

# NCESS Service Specification (Minimum Demand)

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## Version Release History

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## Contents

<b>1. Introduction</b>	<b>4</b>
1.1. Purpose and scope	4
1.2. Definitions	4
<b>2. Service details</b>	<b>5</b>
2.1. Service requirements	5
2.2. Contract Term, timing and duration	6
2.3. Expectation of the frequency of service utilisation	6
<b>3. Who can provide the services</b>	<b>7</b>
3.1. Expected technical capability of facility or equipment that may be able to provide service	7
3.2. Likely network location where service will be provided	7
3.3. Eligibility	7
3.4. Registration and certification	8
3.5. Service Quantity	8
<b>4. How the service is to be provided</b>	<b>8</b>
4.1. Operational requirements and limitations	8
4.2. Maintenance and reliability	9
<b>5. Measurement, unavailability and payment</b>	<b>9</b>
5.1. Measurement	9
5.2. Baseline Quantity	10
5.3. Minimum availability requirement	10
5.4. Unavailability	10
5.5. Payment	11
<b>6. General</b>	<b>11</b>
6.1. Material contract terms	11
6.2. Conditions precedent	11
6.3. Security	12
6.4. Extent of liability	12
6.5. Termination clauses	13
<b>7. Selection criteria</b>	<b>13</b>

## Tables

Table 1	Definitions .....	4
Table 2	Selection criteria .....	13

## Figures

Figure 1	Expected utilisation of Minimum Demand Service .....	6
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# 1. Introduction

## 1.1. Purpose and scope

1.1.1. AEMO has prepared this Non-Co-optimised Essential System Service (NCESS) Service Specification in accordance with clause 3.11B.4(b) of the Wholesale Electricity Market Rules (**WEM Rules**). This NCESS Service Specification includes:

- (a) the service requirements;
- (b) the expected technical capability of a facility or equipment that may be able to provide the service;
- (c) where applicable, the likely network location where the service is to be provided;
- (d) the maximum quantity of the service required;
- (e) the expected commencement and duration of the service;
- (f) the reasonable expectation of the frequency of service utilisation, the expected duration of each utilisation and when the service is expected to be utilised during typical days;
- (g) any operational requirements or limitations;
- (h) the material contractual terms associated with the NCESS, including required pricing structure;
- (i) the selection criteria that may apply to the NCESS Submissions; and
- (j) any other relevant matters.

## 1.2. Definitions

1.2.1. Terms defined in the *Electricity Industry Act 2004*, the WEM Regulations and the WEM Rules have the same meaning in this document unless the context requires otherwise.

1.2.2. Capitalised terms used in this document:

- (a) (for terms that are currently defined in the WEM Rules) have the meaning given in the WEM Rules;
- (b) (for terms that will be defined in the WEM Rules from 1 October 2023) have the corresponding meaning<sup>1</sup>; and
- (c) otherwise have the meaning set out in Table 1.

**Table 1** Definitions

Term	Meaning
Contract Term	The period (specified in paragraph 2.2 of this document) during which the NCESS provider must make the Service available.
Baseline Quantity	The baseline quantity calculated under paragraph 0 of this document for the Minimum Demand Service, that is used to measure the quantity of the Service provided in a Dispatch Interval.

<sup>1</sup> Amending Rules gazetted and awaiting commencement can be found here: <https://www.wa.gov.au/government/document-collections/wholesale-electricity-market-rules>.

Term	Meaning
Maximum NCESS Contract Amount	The maximum amount that is payable to the NCESS provider under the NCESS Contract on the assumed basis that the Service is available during each Dispatch Interval in the Availability Period.
Minimum Demand Service	Has the meaning given in paragraph 2.1.2 of this document.
Service Equipment	The Registered Facility or Unregistered Equipment from which the Service is required to be provided under the NCESS Contract.
Service Quantity	The quantity of the Service that the NCESS provider is required to provide under the NCESS Contract.
Unregistered Equipment	Means any facility or equipment that is not registered and not required to be registered under this document.

## 2. Service details

### 2.1. Service requirements

- 2.1.1. This NCESS Service Specification is for a Minimum Demand Service.
- 2.1.2. The Minimum Demand Service (measured in MW of response capability) is to decrease Injection or increase Withdrawal.

