

Operational Metering Working Group Summary

Session 1

16th June 2022

Participants

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| Calum McCarroll | National Grid ESO |
| Edward Farley | National Grid ESO |
| Andrew Wainwright | National Grid ESO |
| Kyle Martin | National Grid ESO |
| William Gratton | National Grid ESO |
| John Prime | AMP Energy |
| April Chen | WSP |
| John Byrne | ENEL X |
| Eamonn Bell | SMS |
| Neil O'loughlin | Flexitricity |
| Stef Peeters | Centrica |
| Sarah Honan | ADE |
| Iain Nicoll | Elexon |
| Dan Williams | Kraken Flex |
| John Roberts | Scottish Power |
| Avi Aithal | ENA |
| Jeremy Yapp | BEAMA |
| Sebastian Blake | Octopus Energy |
| Mark Hamilton | SMS |
| Eddie Proffitt | MEUC |
| Emma Burns | Flexitricity |

Introduction

Kyle Martin (KM) welcomed everyone to the Working Group and participants introduced themselves.

KM provided an overview of Power Responsive stating that it is a stakeholder-led programme, facilitated by National Grid ESO, to stimulate increased participation in the different forms of flexible technology such as Demand Side Response (DSR) and storage. It brings together industry and energy users, to work together in a co-ordinated way.

KM set out the purpose of the meeting. The Power Responsive Working Group is responsible for conducting a review into operational metering standards in the Balancing Mechanism and ensuring that they are applied proportionately for small-scale assets within aggregated portfolios.

The Workgroup shall consider and report on the following specific issues regarding operational metering standards:

- a) The tolerances for meter measurement accuracy
- b) The frequency at which a meter read is provided
- c) The latency with which a meter read must be transmitted to ESO

The Workgroup shall focus explicitly on how operational metering standards are applied to aggregated units to reduce barriers to entry for smaller market participants looking to meet the 1MW minimum participation threshold through aggregation.

The objectives of the Working Group are:

1. To reinterpret BM operational metering standards so that aggregated units can access the Balancing Mechanism more easily.
2. To explore opportunities to use market trials to gather evidence of how visible aggregated units are in the ESO control room.
3. To agree on a plan for communicating our direction of travel and maintaining new interpretations going forward.
4. To plan for expanding scope of work to cover Reserve and other ancillary services markets.

Summary of the status quo

Ed Farley (EF) provided an overview of the current arrangements for operational metering in the BM.

- Operational metering is used in the Balancing Mechanism and Ancillary Services markets to provide visibility of asset output in real-time to the ESO control room.
- ESO-defined parameters influence the volume, quality and time lag for which data should be submitted by the market participant to the ESO.
- Large BM participants have traditionally provided this visibility; however, it is important we maintain and improve this as more generation and demand connects, especially at the distribution level.

At present, the ESO specify that each new unit in the Balancing Mechanism should adhere to the following standards:

- Read Frequency – 1Hz (once per second)
- Measurement Accuracy - +/- 1.0%
- Maximum Latency - <5 seconds

For single/small-multi-site units, it is deemed that these parameters are acceptable and do not present significant barriers. However, the current interpretation of these standards is that each sub-unit within an aggregated BMU should provide data of the same granularity.

Initial Proposal

EF provided an overview of the initial proposal which was published in the [ESO DER Visibility Paper](#), the ESO is proposing to remove the unanimous application of operational metering standards to sub-units within an aggregated portfolio. Instead, ESO would specify the standards required by the master unit and allow aggregators / market participants to collate meter reads at the sub-asset level at their discretion, assuming that units comply with overall accuracy tolerances.

| Aggregated unit size | Overall Accuracy of unit | Read Frequency | Latency |
|----------------------|--------------------------|-----------------|------------|
| >10MW & <=100MW | +/-1.0% | Once per second | ≤5 seconds |
| >1MW & <=10MW | +/-1.5% | Once per second | ≤5 seconds |

Table 4 – Proposed BM operational metering standards – aggregated units

12 responses have been received to the consultation from a broad range of stakeholders. Initial themes identified:

- Broad support for the case for change and the need for greater visibility
- Majority agreement with roadmap but need for more detail
- Need for industry collaboration and co-ordination with other industry groups.
- Requirement for regular stakeholder updates.
- Concerns over proposals for latency

A more detailed review of specific comments is ongoing which will be fed back into this group and into our BP2 business planning to inform our final submission.

Overview of Powerloop Trial

Will Gratton (WG) provided an update on the Octopus Energy Powerloop trial.

Octopus Energy and NG ESO are currently collaborating on a trial as part of the Powerloop project, investigating the viability of Vehicle to Grid (V2G) enabled Electric Vehicles joining the Balancing Mechanism (BM) as an aggregated unit. The high-level objectives are:

- Understand blockers in current BM registration process (via Virtual Lead Party route) for V2G units.
- Understand how V2G assets could be dispatched in the BM.
- Gather robust data set to help understand how V2G enabled EV's could interact with UK's energy network.

Currently the trial is investigating how Operational Metering can be incorporated into the trial, therefore there could be an opportunity to highlight the burden the current standards place on small-scale assets. It could also provide a platform to trial ideas that result from this working group.

Feedback & Areas for Consideration

Attendees were invited to discuss the proposals share suggestions for developing solutions.

Several attendees question what metering characteristics are needed and which are hard requirements that can't be relaxed. Attendees asked for more details from the ESO Control room to specify the need for the proposed operational metering requirements. Following this discussion, the group agreed they would have a better understanding of the need which would help determine the preferred latency and read frequency at an aggregate metering level. For example, this would help inform if the 1.5% metering accuracy could be relaxed to accommodate what's possible for aggregated units. Clarification is also needed as to how the ESO define latency (e.g., is it when the meter is read?)

One attendee asked what the future goal us for operational metering to allow participants and the ESO to consider how to future proof any requirements. There was an ask that the ESO should consider what other data it may need to capture within future standards (e.g., Future proof GSP data).

There was recognition that there are already different capabilities that exist in meters that have already been installed. The group asked if different solutions can be used for the different pre-existing meters? KM suggested that it would be down to the ESO to establish what overall accuracy of a unit, read frequency and latency is required with industry able to propose solutions to address these requirements. This might mean there's one solution or several depending on the meters and methodologies proposed. There may also need to be two separate standards for aggregate level metering and sub asset level metering which needs to be discussed in more detail. It was also suggested that having a representative from a charge point manufacturer would be beneficial.

Further investigation is needed to understand how the ESO will measure accuracy percentage tolerances going forwards. (e.g., if all sub assets are required to be up to 1.5% accurate, once you aggregate multiples of those assets the accuracy is no longer 1.5%). The group will need the aggregate metering level requirements confirmed based on control rooms use case and the group can then consider applying a solution (through a potential trial if it is necessary). ESO to provide guidelines on sub asset level metering at the next meeting.

Operational metering needs to be distinguished from settlement metering. Clarity was sought regarding the purpose of operational metering. Is it to give the ESO control room general visibility of asset activities vs settlement metering which requires higher accuracy for billing purposes?

Actions

The following actions

1. Identify and invite a charge point manufacturer to future Working Group meetings.

2. Invite a Control Room representative to attend the next meeting to provide an overview of what visibility is needed by the Control Room.
3. Members to provide information, technical specifications, capabilities of current meters to help understand the capability of existing assets and ensure they are considered as part of this groups proposals.
4. Members to present initial thinking on possible methodologies to meet a new operational meeting standard.
5. ESO to confirm the definition of latency for operational metering and provide clarity on the purpose of operational metering vs settlement metering.