|  |
| --- |
| APPLICATION FORM |
| FCAS  Application for approval to classify plant as an ancillary service unit in the NEM |

Please complete this Application Form using the appropriate Application Guide, and any other documents and information sources mentioned in this document.

The information in this Application Form is not to be altered without the prior written consent of Australian Energy Market Operator Ltd (AEMO).

Rules terms

Terms defined in the National Electricity Rules (NER) have the same meanings in this Application Form unless otherwise specified. Those terms are intended to be identified in this form by italicising them, but failure to italicise such a term does not affect its meaning.

Application Form submission

To submit an application to AEMO:

* Complete this Application Form ensuring all required sections are complete and any pre requisites are met.
* Sign the form, ensuring that the signatory is copied into the submission email, if using a digital signature.
* Ensure that any required letter of authority is in place. For more information and a template letter of authority please see [AEMO’s website.](https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/registration)
* Email a copy of the completed and signed form, including all attachments to the AEMO Market Registration Team at [onboarding@aemo.com.au](mailto:onboarding@aemo.com.au).

**Note:** AEMO’s Market Registration is unable to access external file share links, please attach all documentation you wish to submit to AEMO, if files are over 10MB please use a zip file. Multiple emails are acceptable, if sending multiple emails, please number each email.

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Application Overview

Complete this Application Form (Form) if you are registered in the National Electricity Market (NEM) as an *Integrated Resource Provider, Market Generator* or *Market Customer* and want to apply to AEMO for approval to classify *plant* as an *ancillary service unit* (ASU).

This Form can also be used to amend *plant* details of an ASU that is also classified as a scheduled *production unit*.

Separate application forms are required for each new Dispatchable Unit Identifier (DUID) or amendment to an existing DUID.

Do not use this Form if:

* you are not registered as an *Integrated Resource Provider*, *Market Customer* or *Market Generator;*
* you want to update schedule 3.1 *bid validation data* without adding new services or classifying new *plant*; or
* you have an existing portfolio in Portfolio Management system (PMS) and you are applying to classify *plant* that is non-scheduled. Please see [Guide to Classify – NEM Ancillary Service Units (In Portfolio Management System).](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Guide-to-Classify-NEM-Ancillary-Service-Units-in-Portfolio-Management-System)

For help in completing this Form, refer to the appropriate [application guide*.*](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Application-Guide-NEM-Plant-as-Ancillary-Service-Unit)

Direct any questions regarding your application to the AEMO Registration Team email: [onboarding@AEMO.com.au](mailto:onboarding@aemo.com.au).

# Participant Category

Under clause 2.3D.1(a) of the NER, if a *Market Participant* in respect of *plant* wishes to use that *plant* to provide *market ancillary services* in accordance with Chapter 3 of the Rules, then the *Market Participant* must apply to AEMO for approval to classify the *plant* as an ASU.

## Registered Participant Category

Please confirm that you are already registered as an *Integrated Resource Provider,* *Market Customer* or *Market Generator* (as applicable)and then complete the section of the Form indicated below:

Yes, I am an *Integrated Resource Provider, Market Customer* or *Market Generator* applying to classify *plant* that is a *production unit* or *scheduled resource* as an ASU.

Complete section A.2.

Yes:

* I am an *Integrated Resource Provider* or *Market Customer* applying to classify or classify and aggregate the *plant* indicated below as an ASU;
* I am the *financially responsible Market Participant* (FRMP) for each of the *market connection points* (identified by NMI) for the *plant*;
* the *plant* is not a *production unit* or *scheduled resource;*
* the *plant* does not share a *connection point* with a *production unit* or *scheduled resource;* and
* I do not have an existing portfolio in PMS*.*

Complete section A.3.

