



# 2020 Certification of Reserve Capacity workshop

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# Agenda

1. Background and Certified Reserve Capacity (CRC) overview
2. Key dates for the 2020 CRC process
3. CRC application requirements
4. Committed status applications
5. Reserve Capacity Security requirements
6. Specific requirements by Facility type
7. Questions and feedback

# Disclaimer

This presentation has been developed in line with the current version of the WEM Rules available on the [ERA's website](#).

AEMO has taken all due care in preparing this material, but accepts no liability for any errors it may contain.

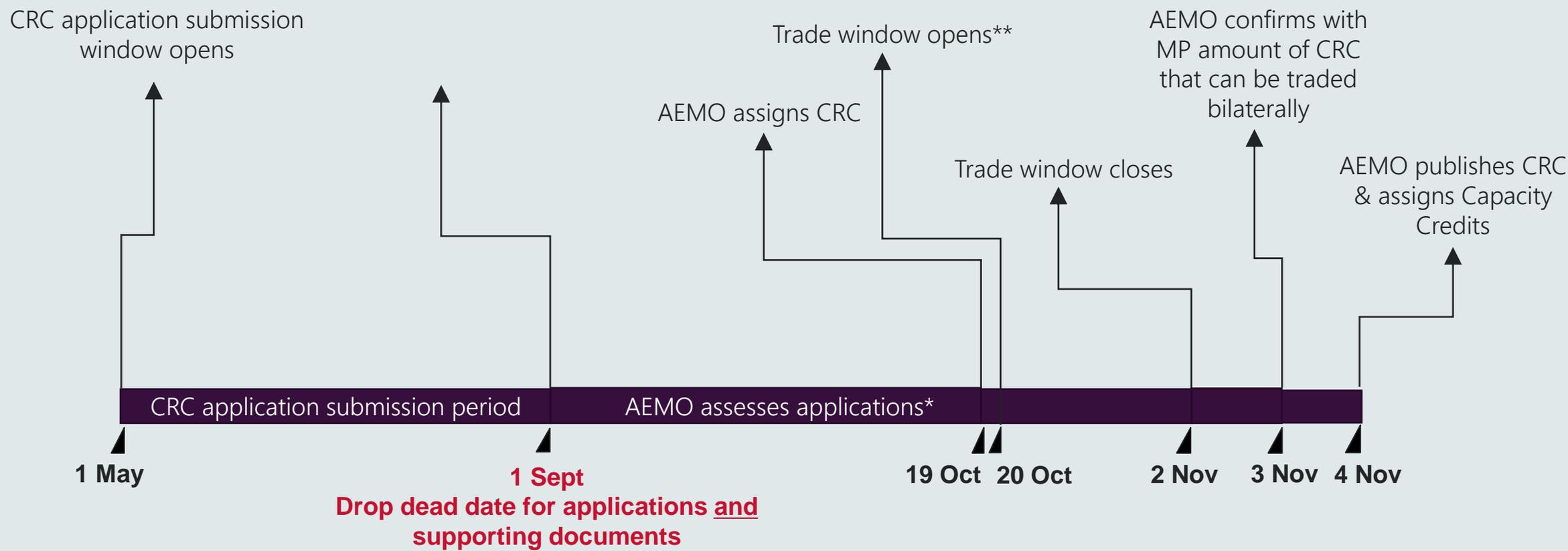
The information may be subject to specific exceptions or may not apply to particular factual circumstances.

To fully understand their obligations, Market Participants should refer to the WEM Rules.

# Background and CRC overview

- The 2020 Reserve Capacity Cycle relates to the 2022-23 Capacity Year.
- The CRC process is a key aspect of the RCM.
- The application window is open between 9:00 am on 1 May 2020 to 5:00 pm on 1 September 2020 (deferred timeline).
- Associated WEM Rules and Market Procedures:
  - Sections 4.9, 4.10, and 4.11 of the WEM Rules.
  - [Market Procedure: Certification of Reserve Capacity](#) (updated 15 June 2020).
- Specifically, Market Participants must provide information required under section 4.10 of the WEM Rules.
- AEMO assesses and sets CRC in accordance with section 4.11 of the WEM Rules.