#### Service requirements

AEMO considers that a Registered Facility (as distinct from Unregistered Equipment) is unable to provide a Minimum Demand Service as a decrease of Injection. This is because the Central Dispatch Process will require an Energy Producing System to operate at 0 MW Injection through security-constrained economic dispatch in minimum demand scenarios.

### Maximum quantity of service required

- 2.1.3. An NCESS Submission must specify a Service Quantity between 10 MW and 125 MW.
- 2.1.4. The maximum quantity of the Minimum Demand Service required (from all NCESS providers) is 125 MW.

#### Minimum and maximum Service Quantity

AEMO has specified a minimum quantity of 10 MW for each service to account for contract-specific activation and operational impacts. The maximum quantity for each service (from a single NCESS provider) reflects AEMO's forecast limits for the Largest Credible Load Contingency.

## 2.2. Contract Term, timing and duration

- 2.2.1. The commencement date for the NCESS is 1 October 2023.
- 2.2.2. The end date for the NCESS is 1 October 2024.
- 2.2.3. The timing of the Minimum Demand Service (subject to paragraphs 2.2.5 and 4.2) is:
  - (a) for Unregistered Equipment with a dynamic service quantity – the relevant Service Quantity must be available for the relevant Dispatch Interval between 10:00 AM and 2:00 PM, unless varied by AEMO for a Trading Day in accordance with paragraph 2.2.4; or
  - (b) otherwise – the Service Quantity must be available during the 8 Trading Intervals between 10:00 AM and 2:00 PM, unless varied by AEMO for a Trading Day in accordance with paragraph 2.2.4.
- 2.2.4. AEMO may vary the service timing for a single Trading Day to any 8 consecutive Trading Intervals between 9:00 AM and 3:00 PM by 6:00 PM on the Scheduling Day for the Trading Day where it reasonably determines the service is required at a different time on that Trading Day.
- 2.2.5. The duration of each service is:
  - (a) for a Registered Facility – as dispatched in accordance with the Central Dispatch Process during any Dispatch Intervals specified in paragraph 2.2.2; and
  - (b) for Unregistered Equipment – as activated by AEMO for one or more Trading Intervals specified in paragraph 2.2.3, up to a maximum of 8 consecutive Trading Intervals per activation.

## 2.3. Expectation of the frequency of service utilisation

2.3.1. The expected frequency of service utilisation for the Minimum Demand Service is shown in Figure 1.

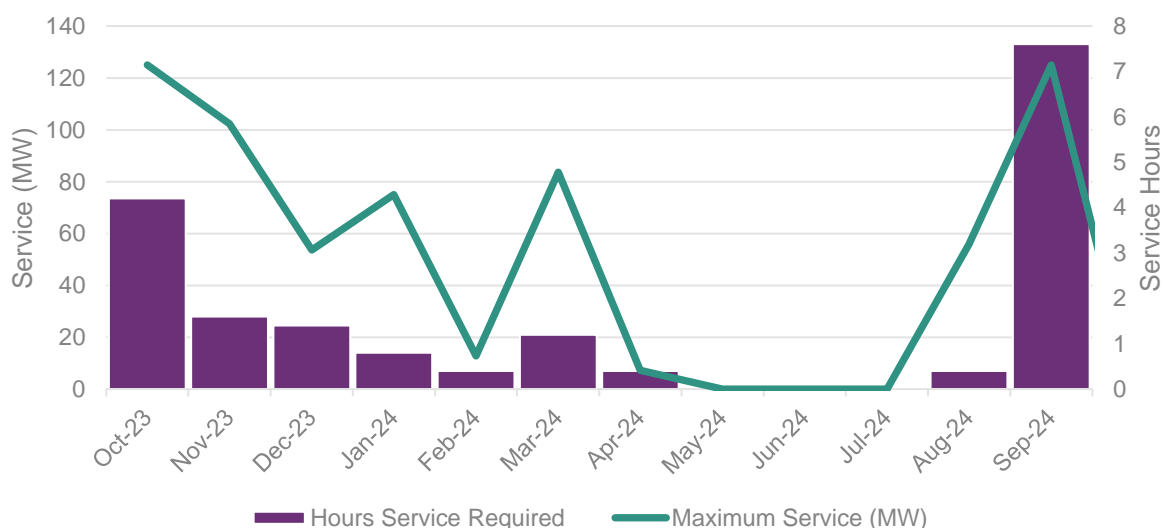


Figure 1 Expected utilisation of Minimum Demand Service.