No, you are not permitted to use this document. To register as an *Integrated Resource Provider*, *Market Customer*, or *Market Generator* please use:

* [Application for Registration as a Generator or Integrated Resource Provider in the NEM](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Application-for-Exemption-NEM-Generator-or-Integrated-Resource-Provider)
* [Application for Registration as a Customer or Integrated Resource Provider in the NEM](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Application-for-Registration-NEM-Customer-or-Integrated%20Resource-Provider)
* [Application for Registration as an Integrated Resource Provider which is a Small Resource Aggregator in the NEM](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Application-for-Registration-NEM-Integrated-Resource-Provider-Small-Resource-Aggregator)

## Production unit or scheduled resource

Please select the appropriate option below and then complete the relevant additional sections indicated below:

|  |  |
| --- | --- |
| New *ancillary service unit* | The *Integrated Resource Provider, Market Customer* or *Market Generator* is applying to classify a *plant* that is a *production unit* or a *scheduled resource* as an ASUto provide *market ancillary services* using an existing DUID*.*  Please complete sections B-F (inclusive), H.1.1 and H.2.  Are you already registered for aggregate dispatch conformance in respect of the *production unit*?  Yes  No |
| Amend *ancillary service unit* | The *Integrated Resource Provider* *Market Customer* or *Market Generator* is applying to do either of the following for an existing ASU (existing DUID):   * Amend the relevant *plant* details; or * Register new *market ancillary services*   Please complete sections B-F (inclusive) and H  Are you already registered for aggregate dispatch conformance in respect of the *production unit*?  Yes  No |
| Declassification | The *Integrated Resource Provider, Market Customer* or *Market Generator* will need to provide a letter confirming they wish to declassify their ASU. Information can be found on [AEMO’s website](https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/registration/deregister-from-the-nem) |
| Schedule 3.1 - Bid Validation Data | If you need to change your Schedule 3.1 b*id validation data* you must complete a [Schedule 3.1 notification form.](https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/information-for-current-participants/change-schedule-3_1-bid-and-offer-validation-data) |

Participant categories are further detailed in the [Participant Categories in the NEM](http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Participant-information/New-participants) page on the AEMO website.

## Non-scheduled resource

Please select the appropriate option below to indicate what you are applying for:

|  |  |
| --- | --- |
| New a*ncillary service unit* | The *Integrated Resource Provider* or *Market Customer* (that does not have an existing portfolio in PMS)is applying to classify *plant* as ASU to provide *market ancillary services* for the first timeusing anewDUID*.*  Please complete sections B-E (inclusive), G and H. |
| Amend an existing *ancillary service unit* | The *Integrated Resource Provider* or *Market Customer* is applying in relation to an existing DUID.  The *Integrated Resource Provider* or *Market Customer* will need to submit an application via PMS. |
| Declassify all *plant in respect of* an ASU | The *Integrated Resource Provider* or *Market Customer* will need to provide a letter confirming they intend to declassify all *plant* as ASU within a DUID. Information can be found on [AEMO’s website](https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/registration/deregister-from-the-nem) |

Participant categories are further detailed in the [Participant Categories in the NEM](http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Participant-information/New-participants) page available on the AEMO website.

# Application Details

## Applicant details

|  |  |  |  |
| --- | --- | --- | --- |
| Entity Name: |  | | |
| ABN: |  | ACN: |  |
| Participant ID: |  | | |

## Declaration

The Applicant declares that the Applicant authorises, approves and accepts that, in respect of this Application and any related future application:

* AEMO may communicate with any person, as appropriate, including to verify information.
* AEMO may treat any communication on the Applicant’s behalf, whether physical, or electronic through a login to AEMO’s systems (including using access rights given by a Participant Administrator), as being by or to a person who is the Applicant’s:
  + authorised officer;
  + delegate, appointed by the Applicant’s authorised officer; or
  + agent, appointed by the Applicant’s authorised officer (including as registration contact in respect of the application), without AEMO requiring a separate letter of authority in this regard.
* AEMO may rely on any such communication, as being:
  + given by the Applicant, when given by the person;
  + given to the Applicant, when given to the person;
  + the Applicant’s in respect of any acts, omissions, statements, representations and notices;
  + instructed by the Applicant, regardless of whether any such instruction has been given, or its terms; and
  + complete, true and correct.