# Key dates for the 2020 CRC process



# CRC application requirements

- Applications must be submitted via WEMS MPI only.
- Formal applications for CRC may only be lodged during the CRC application window (1 May to 1 September) [MR 4.9.1].
- Must include supporting documentation required under MR 4.10.1.
- **No new or updated supporting documentation can be submitted after 1 September (step 4.2.6 of the Market Procedure: Certification of Reserve Capacity).**
- AEMO will reject an application that does not include all information required under MR 4.10.1 (step 4.2.5 of the Market Procedure: Certification of Reserve Capacity).

# Prerequisite

- Market Participants must have WEMS access (contact [wa.operations@aemo.com.au](mailto:wa.operations@aemo.com.au) for registration queries) noting that registration can take up to 20 BD.
- Facility placeholder in WEMS as a Candidate for Registration.

**Note:** AEMO will not assign CRC to a Facility that is not expected to be a registered Facility by the time its Reserve Capacity Obligations commence for the 2020 Reserve Capacity Cycle (normally 1 October 2022).

|             |                        |             |                   |             |                    |                     |      |
|-------------|------------------------|-------------|-------------------|-------------|--------------------|---------------------|------|
| Home        | <b>CRC Application</b> | Security    | Trade Declaration | CDA         | NTDL               | Capacity Allocation | IRCR |
| 2015 - 2016 | 2016 - 2017            | 2017 - 2018 | 2018 - 2019       | 2019 - 2020 | <b>2020 - 2021</b> |                     |      |

## Applications for Certification

Certification Submission Window  
Closes in Xmonths

| Application ⇅ | Facility Type ⇅ | Facility Status ⇅ | Application Status ⇅ | Submitted On ⇅      |         |
|---------------|-----------------|-------------------|----------------------|---------------------|---------|
| Facility Name | SG              | O                 | OPEN                 | -                   | Upgrade |
| Facility Name | NSG             | O                 | PENDING              | -                   | Upgrade |
| Facility Name | NSG             | O                 | SUBMITTED            | 07/03/2018 15:11:44 | Upgrade |

# Application for Certification

Edit

|                     |                      |                       |             |
|---------------------|----------------------|-----------------------|-------------|
| Participant:        | Participant Name     | Capacity Year:        | 2020 - 2021 |
| Facility Name:      | Facility Name        | Certification Window: |             |
| Facility Type:      | SG                   |                       |             |
| Facility Status:    | Commercial Operation |                       |             |
| Application Status: | OPEN                 |                       |             |
| Application Type:   | Existing             |                       |             |

Requested CRC \*

(MW)

Network Access Confirmation \*

No documents uploaded

## Application for Certification

Withdraw

|                     |                      |                       |             |
|---------------------|----------------------|-----------------------|-------------|
| Participant:        | Participant Name     | Capacity Year:        | 2020 - 2021 |
| Facility Name:      | Facility Name        | Certification Window: |             |
| Facility Type:      | NSG                  |                       |             |
| Facility Status:    | Commercial Operation |                       |             |
| Application Status: | SUBMITTED            |                       |             |
| Application Type:   | Existing             |                       |             |

Requested CRC\*

50

## Applications for Certification

Certification Submission Window  
Closes in X months

| Application ▾ | Facility Type ▾ | Facility Status ▾ | Application Status ▾ | Submitted On ▾ |                         |
|---------------|-----------------|-------------------|----------------------|----------------|-------------------------|
| Facility Name | SG              | O                 | OPEN                 | -              | <a href="#">Upgrade</a> |
| Facility Name | NSG             | O                 | OPEN                 | -              | <a href="#">Upgrade</a> |

# Amendments to Capacity Credit assignment – RCM pricing Rules

- In February 2020, the RCM pricing amendments commenced.
- Key changes:
  - Multiple prices for capacity (Reserve Capacity Price, Fixed Price, Transitional Price).
  - DSM Reserve Capacity Security to be provided each year.
  - Prioritisation order for accepting Facilities in Appendix 3.

# Reserve Capacity pricing

## Reserve Capacity Price (floating price)

- Varies annually.
- Applies to all DSPs and generators that are not eligible for the fixed or transitional prices.
- Calculated using the formula in the WEM Rules.

## Fixed price

- Set as the Reserve Capacity Price calculated in the first year the Facility enters the market.
- Locked in for 5 years (adjusted by CPI).
- Facilities must be new and meet certain conditions to be eligible for the fixed price.

