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. IntelliHub

1.1 Agenda

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

- Current measurement sampling rate of the inverters on site
- 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

What is Intellihub's measurement sampling rate?

- IntelliHub foresee that their new metering tech will easily meet 100ms data capture, and likely to meet 50ms capture but will need to await tests to confirm. Intellihub's focus is to be lowest cost provider for FCAS metering and reach close to zero additional cost.
- They also noted that by the end of 2021 all of their meters will have the capability to meet the MASS as per current 50ms requirement, and data will be communicated or read via the IntelliHub app and allow edge compute and control capabilities.
- Intellihub mentioned that the costs associated with the data capture will be approximately $100-150 for a low-cost communication bridge to enable the ecosystem of devices to be managed together achieving optimal outcomes both in FCAS and other DER accessible markets.
- Intellihub indicated that they will conduct tests to compare MASS compliant meters (approx. $3000) against the new Intellihub meter.
- It was noted that some parties are pushing for 1s sampling rate, however, in their submission IntelliHub raised that higher resolution in the 6s markets is achievable in the near future.
- IntelliHub believes that a 1s sampling rate is not sufficient for the 6s markets.

1.2.2 Accuracy of measurements

Is the allowable error and resolution specified for measurements of power and frequency in the current MASS an issue?

- Intellihub is aiming for 10mHz accuracy but needs to test alongside calibrated devices, and these smart meters. They are hesitant on confirming accuracy and want to test in real world environment before confirming capability to meet accuracy and resolution based on 128 samples per second.
- IntelliHub noted that as the sampling rate increases (e.g. from 100ms to 50ms), accuracy may be compromised – they are more confident in accuracy at 100ms than 50ms.
- It was also highlighted in IntelliHub's submission that maintaining long term accuracy is not being considered. They noted that it is important to consider what the impact is when a device has been around for 10 years+. IntelliHub noted that there is a need to understand how changes to accuracy will be taken into consideration, noting this is not an issue for large generator sites due to recalibration requirements. Due to the financial exchange based on DER delivery of FCAS, there needs to be an obligation to maintain accuracy.

1.2.3 Grid Flow

Is grid flow also captured and is the data resolution similar to the inverter?

- Intellihub considers that grid flow should be captured where all devices are optimised/orchestrated together (e.g. through EMS), or that sub meters need to be applied where multiple participants are involved in orchestrating different DER at the site. There is also a need to ensure that devices aren't acting against each other, or under delivering/over delivering on the FCAS required.
- IntelliHub suggested that a lab test approach may be inefficient in future where there are multiple devices behind the meter, or where customers with existing devices look to participate (noting customers also inherit tech when moving to a new house etc.)

If there are multiple controllable devices behind the meter (e.g. EV and a controllable load) How would that be managed?

- IntelliHub proposed that there are no issues with different meters being installed at the same site, however, the focus must be on orchestration and optimising for the household. If multiple devices are involved, it would be advantageous to have visibility on what is going on across the site to ensure devices at one site are not acting against each other. It is also observed that a lot of people in the industry were or are currently not aware that smart meters could be used for measuring FCAS.

If multiple controllable devices were operating at a single site, should multiple meters be installed? How would non-compliance be detected as the required FCAS response from different technology types may differ?

- IntelliHub noted this will be an issue if there are no sub meters. Deploying more residential smart meters could solve this if we see this as an issue or there may be a need to have a complementary approach.

1.2.4 Costs

What are the implications of customers churning?

- Intellihub considers that one of the benefits of using residential smart meters vs additional equipment onsite is managed risk around residential churn as there is no additional hardware required. Churn agreements are in place with all retailers.

What would be the cost of handling and storing high-speed data?

- It was noted by IntelliHub that these new meters will have almost no incremental costs. Costs may result from data transfer and storages which would need to be passed on, but these are likely to be minimal (e.g. a few dollars per year/ bundle costs as part of package).

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In comparison to 1s data capture, is IntelliHub suggesting that 50ms and 100ms are not significantly more costly?

- IntelliHub confirmed that they are planning on capturing data at that rate regardless. Incremental telco costs will be a few cents per month. One-off development costs also exist, but nothing major ongoing.
- IntelliHub clarify on this point that they intend to make the meter act essentially as a low-cost disturbance recorder, similar to what happens in transmission protection system. Therefore, they will only transmit oscillograph records when a frequency excursion event occurs. Not all of the 50ms data will be transmitted back to the systems. Implementation in this manner will make the average telco and data handling costs very low. However, if there is a need to sample test or undertake other investigations, IntelliHub would always have the capability to bring back the 50ms data, but it is not something that would be routinely done for the whole fleet. This is how IntelliHub intend to keep the incremental cost very low.