Intervals classified as Mid Peak Electric Storage Resource Obligation Intervals and Flexible Electric Storage Resource Obligation Intervals in accordance with clauses 4.11.3A(a), 4.11.3A(aB), and 4.11.3A(b) on the WEM Website **[Clause 4.11.3A(c)(ii)]**; and
  - (c) the processes to be followed by AEMO for determining and recording the following information by 6:50 AM on each Scheduling Day **[Clause 6.3.1]**:
    - (i) the Mid Peak Electric Storage Resource Obligation Interval that will apply during the Trading Day for the Scheduling Day; and
    - (ii) the Mid Peak Electric Storage Resource Obligation Intervals that AEMO expects will apply during each of the 7 following Trading Days.
- 1.1.5. Appendix A of this Procedure outlines the head of power clauses that this Procedure is made under, as well as other obligations in the ESM Rules covered by this Procedure.

## 1.2. Definitions

- 1.2.1. Terms defined in the *Electricity Industry Act 2004* (WA), the ESM Regulations and the ESM Rules have the same meanings in this Procedure unless the context requires otherwise.
- 1.2.2. The following definitions apply in this Procedure unless the context requires otherwise.

**Table 1** Definitions

Term	Definition
Peak Demand Period	A set of contiguous Trading Intervals on a Trading Day when peak demand is forecast to occur, using the peak demand forecasts developed as part of the Long Term PASA, with the number of Trading Intervals equal to the ESR Duration Requirement for the Mid Peak Electric Storage Resource Obligation Intervals determined for the relevant Capacity Year in accordance with clause 4.11.3A(a) and 4.11.3A(b) of the WEM Rules.

## 1.3. Interpretation

- 1.3.1. The following principles of interpretation apply in this Procedure unless the context requires otherwise.
- (a) Clauses 1.3 to 1.5 of the ESM Rules apply in this Procedure.
  - (b) References to time are references to Western Standard Time.
  - (c) Terms that are capitalised, but not defined in this Procedure, have the meaning given in the ESM Rules.
  - (d) A reference to the ESM Rules or WEM Procedures includes any associated forms required or contemplated by the ESM Rules or WEM Procedures.
  - (e) Words expressed in the singular include the plural and vice versa.
  - (f) A reference to a paragraph refers to a paragraph of this Procedure.
  - (g) A reference to an appendix refers to an appendix of this Procedure.
  - (h) A reference to a clause refers to a clause or section of the ESM Rules.
  - (i) References to ESM Rules in this Procedure in bold and square brackets **[Clause XXX]** are included for convenience only, and do not form part of this Procedure.
  - (j) Text located in boxes and headed as **E[X]** in this Procedure is included by way of explanation only and does not form part of this Procedure. The Procedure prevails to the extent of any inconsistency with the explanatory notes contained within it.
  - (k) The body of this Procedure prevails to the extent of any inconsistency with the figures, diagrams, appendices, schedules, annexures or attachments contained within this document.

- 1.3.2. This Procedure must be read in conjunction with the ESM Rules relevant to this WEM Procedure, noting that in many cases the ESM Rules provide descriptive processes, timeframes and other obligations which are not duplicated in AEMO's WEM Procedures.

## **1.4. Related documents**

- 1.4.1. There are no documents directly associated with this Procedure.

## 2. Mid Peak Electric Storage Resource Obligation Intervals

### 2.1. Year 1 of Reserve Capacity Cycle

2.1.1. For the purposes of clause 4.11.3A(a), in Year 1 of a Reserve Capacity Cycle, AEMO will apply the following processes to determine a Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle:

- (a) AEMO will determine a Peak Demand Period for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle.
- (b) AEMO will determine an indicative Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle as follows:
  - (i) if the Peak Demand Period for the Trading Day comprises an odd number of Trading Intervals, then the indicative Mid Peak Electric Storage Resource Obligation Interval is the mid-point of the Peak Demand Period; and
  - (ii) if the Peak Demand Period for the Trading Day comprises an even number of Trading Intervals, then the indicative Mid Peak Electric Storage Resource Obligation Interval is the last Trading Interval in the first half of the Peak Demand Period.
- (c) AEMO may adjust the indicative Mid Peak Electric Storage Resource Obligation Interval determined for a Trading Day under paragraph 2.1.1(b), having regard to:
  - (i) Power System Security and Power System Reliability; and
  - (ii) any other matters that AEMO considers relevant.
- (d) The final Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle is the indicative Mid Peak Electric Storage Resource Obligation Interval determined under paragraph 2.1.1(b), or the adjusted Mid Peak Electric Storage Resource Obligation Interval determined under paragraph 2.1.1(c), as applicable.