## Transitional price

- For Facilities that were assigned Capacity Credits in the 2018 Reserve Capacity Cycle.
- Cap of \$140,000 and floor of \$114,000 (CPI adjusted) for 10 years.

# Trade declaration

Market Participants nominate (via the RCM portal) the amount of assigned CRC that:

- is intended to be traded bilaterally;
- will be made available in the Reserve Capacity Auction; or
- will be made unavailable (withdrawn).

Market Participants may nominate a new generation Facility as a Fixed Price Facility (if it meets certain conditions).

Associated WEM Rules and Procedures:

- MR 4.14
- [Market Procedure: Declaration of Bilateral Trades and the Reserve Capacity Auction](#)  
(currently being updated with the intention of being effective from late September or early October)

# Committed status

- New Facilities and Upgrades need to apply for Committed Status and choose the Reserve Capacity Price (floating price) to be assured Capacity Credits\*.
- Made as a separate application to CRC.
- The submission must present a case as to how the project has progressed further than a “Proposed” Facility and what irrevocable financial commitments have been made.
- AEMO’s approval decision is made prior to the trade window close.
- A Network Control Service (NCS) Facility is exempt from applying for Committed Status (and submitting a trade declaration).

## How to demonstrate committed status

Assessed by AEMO on a case-by-case basis.

Some examples of supporting documentation include:

- Construction contracts
- Site works contracts
- Financial commitment (e.g. Board approval)
- Evidence that the Facility is under construction (e.g. photos)
- Power purchase agreements with a customer

Guidelines for assessing Reserve Capacity Facility status are in Appendix A of [Market Procedure: Declaration of Bilateral Trade and the Reserve Capacity Auction.](#)

# Security

## Reserve Capacity Security

- Applies to new Facilities, upgrades, and Facilities returning to service after significant maintenance (generation only).
- Equal to 25% of the BRCP multiplied by the number of Capacity Credits.
- Relevant Rules: MR 4.13.

## DSM Reserve Capacity Security

- Applies to all DSPs – required to be provided each year.
- Equals 25% of the BRCP multiplied by the number of Capacity Credits (or max of DSM RCS held for other Capacity Years).
- Requirement can be waived.
- Relevant Rules: MR 4.13A.

More information about RCS and DSM RCS can be found in the [Market Procedure: Reserve Capacity Security](#) (updated 1 July 2020).

# Questions

# General requirements for documents

Supporting documentation provided by 1 September must (step 3.1.8 of the [Market Procedure: Certification of Reserve Capacity](#)):

- Relate to the Facility and cover the entire relevant Capacity Year.
- Be duly executed by an Authorised Officer of the Market Participant and all other parties.
- Be complete, with the exception that pricing and other commercially sensitive information may be redacted.
- If applicable, include evidence that any conditions precedent have been satisfied or waived.

# SG requirements

| Supporting information                 | What AEMO requires  | Requirement |
|--|---|-------------|
| Certified Reserve Capacity application | <p>Market Rule reference: 4.9.4</p> <p>An application for Certification of Reserve Capacity. To be completed by the Market Participant for an application to be assessed by AEMO.</p>   | Mandatory   |
| Network access                         | <p>Market Rule reference: 4.10.1(bA)</p> <p>Evidence that the Facility has a network access arrangement with Western Power that <i>states the level of unconstrained capacity the Facility can offer into the network from a specified date</i>. The contract must be attached in full and may be in the form of an Electricity Transfer Access Contract (ETAC+IWC) or Network Access Agreement (NAA). All documents must clearly show the expiry date, the Declared Sent Out Capacity (DSOC), details of any network access constraints such as runback schemes, and include all amendments and other changes. All documents must be executed by both Western Power and the entity responsible for the Facility.</p> <p>If the Facility is a <i>Constrained Access Facility</i> the Market Participant must inform AEMO.</p> | Mandatory   |
| Network constraints                    | <p>Market Rule reference: 4.10.1(bA)v</p> <p>Details of any activation of runback schemes or other binding network constraints over the previous 24 months, including frequency of occurrence, curtailment amount, time and date of occurrence, and duration of occurrence.</p>   | Mandatory   |
| Description of Facility                | <p>Market Rule reference: 4.10.1(dA)</p> <p>Description and configuration of the main components of the Facility. This must include generator nameplate rating and age along with any major upgrades that have been performed.</p>  | Mandatory   |