## 3. Who can provide the services

### 3.1. Expected technical capability of facility or equipment that may be able to provide service

- 3.1.1. The expected technical capability of a facility or equipment that may be able to provide the service is:
- (a) one of the following:
    - (i) a Scheduled Facility or Semi-Scheduled Facility that is currently registered;
    - (ii) a facility or equipment that is currently unregistered but intends or is required in accordance with paragraph 3.4.1 to register as a Scheduled Facility or Semi-Scheduled Facility; or
    - (iii) Unregistered Equipment that meets the control and communication requirements specified in paragraph 3.1.2; and
  - (b) the capability to deliver the Service Quantity continuously for 48 consecutive Dispatch Intervals at all relevant times during the contract term.
- 3.1.2. The control and communication requirements for Unregistered Equipment that provides the service are:
- (a) a single point of communication for activation;
  - (b) a capability to activate the Service Quantity in accordance with paragraph 4.1.3; and
  - (c) visibility, through communication protocols approved by AEMO, of:
    - (i) Injection or Withdrawal; and
    - (ii) Service Quantity availability,at a granularity of no more than 5 minutes.
- 3.1.3. Where the Service Quantity for Unregistered Equipment comprises more than 10 MW behind a single Transmission Node, AEMO may require aggregated visibility under paragraph 3.1.2(c) for connection points at that Transmission Node.

### 3.2. Likely network location where service will be provided

- 3.2.1. The services may be delivered at any location in the South West Interconnected System (SWIS), excluding areas which are likely to be subject to frequent constrained operation for Withdrawal at SWIS minimum demand.
- 3.2.2. AEMO (as part of the selection criteria under paragraph 7.1.1) may consider the level of constrained operation that the facility or equipment may be subject to.

### 3.3. Eligibility

- 3.3.1. The eligibility requirements for all NCESS providers are as follows:
- (a) for existing registered Scheduled Facilities or Semi-Scheduled Facilities:
    - (i) AEMO has not assigned Capacity Credits for either of the 2022/23 and 2023/24 Capacity Years with respect to the Service Quantity;

- (ii) the NCESS provider intends to modify the Facility, vary the Contract Maximum Demand, or incur costs in order to provide the service; and
  - (iii) AEMO has not reduced the Capacity Credits of the facility during the 2022/23 Capacity Year at the time of NCESS submission evaluation under clause 3.11B.9(a)(ii) of the WEM Rules;
- (b) for a facility that is intended to be registered as a Scheduled Facility or Semi-Scheduled Facility – the facility is or is expected to be eligible to receive Capacity Credits for the Service Quantity in the 2025/26 Capacity Year;
  - (c) for Loads – the Load is not (and has not been) associated with any Demand Side Programme during the 2022/23 or 2023/24 Capacity Year;
  - (d) the nominated Service Quantity is additional Withdrawal or reduction in Injection relative to existing patterns of consumption for that Facility or equipment;
  - (e) as required under clause 3.11B.10(b)(i) of the WEM Rules – the facility or equipment will be able to provide the Service Quantity by the date specified in paragraph 2.2.1;
  - (f) as required under clause 3.11B.10(b)(ii) of the WEM Rules – sufficient Environmental Approvals have been granted; and
  - (g) no other relevant contractual or legal arrangement relating to the Service Quantity is expected to exist at any time during the Contract Term that may adversely affect service delivery.

### 3.4. Registration and certification

- 3.4.1. Any facility or equipment with a System Size greater than 10 MW will be required to be registered in accordance with the WEM Rules as a Scheduled Facility or Semi-Scheduled Facility.

