
2021 Reserve Capacity Information Pack

June 2021

A report for the Wholesale Electricity Market

Important notice

PURPOSE

AEMO publishes the 2021 Reserve Capacity Information Pack under clause 4.7.2 of the Wholesale Electricity Market (WEM) Rules.

This publication has been prepared by AEMO using information published in the 2021 WEM Electricity Statement of Opportunities¹.

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VERSION CONTROL

Version	Release date	Changes
1.0	17/6/2021	Document creation

¹ Available at <https://aemo.com.au/energy-systems/electricity/wholesale-electricity-market-wem/wem-forecasting-and-planning/wem-electricity-statement-of-opportunities-wem-esoo>.

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1. Background

Each year, AEMO must publish the Reserve Capacity Information Pack under clause 4.7.2 of the Wholesale Electricity Market (WEM) Rules for the South West interconnected system (SWIS) in Western Australia.

This Reserve Capacity Information Pack relates to the 2021 Reserve Capacity Cycle and sets the Reserve Capacity Requirement (RCR)² for the 2023-24 Capacity Year³, as published in the 2021 WEM Electricity Statement of Opportunities (ESOO).

The 2021 WEM ESOO⁴ provides detailed information on:

- AEMO's 2021 Long Term Projected Assessment of System Adequacy (PASA) for the SWIS over the 10-year Long Term PASA Study Horizon for the 2021-22 to 2030-31 Capacity Years.
- The Availability Classes and Availability Curve developed for the 2023-24 Capacity Year.

Please direct any questions about the 2021 WEM ESOO or this Reserve Capacity Information Pack to AEMO's Reserve Capacity team on (08) 9469 9800 or wa.capacity@aemo.com.au.

2. Reserve Capacity Requirement

The RCR for the 2023-24 Capacity Year is **4,396 MW**.

3. Availability Classes

Certified Reserve Capacity (CRC) is classified into two classes based on capacity availability⁵:

- **Availability Class 1:** relates to all generation capacity⁶, and any other capacity that is expected to be available for dispatch for all Trading Intervals, allowing for outages or other restrictions on availability.
- **Availability Class 2:** relates to capacity that is not expected to be available for dispatch for all Trading Intervals.

² The RCR is AEMO's estimate of the total amount of generation or Demand Side Management capacity required in the SWIS to satisfy the Planning Criterion under clause 4.5.9 of the WEM Rules for a specific Capacity Year (determined in accordance with clause 4.5.10(b) of the WEM Rules).

³ A Capacity Year commences in the Trading Interval starting at 8:00 AM on 1 October and ends in the Trading Interval ending at 8:00 AM on 1 October of the following calendar year. All data in the 2021 Reserve Capacity Information Pack is based on Capacity Years unless otherwise specified.

⁴ Available at <https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Planning-and-forecasting/WEM-Electricity-Statement-of-Opportunities>.

⁵ See clause 4.11.4 and the definitions of "Availability Class 1" and "Availability Class 2" in Chapter 11 of the WEM Rules.

⁶ Hybrid Facilities that include both generation and Electric Storage Resource (ESR) capacity considered to be in Availability Class 1. Amendments to the WEM Rules were gazetted in December 2020 to provide for the participation of ESR capacity under the RCM. See <https://www.erawa.com.au/cproot/21670/2/Wholesale-Electricity-Market-Amendment-Tranches-2-and-3-Amendments-Rules-2020.pdf>.

From the 2023-24 Capacity Year onwards, stand-alone Electric Storage Resources (ESR)⁷ have been included in the modelling of Availability Classes. ESR are included in Availability Class 2, as they are only required to make capacity available during the Electric Storage Resource Obligation Intervals⁸.

The 2021 Long Term PASA determined the minimum capacity required to be provided by Availability Class 1 capacity for the 2023-24 Capacity Year. The Availability Class 2 capacity allowance is equal to the RCR less the Availability Class 1 requirement. Capacity shortfalls occur when:

- Availability Class 1 capacity is less than the minimum Availability Class 1 capacity requirement.
- Availability Class 1 and Availability Class 2 capacity is less than the RCR.

The minimum Availability Class 1 capacity requirement and the capacity associated with Availability Class 2 for the 2023-24 Capacity Year is outlined in Table 1.

Table 1 Availability Classes for the 2023-24 Capacity Year

	2023-24 (MW)
Minimum capacity required to be provided by Availability Class 1	3,496
Capacity associated with Availability Class 2	900
RCR	4,396

Source: Robinson Bowmaker Paul (RBP).

4. Availability Curve

The Availability Curve⁹ is a two-dimensional duration curve of the forecast minimum capacity requirement for each Trading Interval over a Capacity Year.

The minimum capacity requirement for each Trading Interval is calculated as the sum of the forecast demand for that Trading Interval and the difference¹⁰ between the Reserve Capacity Target (RCT) for the Capacity Year and the maximum of the forecast demand for the Trading Intervals in the Capacity Year.

The 2021 Long Term PASA study developed the Availability Curve for the 2023-24 Capacity Year, as shown in Figure 1.

