

FAQ for potential providers of Very Fast FCAS and FCAS providers impacted by MASS changes



The Very Fast FCAS markets commence on 9 October 2023. Formal applications to participate in the Very Fast Raise and Lower FCAS markets can be submitted from 9 August 2023. To ensure that all applications are processed in a timely manner, AEMO invites early FCAS evaluation from 1 May 2023.

Additionally, the measurement of FCAS is changing from 9 October 2023. This change removes the 'multiplier effect' which allows some providers to register FCAS quantities greater than the magnitude of their response. All affected FCAS providers must notify AEMO of changes to their FCAS registration by 26 August 2023.

This FAQ has been published to clarify the technical requirements for market participants seeking to register in the Very Fast FCAS markets or amend their maximum registered FCAS capacity to comply with version 8.0 of the Market Ancillary Services Specification (MASS).

As per the current assessment process for a new FCAS facility, a market participant may be required to

provide a desktop simulation demonstrating the FCAS facility's active power response to a frequency deviation of 0.5 Hz. In addition to the simulation, the participant must complete a series of onsite testing to confirm the maximum FCAS capacity which can be registered for the new FCAS facility.

Version 8.0 of the MASS revises the methodology for assessing the maximum registered FCAS capacity in the Contingency FCAS markets. The maximum registered FCAS capacity will be limited to the peak active change reached in the relevant FCAS time period. AEMO has referred to this as removing the 'multiplier effect'. This change was made for system security reasons. A detailed explanation may be found in the [MASS Final Determination](#).

1. What are the testing requirements to register in the Very Fast FCAS markets if a facility is already participating in the Fast FCAS markets?

Most participants capable of providing Very Fast FCAS will be able to register without modifying the existing controls of their facilities. For these participants, AEMO will only require an assessment using the dynamic model of the facility.

Onsite testing is required for slower facilities¹, or where plant controller modifications are proposed.

The participant must consider the following:

- The active power response to a frequency deviation as shown in Figure 4 (mainland) or Figure 5 (Tasmania) of the MASS will need to be demonstrated using an accurate model of the

¹ As a particular example, where the Very Fast FCAS capability is expected to be a fraction of the Fast capability.

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FCAS facility on PSSE, PSCAD, Simulink or other software tools approved by AEMO.

- The simulation must be repeated with three different starting points for both the raise and lower FCAS tests.
- Measurements of power and frequency at the time resolution specified in the MASS for Very Fast FCAS must be provided for the FCAS assessment.
- If an accurate model of the FCAS facility is not available to complete the desktop simulation, frequency injection tests can be completed on-site and the results provided to AEMO to determine the Very Fast FCAS capacity of the facility.

AEMO recommends providers discuss proposed tests with AEMO before commencing.

2. What is required from an FCAS provider before 9 October 2023 to remain compliant with Version 8.0 of the MASS if their facility is impacted by the removal of the multiplier effect?

In earlier versions of the MASS, FCAS facilities with an accelerated response were allowed to register, in the FCAS markets, more than 100% of their active power change within the relevant measurement windows. From 9 October 2023, the FCAS capacity that can be registered will be capped to the peak active power change and market participants need to consider whether a change to their current FCAS registration is required.

Market participants impacted by this update must amend their registered maximum ancillary service capacity before 9 October 2023, by notifying AEMO of their updated Schedule 3.1 bid and offer validation data, as follows:

- Market Generators and Market Customers providing FCAS from their scheduled generating units, semi-scheduled generating unit or scheduled loads must submit a complete

[Schedule 3.1 notification form](#) to AEMO via onboarding@aemo.com.au.

- Demand Response Service Providers, Market Customers and Market Small Generation Aggregators providing FCAS from their non-scheduled loads, must submit an application to amend their registered maximum ancillary service capacity to AEMO via the Portfolio Management System².

Participants are encouraged to engage with AEMO if they require any assistance with the amendment process.

If the participant is intending to register in the Very Fast FCAS markets and has completed the tests required for the assessment of Very Fast FCAS, AEMO can use the same data to determine the Fast FCAS capacity of the facility after the removal of the 'multiplier effect'.

3. Can FCAS providers verify if their FCAS registration may require an amendment before version 8.0 of the MASS becomes effective on 9 October 2023?

FCAS providers can refer to the FCAS trapeziums parameters published for each DUID in the [NEM Registration and Exemption List](#).