### 3.5. Service Quantity

- 3.5.1. The Service Quantity is the MW quantity provided for the service and is measured by reference to the relevant Baseline Quantity for the service, calculated in accordance with paragraphs 5.2.1 and 5.2.2, where the Service Quantity for Unregistered Equipment for the Minimum Demand Service may be a dynamic quantity based on a methodology approved by AEMO.

## 4. How the service is to be provided

### 4.1. Operational requirements and limitations

- 4.1.1. The Minimum Demand Service must be offered for every Dispatch Interval required by paragraph 2.2.2:
  - (a) for a Scheduled Facility or Semi-Scheduled Facility – as Real-Time Market Submissions for energy for the Minimum Demand Service – as offers for Withdrawal greater than or equal to the sum of the Service Quantity and the Baseline Quantity; and
  - (b) for Unregistered Equipment – as a standing contractual offer to Withdraw a quantity greater than or equal to the sum of the relevant Service Quantity and the Baseline Quantity.



- 4.1.2. Where an NCESS provider provides the Minimum Demand Service through a Scheduled Facility or a Semi-Scheduled Facility, the NCESS provider may offer a Frequency Co-optimised Essential System Services quantity that includes the Service Quantity in its Real-Time Market Submissions.
- 4.1.3. Where an NCESS provider provides the Minimum Demand Service from Unregistered Equipment, AEMO may require the NCESS provider to activate the service for any quantity up to the relevant Service Quantity by giving notice to the NCESS provider up to 12 Dispatch Intervals (corresponding to 1 hour) in advance. The notice will specify the relevant Dispatch Intervals and the quantity required.
- 4.1.4. AEMO will require the NCESS provider of Unregistered Equipment to activate the service when AEMO considers that other actions it may take under the WEM Rules are likely to be insufficient to manage minimum demand conditions.

## 4.2. Maintenance and reliability

- 4.2.1. The NCESS provider must:
  - (a) maintain the facility or equipment in accordance with good electricity industry practice; and
  - (b) notify AEMO as soon as the NCESS provider becomes aware of any requirement for unplanned maintenance that affects or could reasonably be expected to affect the ability of the facility or equipment to provide the Service Quantity.
- 4.2.2. The NCESS provider must plan maintenance in accordance with clause 3.18 of the WEM Rules, unless AEMO determines another process is more appropriate.
- 4.2.3. Where AEMO approves maintenance plans under paragraph 4.2.2, the NCESS provider will not be deemed unavailable under paragraph 5.4.1 for the duration of the approval.
- 4.2.4. The NCESS provider must notify AEMO promptly after changing or modifying the facility or equipment in a way that reduces or could reasonably be expected to reduce the availability of the service. AEMO may require the NCESS provider (at the NCESS provider's cost) to conduct a test of the facility or equipment (in its changed or modified configuration) to demonstrate that the service is available.

## 5. Measurement, unavailability and payment

### 5.1. Measurement

- 5.1.1. AEMO will determine historical and actual Injection or Withdrawal from:
  - (a) for Registered Facilities – SCADA end-of-interval values; and
  - (b) for Unregistered Equipment – Interval Meter Data provided by the Meter Data Agent.

## 5.2. Baseline Quantity

- 5.2.1. The Baseline Quantity will determine the baseline from which the Service Quantity is measured.
- 5.2.2. The Baseline Quantity for the Minimum Demand Service will be determined by a method to identify a baseline Injection or Withdrawal proposed by the NCESS provider and approved by AEMO for:
- (a) Scheduled Facilities or Semi-Scheduled Facilities, to increase Withdrawal; or
  - (a) Unregistered Equipment, to decrease Injection or increase Withdrawal.

## 5.3. Minimum availability requirement

- 5.3.1. A minimum availability requirement will apply for the service.
- 5.3.2. For the purposes of determining whether the minimum availability requirement for the service has been met, and the extent of any shortfall, the availability of the service will be measured over a relevant period in accordance with paragraph 5.3.3.
- 5.3.3. The availability of the service for a relevant period is calculated as  $(B-U)/B \times 100$ , expressed as a percentage, where:

U = the number of Dispatch Intervals during which the service is deemed unavailable in the relevant period as determined by paragraph 5.4; and

B = the total number of Dispatch Intervals required by paragraph 2.2.2 for the relevant service in the relevant period.