I, <Full Name>, <Position>, declare that I have been authorised by the Applicant to submit this Application on their behalf and certify that the contents of the Application and any further submissions are complete, true and correct.

|  |  |  |  |
| --- | --- | --- | --- |
| Signature: |  | Date: | 30/05/2024 |

By signing this form, the signatory warrants that the signatory is duly authorised to sign this document on behalf of the Applicant and to make the declarations set out in this Application on the Applicant’s behalf.

# Contact Details

Please clearly mark all attachments as "Attachment to Section C" and number each page consecutively. This information must be provided in each zip file you submit.

You must provide contact details to assist with communication between AEMO and your organisation. Provide contact details for your head office, any branch offices, and all relevant personnel.

## Registration contact

Please provide contact details for all questions regarding this Application.

|  |  |  |  |
| --- | --- | --- | --- |
| Name: |  | | |
| Position: |  | Email: |  |
| Phone: |  | Mobile: |  |

## Operational contacts

|  |  |  |
| --- | --- | --- |
| Control room (physical plant operations – must be contactable 24/7) | | |
| Primary phone: |  | Other: |
| Email: |  | |

|  |  |  |
| --- | --- | --- |
| Trading room (24/7 bidding operations – must be contactable 24/7) | | |
| Primary phone: |  | Other: |
| Email: |  | |

# System Preparedness

 Please clearly mark all attachments as "Attachment to Section D" and number each page consecutively. This information must be provided in each zip file you submit

Are you applying for a new ASU DUID, or adding *market ancillary services* to an existing DUID for the first time, or adding additiona*l market ancillary services* to an existing ASU DUID?

Yes – please complete this section

No – skip this section

If yes, you will be asked to provide evidence to demonstrate that appropriate systems and pre-production access are in place.

Please check the appropriate box to indicate the following information will be provided:

I understand and acknowledge that AEMO requires evidence to demonstrate my system is ready to use AEMO’s pre-production systems once my system has been configured to do so.

|  |  |
| --- | --- |
| Reason if not attached: |  |

## FCAS dispatch instructions

Do you wish to receive 5-minute FCAS enabled dispatch instructions via SCADA in addition to instructions provided via the MMS Data Interchange[[1]](#footnote-2)?  Yes  No

If Yes, please check the box below

I understand and acknowledge the following:

AEMO’s primary interface for ancillary services dispatch instructions is either AEMO’s automatic generation control system (AGC) for regulation services only, or the MMS Data Interchange. By choosing to receive dispatch instructions via SCADA I confirm my understanding and acknowledge that AEMO considers this a secondary system and cannot monitor successful transmission of SCADA signals.

## Capability Declaration

Current executed capability declarations are required for all participants applying to provide *market ancillary services.*

I have provided a completed and signed Applicant Capability Declaration:

[Generator and Integrated Resource Provider capability declaration](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Capability-Declaration-Generator-and-Integrated-Resource-Provider)

[Market Customer capability declaration](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Capability-Declaration-Market-Customer-and-Integrated-Resource-Provider)

[Integrated Resource Provider Small Resource Aggregator capability declaration](https://aemo.com.au/-/media/files/electricity/nem/participant_information/registration/2024/Capability-Declaration-Integrated-Resource-Provider-Small-Resource-Aggregator)

OR

I have provided a relevant completed and signed Applicant Capability Declaration as part of a previous application, please see attached.

# Regulatory Compliance

 Please clearly mark all attachments as "Attachment to Section E” and number each page consecutively. This information must be provided in each zip file you submit

Include the following information (where relevant) and ensure the information is attached to this Application. Click in each checkbox to indicate that you have attached the information required. If you have not addressed all necessary items, please provide a reason in the field provided.

## Regulatory compliance

Do you have all required jurisdictional electricity licences or authorisations required to provide *market ancillary services* in the *NEM?*

Yes: Provide copy of current electricity licence or authorisation in one or more NEM jurisdictions.