2.1.2. AEMO will publish the final Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, as determined under paragraph 2.1.1(d), on the WEM Website by the date specified in clause 4.1.8 **[Clause 4.11.3A(a)]**.

2.1.3. AEMO may publish the following additional information on the WEM Website:

- (a) the Peak Demand Period determined for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle under paragraph 2.1.1(a);

- (b) any supporting analysis that AEMO conducted in determining the Peak Demand Periods under paragraph 2.1.1(a); or
- (c) details of any other information used to determine the Mid Peak Electric Storage Resource Obligation Intervals or the Peak Demand Periods.

## 2.2. Years 2 and 3 of Reserve Capacity Cycle

2.2.1. For the purposes of clause 4.11.3A(b), in Year 2 and Year 3 of a Reserve Capacity Cycle, AEMO will apply the following processes to determine whether the Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle remains appropriate:

- (a) AEMO will apply the processes specified in paragraphs 2.1.1(a) to 2.1.1(c) to determine an indicative Mid Peak Electric Storage Resource Obligation Interval or an adjusted Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle.
- (b) AEMO will compare the indicative Mid Peak Electric Storage Resource Obligation Interval or the adjusted Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, as determined under paragraph 2.2.1(a), with:
  - (i) (in Year 2 of the Reserve Capacity Cycle) the final Mid Peak Electric Storage Resource Obligation Interval for that Trading Day that AEMO determined in Year 1 of the Reserve Capacity Cycle; or
  - (ii) (in Year 3 of the Reserve Capacity Cycle) the final Mid Peak Electric Storage Resource Obligation Interval for that Trading Day that AEMO determined in Year 2 of the Reserve Capacity Cycle.
- (c) AEMO will determine the final Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, based on the comparison under paragraph 2.2.1(b), as follows:
  - (i) the final Mid Peak Electric Storage Resource Obligation Interval for a Trading Day that AEMO determined in Year 1 or Year 2 of the Reserve Capacity Cycle, as applicable under paragraph 2.2.1(b)(i) or paragraph 2.2.1(b)(ii), continues to apply if AEMO considers that it remains appropriate;
  - (ii) otherwise, the final Mid Peak Electric Storage Resource Obligation Interval for a Trading Day is the indicative Mid Peak Electric Storage Resource Obligation Interval, or the adjusted Mid Peak Electric Storage Resource Obligation Interval, as applicable under paragraph 2.2.1(a).

2.2.2. AEMO will publish the final Mid Peak Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, as determined under paragraph 2.2.1(c), on the WEM Website by the date specified in clause 4.1.8 **[Clause 4.11.3A(b)]**.



**E[A] Publishing the final Mid Peak Electric Storage Resource Obligation Interval.**

AEMO may publish this information in the Statement of Opportunities Report, which is available on the WEM Website.

2.2.3. AEMO may publish the following additional information on the WEM Website:

- (a) the Peak Demand Period determined for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle for the purposes of determining an indicative or adjusted Mid Peak Electric Storage Resource Obligation Interval for each Trading Day under paragraph 2.2.1(a);
- (b) any supporting analysis that AEMO conducted in determining the Peak Demand Periods under paragraph 2.2.1(a);
- (c) any supporting analysis that AEMO conducted as part of its processes under paragraph 2.2.1 to determine whether the Mid Peak Electric Storage Resource Obligation Intervals remain appropriate, and if not, to change the Mid Peak Electric Storage Resource Obligation Intervals; or
- (d) details of any other information used to determine the Mid Peak Electric Storage Resource Obligation Intervals or the Peak Demand Periods.