- 5.3.4. The minimum availability requirement for the service in each relevant period is 90%.

## 5.4. Unavailability

- 5.4.1. The service will be deemed unavailable in any Dispatch Interval required by paragraph 2.2.2 where:
- (a) the conditions precedent specified in paragraph 6.2 have not been met;
  - (b) the NCESS provider notifies AEMO of an inability to provide the Service Quantity (including by not offering in accordance with paragraph 4.1.1) except where AEMO approves maintenance plans under paragraph 4.2.2;
  - (c) the NCESS provider does not provide the quantity specified in a Dispatch Instruction or activation instruction under paragraph 4.1.4, as applicable, with respect to the service;
  - (d) AEMO loses communication with, or SCADA visibility of the facility or equipment for the entire Dispatch Interval;
  - (e) the facility or equipment is subject to a Commissioning Test Plan; or
  - (f) AEMO otherwise reasonably determines, based on energy or fuel storage information (including storage state of charge) or other relevant information available to AEMO, including with respect to Outages not approved under paragraph 4.2.2, that the facility or equipment is unable to provide the Service Quantity.

5.4.2. Until remedied, the service will be deemed unavailable from any Dispatch Interval where the facility or equipment fails any test required by AEMO.

## 5.5. Payment

5.5.1. The contract amount payable will consist of:

- (a) for a Registered Facility and Unregistered Equipment – an availability payment (which is not payable unless and until the NCESS provider satisfies the conditions precedent specified in paragraph 6.2); and
- (b) for Unregistered Equipment – an activation payment.

5.5.2. The availability payment will be payable for all relevant Dispatch Intervals required by paragraph 2.2.2, excluding Dispatch Intervals during which the facility or equipment is deemed to be unavailable as specified in paragraph 5.4.

5.5.3. The activation payment will be payable for all relevant Dispatch Intervals required by paragraph 2.2.2 for which AEMO has activated the service in accordance with paragraph 4.1.4, excluding Dispatch Intervals during which the facility or equipment is deemed to be unavailable as specified in paragraph 5.4.

5.5.4. Availability payments and activation payments will be made:

- (a) for Registered Facilities – in accordance with the WEM Rules; or
- (b) for Unregistered Equipment – weekly in accordance with a payment mechanism specified by AEMO.

## 6. General

### 6.1. Material contract terms

6.1.1. All items identified in this NCESS Service Specification are material contract terms.

### 6.2. Conditions precedent

6.2.1. The NCESS Contract will be subject to the following conditions precedent, which must be satisfied by the commencement date under paragraph 2.2.1 or any later date that AEMO determines in its sole discretion:

- (a) the facility or equipment must complete all tests required by AEMO (to AEMO's satisfaction) to demonstrate compliance with the service requirements specified in this document; and
- (b) where the services are to be provided by a Registered Facility, that facility is registered and in Commercial Operation.

### 6.3. Security

- 6.3.1. For a Registered Facility or Unregistered Equipment that is yet to enter service (or re-enter service after an upgrade), the relevant NCESS provider must ensure that AEMO holds the benefit of a security that is specified in paragraph 6.3.2.
- 6.3.2. The security must be an obligation in writing that:
- (a) is from a Security Provider;
  - (b) is a guarantee or bank undertaking in a form prescribed by AEMO;
  - (c) is duly executed by the Security Provider and delivered unconditionally to AEMO;
  - (d) constitutes valid and binding unsubordinated obligations of the Security Provider to pay to AEMO amounts in accordance with its terms; and
  - (e) permits drawings or claims by AEMO up to a stated amount.
- 6.3.3. The amount of security required to be provided is equal to 20% of the contract value associated with the Service Quantity. If an NCESS provider has provided Reserve Capacity Security for the Service Quantity, the NCESS Security will be reduced commensurately.
- 6.3.4. If a NCESS provider meets the conditions precedent in paragraph 6.2, then AEMO will return the security to the NCESS provider as soon as practicable.
- 6.3.5. If a NCESS provider who provides security in respect of a Facility or equipment fails to satisfy the conditions precedent in paragraph 6.2 before the end of the first year of the NCESS Contract then the NCESS provider forfeits the security amount.