No: Provide evidence of exemption from the requirement to hold a jurisdictional electricity licence or, if relevant, explain why no such requirement applies. Include copies of any applicable exemption or derogation.

|  |  |
| --- | --- |
| Reason if not attached: |  |

Are there any outstanding non-compliances with regulatory obligations in respect of existing or proposed activities as an *Integrated Resource Provider*, *Market Customer* or *Market Generator* by any person associated with this application?

Yes: Provide details of any non-compliance.

No: Skip this section.

# Information on ASU – Production Unit and Scheduled Resource

 Please clearly mark all attachments as "Attachment to Section F" and number each page consecutively. This information must be provided in each zip file you submit

## Applying to classify ASU

Are you applying to classify *plant* that is a *scheduled resource* or shares a *connection point* with a *scheduled resource* as ASU in accordance with Rules clause 2.3D.1?

Yes - complete this section

No – proceed to section G.

## ASU identification

|  |  |
| --- | --- |
| Existing DUID: |  |

## ASU declaration

Please review and if appropriate check the appropriate checkboxes:

The Applicant confirms that the *plant* identified in Section H can be used to provide *market ancillary services* in accordance with the *market ancillary services specification* (MASS).

The Applicant confirms they have adequate communication and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses.

Is the *plant* a *scheduled load*?

Yes - go to the next question.

No – skip the rest of this section.

Please check the appropriate checkboxes to confirm the following:

The Applicant confirms that it has classified the *plant*’s *connection point* as its *market connection point.*

The Applicant confirms that *performance standards* for the *scheduled load* are in place.

The Applicant confirms that appropriate arrangement(s) are in place with any *retail customer*(s) at the relevant *connection point*(s) for the supply of *market ancillary services*.

The Applicant confirms that the *plant* can be usedto provide *market ancillary services* in accordance with the MASS.

The *plant’s connection point* is not classified as a *wholesale demand response unit* by a different person.

The *plant* is not classified as an ASU and does not share a connection point with *plant* classified as ASU by a different person.

If one or more of the boxes above are not checked, please provide details why:

|  |  |
| --- | --- |
| Reason: |  |

# Information on ASU – Non-Scheduled Resource

 Please clearly mark all attachments as "Attachment to Section G" and number each page consecutively. This information must be provided in each zip file you submit

Note: Duplicate and complete this form for each ASU.

## Applying to classify ASU

Are you applying to classify *plant* that is not a *scheduled resource* and does not share a *connection point* with a *scheduled resource* as an *ASU* in accordance with NER clause 2.3D.1*?*

Yes - go to the next question.

No – skip this section.

Please check the appropriate checkboxes to confirm the following:

The Applicant confirms that the connection point has been classified as its *market connection point*.

The Applicant confirms that the *plant* is not at a *connection point* that a different person has classified as a *wholesale demand response unit*.

The Applicant confirms that the *plant* is not at a *market connection point* at which a different person has classified an ASU.

The Applicant confirms that performance standards for the *plant* are in place.

The Applicant confirms that the *plant* can be usedto provide *market ancillary services* in accordance with the *market ancillary services specification* (MASS)

The Applicant has provided evidence that it has adequate communications and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses.

The Applicant confirms that appropriate arrangement(s) are in place with any *retail customer*(s) at the relevant connection point(s) for the supply of *market ancillary services*.

The Applicant confirms that there is no *production unit* at the connection point that the owner, controller or operator of is registered or required to be registered as a *Generator* or *Integrated Resource Provider*.

If one or more of the boxes above are not marked, please provide details why.

|  |  |
| --- | --- |
| Reason: |  |

## ASU identification

Are you applying in respect to an existing DUID?