# SG requirements

| Supporting information                                 | What AEMO requires  | Requirement |
|--|---|-------------|
| Temperature Dependence information                     | <p>Market Rule reference: 4.10.1(e)(i)</p> <p>Provided on a <i>Sent Out</i> basis (please note that information in standing data must be <i>As Generated</i>). Must be supported by the manufacturer's technical specifications or as determined by an independent engineering firm.</p>  | Mandatory   |
| Fuel supply  | <p>Market Rule reference: 4.10.1(e)(v) and section 5.3 of the <a href="#">Market Procedure: Certification of Reserve Capacity</a></p> <p>Evidence that the Market Participant has secured sufficient fuel supplies (diesel, coal or gas) to operate the Facility and, if applicable, its fleet of Facilities. This may include demonstrated ability to procure additional fuel through the spot market. Full contracts must be provided which include full details of the fuel quantity to be delivered, signatory pages, expiry dates as well as any restrictions on quantities (for example, take or pay clauses, maximum contract quantities). Price information may be redacted.</p>  | Mandatory   |
| Fuel transport   | <p>Market Rule reference: 4.10.1(e)(v) and section 5.3 of the <a href="#">Market Procedure: Certification of Reserve Capacity</a></p> <p>Evidence that the fuel being procured by the Market Participant is able to be delivered to the Facility. Full contracts must be provided and include contract expiry dates and delivery lead times. A Market Participant may demonstrate its ability to source transport through the spot market. Price information may be redacted.</p>   | Mandatory   |
| Fuel availability (min 14 hours with one day resupply) | <p>Market Rule reference: 4.10.1(e)(v) and section 5.3 of the <a href="#">Market Procedure: Certification of Reserve Capacity</a></p> <p>Evidence that the Facility has sufficient fuel supplies, either through an on or off-site storage facility or delivered through a gas pipeline, to operate continuously for 14 hours at maximum output. This may include evidence of fuel storage tanks along with volumetric quantities, minimum stockpile levels and data on fuel used per hour of operation (for example, GJ/MWh). Where the Facility has primary and alternative fuels, outline the process for changing from one fuel to another and the fuel(s) which the Facility is to use in respect of an application for CRC.</p> | Mandatory   |

# SG requirements

| Supporting information                               | What AEMO requires   | Requirement   |
|--|--|---|
| Expected and Actual forced and unforced outage rates | <p>Market Rule reference: 4.10.1(e)(vi), 4.10.1(e)(vii) and 4.11.1(h)</p> <p>The forced and unforced outage rate of the Facility based on manufacturer data. For existing Facilities that have operated for at least 12 months, the forced and unforced outage rates in the past 36 months (or maximum available if the Facility has operated less than 36 months).</p> <p><a href="#">Power System Operations Procedure reference: Facility Outages</a></p> | Mandatory   |
| Network Control Services Contract                    | <p>Market Rule reference: 4.10.1(j)</p> <p>If applicable, a full copy of any Network Control Services Contract, specifying the terms and conditions. Price information may be redacted.</p>  | For Facilities that are subject to a Network Contract Service contract. |
| Environmental approvals                              | <p>Market Rule reference: 4.10.1(c)(ii)</p> <p>Evidence that any necessary environmental approvals have been granted or evidence supporting the Market Participant's expectation that any necessary environmental approvals will be granted in time to have the Facility meet its Reserve Capacity Obligations by the date specified in clause 4.10.1(c)(iii)(7) of the Market Rules.</p>  | For New Facility or Upgrade only  |
| Project plan   | <p>Market Rule reference: 4.10.1(c)(iii)</p> <p>Key project dates as outlined in clause 4.10.1(c)(iii) of the Market Rules.</p>  | For New Facility or Upgrade only  |
| Land leases  | <p>Market Rule reference: 4.10.1(c)(iii)</p> <p>Details of access rights to land, either through ownership or an appropriate leasing agreement. Leasing arrangements to include duration of tenure, renewal options and signatory pages.</p>   | For New Facility or Upgrade only  |

# SG requirements

| Supporting information  | What AEMO requires  | Requirement           |
|---|---|-----------------------|
| Commercial arrangements if Facility owner and operator differ | A description of the commercial arrangement between entities.   | Optional              |
| Balancing Facility status                                     | If the Facility is Balancing Active, evidence to what extent the Facility meets the Balancing Facility Requirements | Mandatory (if >10 MW) |
| Other   | Any other documentation to support the application.   | Optional              |

