

MASS Consultation – 1-1 meeting minute summary

AEMO held 1-1 stakeholder meetings following the conclusion of the first stage of consultation on the amendments to the Market Ancillary Service Specification.

These meetings were held to seek further clarification on information provided by stakeholders in submissions, or at the formal request of stakeholders seeking to discuss or provide additional information. A summary of the minutes from each meeting has been provided below.

1. SwitchDin

1.1 Agenda

The meeting was held at SwitchDin's request and the following items were discussed:

- Current measurement sampling rate of the inverters on site
- Implications of AS/NZS 4777.2:2020
- Accuracy of frequency and power measurements
- Grid flow data capture
- Costs involved in high-speed data capture and storage

1.2 Items for discussion or Noting

1.2.1 Sampling Rate

Noting that the data capture requirements of the MASS is for verification of FCAS delivery and not for settlement purposes, why should the measurement time for inverters specified in AS/NZS 4777.2:2020 be aligned with the MASS (as suggested in SwitchDin's formal submission)?

- SwitchDin understands from AS/NZS 4777.2:2020 that a high data granularity of less than 1 second is required and wanted to highlight that inverters will already need to align with a standard that requires a measurement sampling rate of 100ms.
- SwitchDin also noted on data capture points that most meters are unlikely to be able to capture data at much past sub 1s data. They suggested it may be more costly to have low cost meters to capture at 100ms, and even more costly for 50ms.

Does SwitchDin have any concerns with the data accuracy and resolution requirements in the current MASS?

- SwitchDin indicated they are not concerned with the accuracy at 0.01Hz, just the resolution at 0.0025Hz (as per the allowable resolution for measurements of frequency specified in the MASS under 3.6(a)(vi)), and that the requirements of the MASS should be aligned more closely to the measurement accuracy in AS/NZS 4777.2:2020.

What resolution would make more sense according to SwitchDin?

- SwitchDin later informed AEMO that they have considered the upcoming mandatory requirements of AS4777.2:2020 as well as the existing MASS requirement for frequency measurement error. They believe that AS4777.2:2020 does not provide specific requirements for frequency measurement resolution however the overall frequency measurement accuracy must be +/-10mHz as per Table 2.5 of the AS4777.2:2020. They also consider that a frequency measurement resolution of 0.01 Hz should therefore be sufficient.

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1.2.2 Measurement location

Why does SwitchDin consider data capture at the device level prohibitive?

- SwitchDin indicated that it depends on the business model AEMO envisage being involved in the markets. Some battery manufactures operate in vertical structure and will have battery participations; other organisations will look at incorporating energy management system that would look to aggregate a variety of devices that deliver services; or alternatively, might have different services providers interacting with the same site.

AEMO asked SwitchDin to comment on the following: if there is an Energy Management System (EMS) controlling the net flow, then the net flow may be sufficient to verify the FCAS delivery; if multiple parties are involved then measurements at individual devices/party level could be required for FCAS compliances purposes.

- SwitchDin suggested that there is a need to consider that AEMO may be dealing with multiple parties at one site; in other cases, you would be dealing with one party that aggregates or controls all participating devices at the site.

What about measuring of each of the individual phases? Or should this be taken at an inverter level? (e.g. grid level phase, or at EV inverter itself)

- SwitchDin indicated that if there is 3-phase metering then the response can be measured separately, but if it is single phase then may need to be at the device level. It must be considered that in the same household, there may be some devices not participating in markets operated by different parties. AEMO must be clear on what it required to be measured, particularly if there is a multivendor situation. They do not want multiple tests to be required if measurements are at the inverter level.

1.2.3 Costs

Is there a significant cost difference between devices capturing data at a time resolution of 50ms and 100ms?

- SwitchDin indicated that some inverters already monitor at 100ms. However, some of the lower cost battery systems may be limited at 500ms.

Can SwitchDin confirm that these costs depend on the controllable device, not the SwitchDin device?

- SwitchDin confirmed this is correct. While they can define what meter needs to be installed and that this is not a prohibitive additional cost, if the lower cost battery system samples power at 500ms, there is no benefit to capture 100ms or 50ms measurements.

1.2.4 Other topics discussed

- On the topic of location of testing and operation of mixed fleet VPPs, SwitchDin indicated that they have an energy management system that connects all devices in the household and that many companies are in this space to deliver the most value for customers. It is important that they aren't unfairly disadvantaged by having multiple devices through testing requirements.
- They also indicated that they will be able to capture data at the underlying devices fastest measurement speeds. Some can achieve 100ms, others are around 200ms.