Yes,

|  |  |
| --- | --- |
| Existing DUID: |  |

No – I require a new DUID - Please provide the DUID and details in the table below.

|  |  |
| --- | --- |
| Item | DUID Details |
| DUID: |  |
| DUID Name (*Load installation name*): |  |
| Region: |  |

## ASU Aggregation

Are you applying to aggregate two or more *connection points* so they are treated as one ASU for the purpose of central dispatch in accordance with NER 3.8.3?

Yes complete this Section.G.3

No you are not applying to aggregate two or more connection points as an ASU. Go to Section H.

Will the aggregated ASUs be connected within a single region and operated by a single person?

Yes

No You will not be able to aggregate the ASUs, because aggregated ASUs must be connected within a single region and operated by a single person

Are the ASUs controlled by the same technology type (switching control, variable control or combined control)?

Yes

No The technology type for the same service must be similar in order to be aggregated to deliver a particular contingency service.

# Market ancillary service information

## Market Ancillary service details

Please provide details of the *market ancillary services* that the applicant is seeking to provide using its ASU by completing the relevant table(s) below. Ancillary service data will be used by AEMO in bid validation.

Note: ‘Service provided’ indicates the ancillary services you can provide. You will be applying for a new service if you indicate you can provide the ancillary service, but it is not already registered.

### ASU DUID - Scheduled resource

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ASU DUID (from section F.2): | |  |  | | | | | | | |
| Frequency Control Ancillary Service | Service provided (Y/N) | | | Is this service already registered (Y/N) | Switching controller (Y/N) | Maximum market ancillary service capacity (MW) | Minimum enablement level (MW) | Maximum enablement level (MW) | Maximum lower angle (Deg) | Maximum upper angle (Deg) | |
| Very Fast Raise Service (RAISE1SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Very Fast Lower Service (LOWER1SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Fast Raise Service (RAISE6SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Fast Lower Service (LOWER6SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Slow Raise Service (RAISE60SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Slow Lower Service (LOWER60SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Delayed Raise Service (RAISE5MIN) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Delayed Lower Service (LOWER5MIN) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Regulating Raise Service (RAISEREG) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Regulating Lower Service (LOWERREG) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |

### ASU DUID – Non-Scheduled Resource

Please provide details of the *market ancillary services* that the Applicant is seeking to provide using the table below. Ancillary service data will be used by AEMO in bid validation.

This table must be completed to reflect all the *ancillary services* you currently provide, and are applying to provide.

Note: ‘Service provided’ indicates the ancillary services you can provide. You are applying for a new service if you have indicated you can provide the ancillary services, and it is not already registered.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ASU DUID (from section G.4): | |  |  | | | | | | | |
| Frequency Control Ancillary Service | Service provided (Y/N) | | | Is this service already registered (Y/N) | Switching controller (Y/N) | Maximum market ancillary service capacity (MW) | Minimum enablement level (MW) | Maximum enablement level (MW) | Maximum lower angle (Deg) | Maximum upper angle (Deg) | |
| Very Fast Raise Service (RAISE1SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Very Fast Lower Service (LOWER1SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Fast Raise Service (RAISE6SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Fast Lower Service (LOWER6SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Slow Raise Service (RAISE60SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Slow Lower Service (LOWER60SEC) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Delayed Raise Service (RAISE5MIN) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Delayed Lower Service (LOWER5MIN) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Regulating Raise Service (RAISEREG) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |
| Regulating Lower Service (LOWERREG) | Yes  No | | | Yes  No | Yes  No |  |  |  |  |  | |

For all contingency *frequency control* *ancillary services* provided by ASU that do not comprise *scheduled resources*, the minimum and maximum enablement levels will be 0 MW and the maximum lower and upper angles will be 90 degrees, unless otherwise agreed with AEMO.

Please clearly mark "Attachment Section H.1.2 - <DUID>" within the zip file.

You must identify the *connection point* by NMI and the level of each service to be provided. To do this you must complete and enclose the following into the zip file:

[Information on Control Equipment](https://aemo.com.au/-/media/files/electricity/nem/participant_information/application-forms-and-supporting-documentation/information-form-nem-control-equipment-details.docx). Please clearly mark "Attachment Section H.1.2 IoCE" and number each page consecutively. It must be submitted as part of the supporting information within the zip file.