# Independent expert report - clarification

AEMO has recently received enquires about including losses (e.g. due to turbine degradation or outages) when preparing independent expert report (IER) estimates

While AEMO is not an expert, it expects that a reasonable estimate of the expected energy (as required under MR 4.10.3A(a)) includes a reasonable estimate of loss factors that are applicable to the Facility. The estimates of loss factors should be reflective of industry accepted typical loss categories and calculation standards, such as for:

- Wind farms: availability loss, electrical loss, turbine performance loss etc.
- Solar farms: soiling loss, module quality loss, light induced degradation etc.
- Biogas and landfill: availability loss etc.

AEMO expects an IER to include assumptions and explanations on the loss factors considered for the Facility. AEMO intends to update the [information guide for independent expert reports](#) on the website to clarify this requirement.

# INSG requirements

| Supporting information                 | What AEMO requires  | Requirement |
|--|---|-------------|
| Certified Reserve Capacity application | <p>Market Rule reference: 4.10</p> <p>An application for Certification of Reserve Capacity that lists all the necessary information to be completed by the Market Participant for an application to be assessed by AEMO.</p>  | Mandatory   |
| Network access                         | <p>Market Rule reference: 4.10.1(bA)</p> <p>Evidence that the Facility has a network access arrangement with Western Power that <i>states the level of unconstrained capacity the Facility can offer into the network from a specified date</i>. The contract must be attached in full and may be in the form of an Electricity Transfer Access Contract (ETAC) or Network Access Agreement (NAA). All documents must clearly show the expiry date, the Declared Sent Out Capacity (DSOC), details of any network access constraints such as runback schemes, and include all amendments and other changes. All documents must be executed by both Western Power and the entity responsible for the Facility.</p> <p>If the Facility is a <i>Constrained Access Facility</i> the Market Participant must inform AEMO.</p> | Mandatory   |
| Network constraints activated          | <p>Market Rule reference: 4.10.1(bA)v.</p> <p>Details of any activation of runback schemes or other binding network constraints over the previous 24 months, including frequency of occurrence, curtailment amount, time and date of occurrence, and duration of occurrence.</p>  | Mandatory   |
| Description of Facility                | <p>Market Rule reference: 4.10.1(dA)</p> <p>Description and configuration of the main components of the Facility. This must include generator nameplate rating and age along with any major upgrades that have been performed.</p>  | Mandatory   |

# INSG requirements

| Supporting information            | What AEMO requires   | Requirement  |
|-----------------------------------|--|--|
| Independent expert report         | <p>Market Rule reference: 4.10.3 and 4.10.3A</p> <p>IER and supporting data required under clause 4.10.3 of the Market Rules (the data submission template is available in the RCM portal). The IER must include the expected output of the Facility from 1 April 2015 to 1 April 2020 and the 5% probability of exceedance (PoE). Note the 5% PoE is used to calculate the Required Level of a INSG. A new INSG must meet this level by the end of October 2022 to ensure Capacity Credit payments.</p> <ul style="list-style-type: none"> <li>Information guide for IERs is <a href="#">here</a></li> <li>List of accredited independent experts located <a href="#">here</a></li> </ul> | For a Facility that has been in operation for less than five years or an Upgrade |
| Environmental approvals           | <p>Market Rule reference: 4.10.1(c)(ii)</p> <p>Evidence that any necessary environmental approvals have been granted or evidence supporting the Market Participant's expectation that any necessary environmental approvals will be granted in time to have the Facility meet its Reserve Capacity Obligations by the date specified in clause 4.10.1(c)(iii)(7) of the Market Rules.</p>  | For New Facility or Upgrade only   |
| Network Control Services Contract | <p>Market Rule reference: 4.10.1(j)</p> <p>If applicable, a full copy of any Network Control Services Contract, specifying the terms and conditions. Price information may be redacted.</p>  | For Facilities that are subject to a Network Contract Service contract.          |
| Project plan                      | <p>Market Rule reference: 4.10.1(c)(iii)</p> <p>Key project dates as outlined in clause 4.10.1(c)(iii) of the Market Rules.</p>  | For New Facility or Upgrade only   |