## **2.3. Next 8 Trading Days in Years 3 and 4 of Reserve Capacity Cycle**

2.3.1. For the purposes of clause 6.3.1, with respect to the Trading Days from 1 October of Year 3 of a Reserve Capacity Cycle to 30 September of Year 4 of a Reserve Capacity Cycle, AEMO will apply the processes specified in this paragraph 2.3 to determine and record the following information:

- (a) the Mid Peak Electric Storage Resource Obligation Interval that will apply during the Trading Day for the Scheduling Day; and
- (b) the Mid Peak Electric Storage Resource Obligation Intervals that AEMO expects will apply during each of the 7 following Trading Days.

2.3.2. On each Trading Day from the 22 September Trading Day of Year 3 of a Reserve Capacity Cycle to the 29 September Trading Day of Year 4 of a Reserve Capacity Cycle, AEMO will assess whether the most recent Mid Peak Electric Storage Resource Obligation Interval determined for each of the next 8 Trading Days (excluding Trading Days before 1 October of Year 3 and after 30 September of Year 4) remains appropriate, having regard to the following matters:

- (a) Power System Security and Power System Reliability;
- (b) the results of the most recent Short Term PASA; and
- (c) any other matters that AEMO considers relevant.

- 2.3.3. AEMO will adjust any Mid Peak Electric Storage Resource Obligation Interval determined for any of the next 8 Trading Days that AEMO considers is inappropriate, and will replace it with a Mid Peak Electric Storage Resource Obligation Interval that AEMO considers is appropriate, having regard to the matters specified in paragraph 2.3.2
- 2.3.4. By 6.50 AM on a Trading Day, AEMO will determine and record the Mid Peak Electric Storage Resource Obligation Interval for each of the next 8 Trading Days as follows:
- (a) the most recent Mid Peak Electric Storage Resource Obligation determined for the relevant Trading Day if AEMO considers that it remains appropriate; and
  - (b) otherwise, the replacement Mid Peak Electric Storage Resource Obligation Interval determined for the relevant Trading Day under paragraph 2.3.3.
- 2.3.5. AEMO may publish the Mid Peak Electric Storage Resource Obligation Interval specified in paragraph 2.3.4 on the WEM Website.

**E[B] The MPESROI that apply on a Trading Day may be different to the MPESROI determined for the relevant Capacity Year**

Clause 6.3.1 recognises that the MPESROI determined under clause 4.11.3A may need to change closer to its application in real-time. Where this happens, AEMO must record the new value in its systems.

## 3. Flexible Electric Storage Resource Obligation Intervals

### 3.1. Year 1 of Reserve Capacity Cycle

- 3.1.1. For the purposes of clause 4.11.3A(aA), in Year 1 of the Reserve Capacity Cycle, AEMO will apply the following processes to determine Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle:
- (a) AEMO will consider whether the scenario described in clause 4.5.10(a)(iii) or the scenario described in clause 4.5.10(a)(iv) applies when determining the Flexible Reserve Capacity Target for the relevant Capacity Year under clause 4.5.10(bA)(i);
  - (b) AEMO will use the scenario identified under paragraph 3.1.1(a) to determine the Four-Hour Demand Increase for each Trading Interval outside the Hot Season in the relevant Capacity Year;
  - (c) AEMO will identify the highest Four-Hour Demand Increase among all Trading Intervals outside the Hot Season in the relevant Capacity Year determined under paragraph 3.1.1(b); and
  - (d) AEMO will determine the Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle in accordance with clause 4.11.3A(aA)(ii), using the set of contiguous Trading Intervals immediately preceding the highest Four-Hour Demand Increase identified under paragraph 3.1.1(c).
- 3.1.2. AEMO will publish the Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, as determined under paragraph 3.1.1(d), on the WEM Website by the date specified in clause 4.1.8 **[Clause 4.11.3A(aB)]**.
- 3.1.3. AEMO may publish the following additional information on the WEM Website:
- (a) the scenario that AEMO used (the scenario described in clause 4.5.10(a)(iii) or the scenario described in clause 4.5.10(a)(iv)) to determine the Four-Hour Demand Increase for each Trading Interval outside the Hot Season in the relevant Capacity Year;
  - (b) the highest Four-Hour Demand Increase among all Trading Intervals outside the Hot Season in the relevant Capacity Year; or
  - (c) details of any other information used to determine the Flexible Electric Storage Resource Obligation Intervals.

