



## **INTELLIHUB GROUP**

# **SUBMISSION TO CONSULTATION ON AMENDMENT OF THE MARKET ANCILLARY SERVICES SPECIFICATION**

## **SECOND STAGE**

### ***DER COMPONENT ONLY***

Smart Meters: Creating value and system security for  
Australia



**New Intellihub smart meters, including at residential sites, will be capable of providing measurement facilities for fast FCAS services by the end of the year. Our target price for this service is \$10 per site per year, with no capital outlay.**

Advanced digital meters, or smart meters, are the most cost efficient, reliable, and fit-for-purpose solution to enable VPPs consisting of small-scale DER to participate in the contingency FCAS markets. Use of the revenue meter for FCAS measurements both avoids the need for a costly additional meter and provides assurance of data quality.

Intellihub will be introducing the next generation of smart meter later this year which will be available as standard issue for both residential and small-business installations. One of the key benefits of this new smart meter is that it is capable of the high-speed measurements required for FCAS validation.

We have completed thorough testing of our next generation meter against the MASS requirements for fast FCAS and can confirm that the solution exceeds the requirement of 0.01Hz accuracy at 50ms intervals.

We would be pleased to demonstrate this capability to AEMO or any interested party.

We agree with AEMO's assessment that amending the MASS to accommodate alternative measurement arrangements for FCAS provision from DER is not necessary.

We do however ask that AEMO consider requiring measurement devices are tested or certified for accuracy to a common specification. This will provide the industry confidence that all measurement devices claiming to meet or exceed the MASS measurement requirements deliver this performance in reality.

Please reach out to me should you have any queries on our submission or are interested in a demonstration.

Regards,

Robert Lo Giudice  
Manager Metering Coordinator and Regulatory Affairs  
**Intellihub**



## Who we are

The Intellihub Group (Intellihub) is an Australian and New Zealand based utility services company focussed on electricity, gas and water metering services. With over one million advanced digital meters under management, we are a leading provider of electricity smart meter services in Australia. We are currently deploying advanced digital meters to residential and business customers in most states and territories in Australia. We partner with electricity retailers, distributors, and other energy sector participants to utilise smart metering technology to deliver data and services that improve the affordability, reliability, and security of the electricity sector.

Intellihub is a Registered Metering Coordinator (MC), an Accredited Metering Provider (MP), Metering Data Provider (MDP), Relevant Agent (RA), and Embedded Network Manager (ENM) under the NEM.

## Our view

We agree with AEMO's assessment that amending the MASS to accommodate alternative measurement arrangements for FCAS provision from DER is not necessary.

We maintain that advanced digital meters, performing the dual role of the revenue meter for the NMI, make the most sense in providing the required measurement facilities for the fast raise and fast lower service. Leveraging the revenue meter for this capability is the most efficient means for measurement and validation of a response to a contingency event.

Key benefits of this approach:

- Eliminates duplication of measurement devices on-site
- Is scalable to site-level orchestration of multiple assets
- Provides assurance of data quality through regulated revenue grade metrology and guarantees the long-term accuracy of measurements
- Aligns with the power of choice framework in leveraging the smart meter to provide additional value

### Measurement Interval

In the time since our initial submission to the MASS review consultation in March, we have thoroughly tested the capability of our upcoming metering solution against the requirements of the MASS for fast raise and fast lower services. We can confirm that our metering solution meets and exceeds the current measurement requirements for fast FCAS.

The table on the following page details the results of this testing.

Requirement	MASS – Fast FCAS	Intellihub FCAS Service
Frequency of Local Frequency Measurements	≤50ms	10ms
Frequency of Generation Amount and Load Amount measurement	≤50ms	10ms
Measurement Range of Power Flow Measurements	As appropriate to the Ancillary Service Facility, with a margin of error of ≤2%, and resolution of ≤0.2%	Range: metering installation as appropriate to the connection point Margin of Error: ≤1% Resolution: ≤0.01%
Settling Time	≤50ms	≤50ms
Local Frequency Measurement Range	At least the ranged specified in the OFTB. Margin of Error: ≤0.01Hz Resolution: ≤0.0025Hz	Range: 45.00Hz – 55.00Hz Margin of Error: ≤0.005Hz Resolution: 0.001Hz
Frequency Disturbance Time	<10s	<10s (longer is possible)
Recording Period for Power & Frequency Measurements	≥5s before the Frequency Disturbance Time and ≥60s after it	Configurable. ≥5s before the Frequency Disturbance Time and ≥60s after it
Trigger for Recording Measurements	At least whenever Local Frequency changes ≥Trigger Range.	At least whenever Local Frequency changes ≥Trigger Range.

This new meter will become available as standard issue for residential and small business sites later this year, at no additional cost. At this time, we will launch our FCAS measurements service, which permits a VPP operator to request a meter exchange (if required) and enable the provision of FCAS measurements at any site in the NEM. Our target price for this service is \$10 per site per year, with no capital cost.

#### Measurement Location

We maintain that the ideal location to measure the response to a contingency event of a site with multiple devices is at the aggregate or net point, or in other words at the NMI. Measuring at the NMI level makes FCAS validation of sites with multiple responding devices possible and is desirable to support a broad range of use cases.

We do however acknowledge that measurement at the NMI level is not always preferable for the site owner or VPP operator, particularly for homogenous VPP configurations with a single device. We maintain our view that the measurement point is defined as the NMI is retained, however we do not oppose exemptions for small-scale DER installations where this is deemed inappropriate.

## Other Considerations

We note a small number of minor items in this section for AEMO's consideration.

### Standards to Assure Measurement Accuracy

While the MASS does specify measurement requirements in Table 4, these do not reference any Australian or International standard, nor is a testing or certification process required. When in the context of large generating units participating in the NEM, this carries little risk as large generating units will typically be using high-end power quality meters as a matter of course. The cost of these meters is immaterial with respect to the generating unit itself.

However, in the context of small-scale DER operating as part of a VPP, the number of individual measurement devices across a single VPP may number in the tens-of-thousands or more. The cost of the meter to each individual site becomes a material factor and each installation is under cost pressure.

In the absence of a test or certification process for these measurement devices, there is a risk that these devices may not in reality deliver the level of accuracy claimed by the OEM or VPP operator. This may distort the FCAS markets and erode industry trust. Requiring that each model of measurement device is tested and certified to a common standard will remove this risk.

We ask that AEMO consider requiring that each model of measurement device is tested and certified to a common standard. This will provide industry and public assurance of data accuracy and ensure a level playing field for VPP operators. One such standard that may be appropriate is IEC 61557-12:2018 which covers accuracy requirements for power metering and monitoring devices.

### Guidance on FCAS Aggregation for VPPs

We note that section 4.1 of the MASS allows FCAS providers to apply to AEMO to aggregate their ancillary services generating units or loads, however, does not specifically reference VPPs of small-scale DER.

For clarity, we ask that AEMO consider providing guidance on the eligibility of VPPs of small-scale DER to provide contingences FCAS services.