# INSG requirements

| Supporting information                        | What AEMO requires  | Requirement                      |
|---|---|----------------------------------|
| Financial commitment and funding arrangements | <p>Market Rule reference: 4.10.1(c)(iii)</p> <p>Evidence of funding arrangements for the Facility, financial commitment by the Market Participant to a primary equipment supplier (this would usually take the form of a signed contract indicating purchase of the main plant equipment, including penalty clauses associated with non-compliance of the purchase agreement), and formal commitment, including financial approval, on behalf of the company in respect to the project (for example, Board approval).</p> | For New Facility or Upgrade only |
| Local government approvals                    | <p>Market Rule reference: 4.10.1(c)(iii)</p> <p>Details of relevant local government approvals to operate a power station.</p>  | For New Facility or Upgrade only |
| Offtake agreement or Power Purchase Agreement | <p><u><a href="#">Market Procedure reference: Appendix A of Declaration of Bilateral Trades and the Reserve Capacity Auction</a></u></p> <p>Where a Facility is being built primarily to supply energy to one or more foundation customers, evidence that relevant power supply contracts are in place.</p>   | For New Facility or Upgrade only |
| Land leases                                   | <p>Market Rule reference: 4.10.1(c)(iii)</p> <p>Details of access rights to land, either through ownership or an appropriate leasing agreement. Leasing arrangements to include duration of tenure, renewal options and signatory pages.</p>  | For New Facility or Upgrade only |

# INSG requirements

| Supporting information  | What AEMO requires  | Requirement           |
|---|---|-----------------------|
| Commercial arrangements if Facility owner and operator differ | A description of the commercial arrangement between entities.   | Optional              |
| Balancing Facility status                                     | If the Facility is Balancing Active, evidence to what extent the Facility meets the Balancing Facility Requirements | Mandatory (if >10 MW) |
| Other   | Any other documentation to support the application.   | Optional              |

# DSP requirements

| Supporting information                 | What AEMO requires   | Requirement   |
|--|--|---|
| Certified Reserve Capacity application | Market Rule reference: 4.10<br>An application for Certification of Reserve Capacity that lists all the necessary information to be completed by the Market Participant for an application to be assessed by AEMO.  | Mandatory   |
| Description of Facility                | Market Rule reference: 4.10.1(dA)<br>Description and configuration of the main components of the Facility. For DSPs, details of the operational process or procedure of the Facility's ability in reducing demand in the event of a request from System Management.  | Mandatory   |
| Loads associated with the DSP          | <a href="#">Step 7.2.2 of the Market Procedure: Certification of Reserve Capacity</a><br>A list of all loads, including the National Meter Identifier (NMI), associated to the DSP. Where contracts are not in place, a list of loads (with NMIs) that are intended to be included.  | Mandatory   |
| Contracts for curtailment              | <a href="#">Step 7.2.2 of the Market Procedure: Certification of Reserve Capacity</a><br>Evidence of capacity already procured (for example, contracts for load curtailment) or evidence of capacity procurement activity (on a per load basis). Full contracts must be provided and include commencement and end dates, terms outlining curtailment and signatory pages. Price information may be redacted. | Mandatory   |
| Network Control Services Contract      | Market Rule reference: 4.10.1(j)<br>If applicable, a full copy of any Network Control Services Contract, specifying the terms and conditions. Price information may be redacted.   | For Facilities that are subject to a Network Contract Service contract. |

# DSP requirements

| Supporting information | What AEMO requires   | Requirement           |
|------------------------|--|-----------------------|
| Project plan           | Market Rule reference: 4.10.1(c)(iii)<br>Key project dates as outlined in clause 4.10.1(c)(iii) of the Market Rules. | For New Facility only |
| Other                  | Any other documentation to support the application.  | Optional              |

# Useful links

WEMS Production (<https://wems.aemo.com.au>)

The documents below will assist with submitting an application:

- WEMS MPI User Guide (<http://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Participant-information/Guides-and-useful-information>)
- WEMS Submission Specifications (<http://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Participant-information/Guides-and-useful-information>)
- WEMS Submission Validation (<http://www.aemo.com.au/Electricity/Wholesale-Electricity-Market-WEM/Participant-information/Guides-and-useful-information>)



Questions and feedback

Reserve Capacity (WA)

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