### **E[C] Calculating the Flexible ESROI Intervals for the required Capacity Year**

In making the calculation under paragraph 5.1.3, where the specific Trading Interval is (for example) the 18:00 Trading Interval, then the associated Four-Hour Demand Increase is from the 14:00 Trading Interval to the 17:30 Trading Interval inclusive, as Trading Interval 17:30 covers the time period from 17:30 to just before the start of 18:00.

## **3.2. Years 2 and 3 of Reserve Capacity Cycle**

- 3.2.1. For the purposes of clause 4.11.3A(b), in Year 2 and Year 3 of a Reserve Capacity Cycle, AEMO will apply the following processes to determine whether the Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle remain appropriate:
- (c) AEMO will apply the processes specified in paragraphs 3.1.1(b)(a) to 3.1.1(b)(d) (c) to determine indicative Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle.
  - (d) AEMO will compare the indicative Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, as determined under paragraph 32.2.1(a), with:
    - (i) (in Year 2 of the Reserve Capacity Cycle) the Flexible Electric Storage Resource Obligation Intervals for that Trading Day that AEMO determined in Year 1 of the Reserve Capacity Cycle; or
    - (ii) (in Year 3 of the Reserve Capacity Cycle) the Flexible Electric Storage Resource Obligation Intervals for that Trading Day that AEMO determined in Year 2 of the Reserve Capacity Cycle.
  - (e) AEMO will determine the Flexible Electric Storage Resource Obligation Interval for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, based on the comparison under paragraph 32.2.1(b), as follows:
    - (i) the Flexible Electric Storage Resource Obligation Intervals for a Trading Day that AEMO determined in Year 1 or Year 2 of the Reserve Capacity Cycle, as applicable under paragraph 32.2.1(b)(i) or paragraph 32.2.1(b)(ii), continue to apply if AEMO considers that they remain appropriate;
    - (ii) otherwise, the Flexible Electric Storage Resource Obligation Intervals for a Trading Day are the indicative Flexible Electric Storage Resource Obligation Intervals determined under paragraph 32.2.1(a).
- 3.2.2. AEMO must publish the Flexible Electric Storage Resource Obligation Intervals for each Trading Day from 1 October of Year 3 of the Reserve Capacity Cycle to 30 September of Year 4 of the Reserve Capacity Cycle, as determined under paragraph 3.2.1(e), on the WEM Website by the date specified in clause 4.1.8 **[Clause 4.11.3A(b)]**.

**E [D] Publishing the final Flexible Peak Electric Storage Resource Obligation Interval.**

AEMO may publish this information in the Statement of Opportunities Report, which is available on the WEM website.

3.2.3. AEMO may publish the following additional information on the WEM Website:

- (a) the scenario that AEMO used (the scenario described in clause 4.5.10(a)(iii) or the scenario described in clause 4.5.10(a)(iv)) to determine the Four-Hour Demand Increase for each Trading Interval outside the Hot Season in the relevant Capacity Year;
- (b) the highest Four-Hour Demand Increase among all Trading Intervals outside the Hot Season in the relevant Capacity Year;
- (c) any supporting analysis that AEMO conducted as part of its processes under paragraph 3.2.1 to determine whether the Flexible Electric Storage Resource Obligation Intervals remain appropriate, and if not, to change the Flexible Electric Storage Resource Obligation Intervals; or
- (d) details of any other information used to determine the Flexible Electric Storage Resource Obligation Intervals.

# Appendix A. Relevant clauses of the ESM Rules

Table 2 details:

- (a) the head of power clauses in the ESM Rules under which the Procedure has been developed; and
- (b) each clause in the ESM Rules requiring an obligation, process or requirement be documented in a WEM Procedure, where the obligation, process or requirement has been documented in this Procedure.

**Table 2      Relevant clauses of the ESM Rules**

Clause
4.11.3A(a)
4.11.3A(aA)
4.11.3A(aB)
4.11.3A(b)
4.11.3A(c)
6.3.1(a)
6.3.1(b)