It is likely that the FCAS registrations will need to be amended for configurations including:

- scheduled generating units if:
 - the maximum upper angle for raise FCAS is greater than 45°; or
 - the maximum lower angle for lower FCAS is greater than 45°;
- scheduled loads if:
 - the maximum upper angle for lower FCAS is greater than 45°; or

² See <https://aemo.com.au/energy-systems/market-portals-directory/markets-portal-help>

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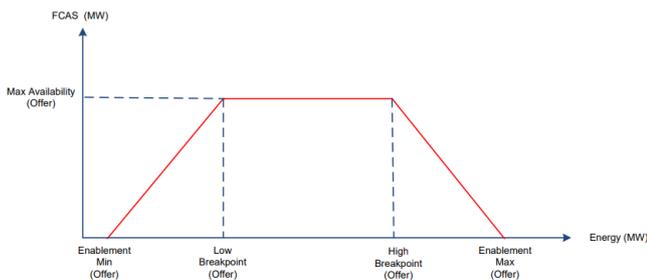


- the maximum lower angle for raise FCAS is greater than 45°,
- non-scheduled loads if:
 - the registered Delayed FCAS capacity is less than the Fast FCAS capacity.

Note that other provider characteristics may also require an amendment to the FCAS registration; contact AEMO if unsure.

4. What is the alternative approach for determining the revised FCAS capacity of scheduled loads and scheduled generating units impacted by the removal of the ‘multiplier effect’?

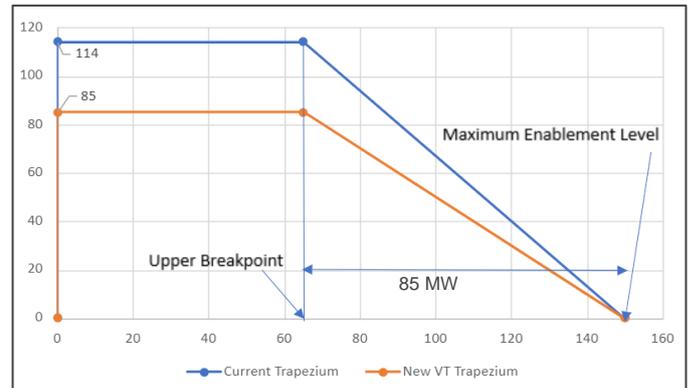
The FCAS offer trapezium defines the “as offered” frequency response capability of the FCAS provider in relation to its active power generation or consumption or load reduction levels. Power generation or consumption or load reduction levels are shown on the horizontal axis (as energy), and the frequency response capability is shown on the vertical axis (as FCAS).



The peak active power change from a scheduled generating unit or a scheduled load required to deliver the maximum raise or lower FCAS capacity can be determined by calculating the difference between the maximum/minimum enablement levels and the high/low breakpoints.

The example below shows that the revised FCAS capacity of a 150 MW BESS calculated using the [updated MASS FCAS Verification Tool \(FCASVT\)](#) is equal to the difference between the maximum

enablement level and upper breakpoint of the [FCAS trapezium currently registered](#).



The proposed approach is to use the difference between the maximum/minimum enablement levels and the high/low breakpoints as the revised FCAS capacity, as this approach yields the same result as using the updated FCASVT.

Alternatively, participants can elect AEMO’s standard assessment process when amending their registration, which involves a review of the response from the FCAS facility.

5. What is the process to determine the revised capacity of affected FCAS facilities with minimum/maximum enablement levels of 0 MW and lower/upper angles of 90°?

The [updated MASS FCAS Verification Tool \(FCASVT\)](#) will enable affected FCAS providers to evaluate the revised FCAS capacity.

The data previously shared with AEMO for the current registration can be used to determine the revised FCAS capacity.

6. When should affected FCAS providers notify AEMO of the bid and validation data changes?

To remain compliant with the MASS as required under clauses 2.2.6 (e)(1) and 2.3.5 (e)(1) of the NER, participants must submit a Schedule 3.1 bid and offer validation data notification form or an application via

the [Portfolio Management System](#) (PMS) to amend the registration of their FCAS facility. This form can be submitted at any stage between now and six weeks prior to 9 October 2023. Under clause 1.8.3 of the NER, for the purposes of Rule 3.13.3(h) the six-week notice period will require notification to be given by Saturday 26 August 2023.

Participants who are unsure whether their registrations will be impacted by this change are encouraged to contact AEMO via the [Support Hub](#).