[FCAS\_Group.csv](https://aemo.com.au/-/media/files/electricity/nem/participant_information/application-forms-and-supporting-documentation/fcas_group.csv)

[FCAS\_GroupService.csv](https://aemo.com.au/-/media/files/electricity/nem/participant_information/application-forms-and-supporting-documentation/fcas_groupservice.csv)

[FCAS\_NMI.csv](https://aemo.com.au/-/media/files/electricity/nem/participant_information/application-forms-and-supporting-documentation/fcas_nmi.csv)

[FCAS Device.csv](https://aemo.com.au/-/media/files/electricity/nem/participant_information/application-forms-and-supporting-documentation/fcas_device.csv)

Reason if not attached:

Please confirm the Registration Contact is the same in this document as in the csv file attached.

Yes

No - please supply a reason why.

Reason:

Please confirm the Registration contact has been notified of their involvement in this application.

Yes

No - please supply a reason why.

Reason:

## Determination of Ancillary Services Information and Control Equipment Information

### Determination of ancillary services information

How was the *ancillary services* information above determined? Please provide details where appropriate.

Using *plant* design parameters

Based on services previously provided under an *ancillary services* agreement

Using test results

Using the mathematical modelling of the *plant*

Other (please describe)

|  |  |  |
| --- | --- | --- |
| Details: |  |  |

### Controls, communications and telemetry information

#### Facilities to receive enablement instructions

Please describe the facility installed to receive instructions from AEMO’s market systems for the enablement of each *ancillary service*.

For example: How will the *Integrated Resource Provider, Market Customer* or *Market Generator* find out when the *ancillary services* are enabled for the Facility by AEMO’s market systems? Does the plant operator have access to AEMO’s market systems, or does the plant operator rely on an alternate system/person telling them when necessary?

|  |  |
| --- | --- |
| Details: |  |

#### Control facility

Please describe the control *facilities* installed for each *ancillary service* in accordance with the *Market Ancillary Service Specification* (MASS), including communications and telemetry where applicable. For example, are the fast and slow services to be provided by variable controllers or switching controllers?

Specify the switching controller settings if applicable. If the application is to aggregate additional *plant*, specify the switching controller settings for the additional *plant* only.

Please identify any *production units* with switching controllers that share the same under or over frequency relay for initiating the *ancillary service* response?

Is the *plant* controlled from a location other than the *plant* to provide these services?

|  |  |
| --- | --- |
| Details: |  |

#### Monitoring and recording facilities

Please describe the monitoring and recording facilities installed for each *ancillary service* in accordance with the MASS, including communications and telemetry, where applicable.

For example, what is the sampling interval of active power and frequency records?

|  |  |
| --- | --- |
| Details: |  |

#### Test data

For each controller type (e.g. Battery system controller model, load control model, etc.), provide test data that demonstrates the provision of the services applied for.

* Test data must be provided for each category of service applied for (fast, slow and/or delayed, raise and/or lower as applicable)
* For each category of service applied for:
  + Test data must be provided showing the response to frequency deviations according to the standard frequency ramp defined in the MASS;
  + Test data and the frequency deviation data must be on a common time-scale;
  + The resolution of the data must conform to the MASS;
  + If the controller allows the reversal of power (e.g. battery systems), the above tests must be repeated to demonstrate performance under reversal of power.

|  |  |
| --- | --- |
| Details: |  |

1. Generating units on remote AGC will receive AGC set-points via SCADA every control cycle (e.g. 4 seconds) and must respond to AGC set-points whenever enabled for Regulation FCAS. When a unit is enabled for both regulation and contingency FCAS, contingency FCAS takes priority over AGC set-points if a contingency event occurs until frequency has recovered. Refer to Section 6.9 of the MASS. [↑](#footnote-ref-2)