

# 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. Solar Analytics

### 1.1 Agenda

The meeting was requested by AEMO to discuss the following key items:

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

### 1.2 Items for discussion or noting

#### 1.2.1 Sampling Rate

What is the current measurement sampling rate of the inverter on site?

- Solar Analytics indicated that they receive 5-second information from Wattwatchers devices. They can also get statistics (sampling rate) on 250ms data measured at the meter board showing the grid voltage.

Will Solar Analytics have 100ms data available from the new AS/NZZ4777.2:2020 standard?

- Solar Analytics indicated that they would not have 100ms data available as this is unaffected by standards. They clarified that the data is used to verify responses only.
- They have undertaken a feasibility study on more granular reporting from Wattwatchers devices by extending the sampling rate to 250ms for just voltage (noting that reporting is only at 5s currently). They are currently understanding if it is possible but have not started the prototype testing as yet. Communications is a challenge and it will likely be a lengthy process.

Will measurements of frequency and power for the grid flow be captured with the same level of accuracy and time as the specifications for inverters under AS/NZS 4777.2:2020, or are there any differences with the inverters' accuracy?

- Solar Analytics indicated that inverters all have very different programming interfaces and specifications.
- Solar Analytics notes that a sample rate at 1s misses everything that happens in between. While it was displayed in the VPP Demonstrations that this could be used for verification, requiring sampling at 50ms is much richer and could be considered a better alternative. They also suggested that accumulated energy could be considered a richer source of information. This can determine if power has been sustained over the period and measuring this at 1s intervals should provide much more detailed verification information noting that –accurate, aggregated accumulated energy information

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can verify delivery – rather than assuming what happens between data sets. However, Solar Analytics does not take into consideration when and how much energy is delivered over the period.

- Solar Analytics did indicate that they do not consider 50ms at every site as necessary. There is an assumption that the response is happening at equal to or less than 50ms. If we can assume frequency is the same in the region we are working at, as long as we have that source of truth at High speed (50ms) indicating what is happening, this should be able to be verified using the accumulated energy.

## 1.2.2 Costs

What changes Solar Analytics expects would have to be made to meet the measurement and calculation accuracy requirements for inverters specified under AS/NZS 4777.2:2020, and what are the cost implications of the changes (additional equipment, data handling/storage cost)? Will the information in 100ms and 200ms (as specified in the standard) become available?

- Solar Analytics indicated that this is dependent on the manufacturer. Measuring and controlling this data is not as difficult as capturing and storing it. They proposed that it is also important to consider what is currently available, what extra value could be achieved by customers and the cost effectiveness of the data capture rate chosen.
- Overall, Solar Analytics suggested that the benefits of getting more capacity into FCAS markets through relaxing rules seems to be a good option. By requiring 50ms this may result in a more costly market – they suggest 1s is cost effective and is 'good enough'.

## 1.2.3 Other items discussed

- Solar Analytics questioned whether a High-Speed Meter (HSM) system is required for each DUID in the same region. They also noted that if something goes wrong (under-delivery or failure in any components of the meter), 1 HSM system will not necessarily provide the measurements to assess the non-compliance.
- With regards to voltage, Solar Analytics suggested that 1s resolution would capture most of the detailed information, however this might be missing most of the data from the first 1s period. They indicated that energy accumulation may be an option to gain further information.
- They also noted that high speed data is needed for short dips (e.g. less than 50ms), but potentially not for longer term events. These short dips in frequency seems to be becoming more often (and noticed via Primary Frequency Response). This should generally be in line with fast services and may be addressed with future fast frequency services.