### 6.4. Extent of liability

- 6.4.1. Separate liability caps will apply for AEMO and the NCESS provider.
- 6.4.2. For AEMO:
- (a) Subject to paragraph 6.4.2(b) and other than in respect of any unpaid availability payment or activation payment amounts, AEMO's liability is limited to the prescribed maximum amount for the purposes of section 126 of the Electricity Industry Act and regulation 52 of the WEM Regulations.
  - (b) AEMO is not liable for:
    - (i) indirect damages or losses;
    - (ii) loss of market, opportunity or profit (whether direct or indirect); or
    - (iii) damages or losses to the extent that they arise from the NCESS provider's failure to act in accordance with the NCESS Contract, a law (including the WEM Rules) or good electricity industry practice.
- 6.4.3. For the NCESS provider:
- (a) Subject to paragraph 6.4.3(b), the total amount recoverable from the NCESS provider in respect of any and all claims arising out of any one or more events during the contract term with respect to, arising from, or in connection with, the NCESS Contract or the provision of the service is limited to the Maximum NCESS Contract Amount.
  - (b) The NCESS provider is not liable for:
    - (i) indirect damages or losses;
    - (ii) loss of market, opportunity or profit (whether direct or indirect); or

- (iii) damages or losses to the extent that they arise from AEMO's failure to act in accordance with the NCESS Contract, a law (including the WEM Rules) or good electricity industry practice.

## 6.5. Termination clauses

6.5.1. AEMO may terminate the NCESS Contract by giving notice to the NCESS provider if:

- (a) (for a NCESS provider who provides security in respect of a Facility or equipment under paragraph 6.3) the NCESS provider fails to satisfy the conditions precedent in paragraph 6.2, before 1 April 2024;
- (b) for any period after the NCESS provider satisfies the conditions precedent:
  - (i) the service is unavailable as determined under paragraph 5.4 for a continuous period of more than 1 month during the contract term; or
  - (ii) the NCESS provider fails to meet the minimum availability requirement under paragraph 5.3 in respect of the service over any 3-month period;
- (c) the NCESS provider materially breaches the NCESS Contract; or
- (d) an insolvency event occurs in relation to the NCESS provider.

## 7. Selection criteria

7.1.1. In accordance with clauses 3.11B.9 and 3.11B.11 of the WEM Rules, AEMO must apply the selection criteria summarised in Table 2 for NCESS Submissions:

**Table 2 Selection criteria**

Criteria	Description	Weighting
Compliance with specification	The service complies with the specification as described in the tender or referenced WEM Procedures.	Pass/Fail (1/0)
Environmental Approvals	As required under clause 3.11B.10(b)(ii) of the WEM Rules, sufficient Environmental Approvals have been granted.	Pass/Fail (1/0)
Value for money	The estimated total cost of the service over the period represents value for money to the WEM when considering the counterfactual approach or outcome.	Pass/Fail (1/0)
Progression	The progress of the project to achieve all conditions precedent and AEMO's assessment of likelihood that the Project will achieve key dates, including with regard to connection feasibility informed by consultation with the Network Operator.	Moderate (20%)
Enhanced participation	The ideal NCESS provider would meet the service requirements whilst offering enhanced system benefits, specifically participation in Frequency Co-optimised Essential System Services and any system supporting capabilities (e.g. Grid-Forming capability for inverter based resources).	Low (10%)
Network location	The ideal service is in a network area that is free from network congestion. AEMO will assess in coordination with Western Power any relevant network constraints that may impact NCESS providers. The power system will benefit from geographical diversity of providers; therefore, this criterion will also include consideration where several providers propose to locate in the same area, or a lack of providers in a specific area. AEMO encourages submissions in North of Three Springs to mitigate locational limits identified.	Low (10%)
Availability	The ideal service is available earlier to provide additional benefit to system reliability and overall costs.	Moderate (20%)
Cost	The estimated total cost of the service compared to other proposals weighted for equal comparison of quantity, duration, and proportionality.	High (40%)