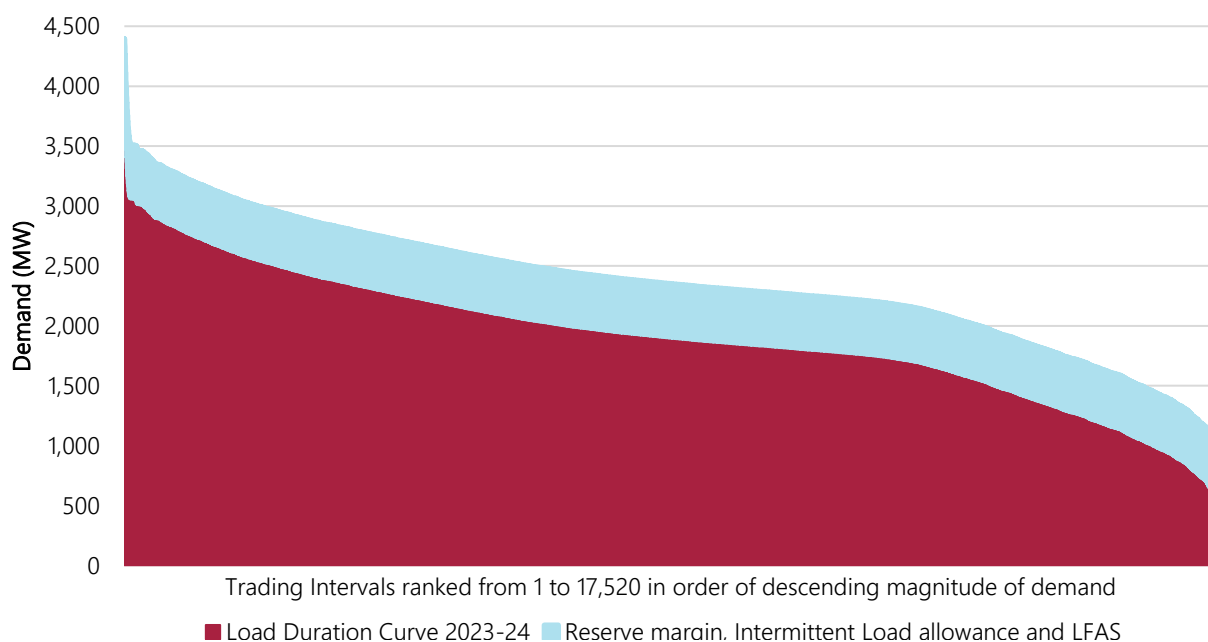
⁷ The Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020 relevantly include amending rules with respect to Electric Storage Resources as a Facility Technology Type. See <https://www.erawa.com.au/cproot/21670/2/Wholesale-Electricity-Market-Amendment-Tranches-2-and-3-Amendments-Rules-2020.pdf>. The relevant amending rules come into operation on a date specified by the Minister in a notice published in the *Gazette*.

⁸ The 2021 WEM ESOO modelling assumes that ESR is required to be available between 16:00 and 20:00 each Trading Day, as these times generally coincide with peak demand.

⁹ The Availability Curve (defined in clause 4.5.10(e) of the WEM Rules) shows how demand changes over a Capacity Year, with demand on the vertical axis and time on the horizontal axis. It can be used to determine the number of hours when the capacity requirement exceeds a given level of demand.

¹⁰ This difference between the RCT and the maximum forecast demand can be calculated as the sum of the reserve margin, Intermittent Load allowance, and the Load Following Ancillary Service (LFAS) capacity requirement.

Figure 1 2023-24 Capacity Year Availability Curve



Source: RBP.

5. Expressions of Interest (EOI)

The Request for EOI window for the 2021 Reserve Capacity Cycle will open on 1 July 2021 and close on 16 August 2021¹¹. AEMO will invite EOIs from project proponents with new Energy Producing Systems¹² and Demand Side Management capacity who seek Certified Reserve Capacity and Capacity Credits for the 2023-24 Capacity Year. A project proponent must submit an EOI as a condition of being eligible to seek certification of Reserve Capacity under section 4.8 of the WEM Rules for any new capacity, which includes an upgrade of a Facility in the 2021 Reserve Capacity Cycle.

The *2021 EOI Summary Report* will be published on 30 September 2021 and will be available on AEMO's website¹³.

¹¹ The 2021 Reserve Capacity timetable can be found at https://aemo.com.au/-/media/files/electricity/wem/reserve_capacity_mechanism/timetable/2021-and-2022-reserve-capacity-timetables.pdf.

¹² The Wholesale Electricity Market Amendment (Tranches 2 and 3 Amendments) Rules 2020 include amending rules with respect to Energy Producing Systems. An Energy Producing System is defined as: "Set of one or more electricity producing resources or devices such as generation systems or Electric Storage Resources". This definition currently has legal effect under the transitional rule specified in clause 1.36C.6 of the WEM Rules.

¹³ Available at <https://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Reserve-capacity-mechanism/Expressions-of-interest>.