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Industry Guidance Note

Balancing Mechanism Operational
Metering Changes to Low Voltage
connected Consumer Energy
Resources

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Background

NESO committed to making our markets more accessible to small scale flexibility, through a revised approach to operational metering requirements and to open the Balancing Mechanism (BM) to Low Voltage (LV) connected Consumer Energy Resources (CERs).

NESO commissioned an independent review of the impacts of relaxing the BM operational metering standards for LV connected CERs, see [LINK](#) for more details. The review recommended a two-phased approach. In Phase 1, relaxed operational metering requirements are recommended. In Phase 2, the project evaluates four alternative enduring solutions to mitigate system risks.

The aim of this guidance note is to provide important technical information and best practices to the industry as part of Phase 1 of the relaxation of the operational metering requirements on LV connected CERs.

Definition of LV connected CERs that can utilise the relaxed requirements

The LV connected CERs that can utilise the relaxed requirements are defined as sub-assets that meet **both conditions**:

1. Registered capacity < 1 MW, and
2. Connection point voltage of 415 V or below, i.e., LV.

Phase 1 in detail

BM operational metering requirements for aggregated LV connected CERs sub-assets will be relaxed to the following:

Accuracy Requirement Changes:

- Sub-asset Level: No extra requirement, as per applicable British Regulation.
- Portfolio Level: 1% (calculation of improved portfolio accuracy through law of large numbers permitted).

Meter Refresh Rate Changes:

- Sub-asset Level: Every ≤ 30 seconds (previously every 1 second).
- Portfolio Level: Every 1 second (no change).

Latency Requirement Changes:

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- Latency: 5 seconds end to end latency from the sub-asset to the Provider's platform (no change).
- NESO will work with industry to develop a methodology to measure the latency of aggregated sub-assets.

The operational metering requirements are currently stipulated within a provider's BM Bilateral Contract Agreement. These agreements will be updated to reflect the changes above.

For sub-assets still unable to meet the new requirements, the 300 MW derogation remains open with a refresh rate requirement of 60 seconds at the sub-asset level. Sub-assets using 60 seconds metering and sub-assets using 30 seconds metering cannot be combined in the same unit.

Important information to Lead Parties

Lead Parties are required to adhere to the following:

1. Lead Parties are allowed to combine sub-assets that use relaxed requirements and sub-assets that use 1 s metering in the same unit. Lead Parties need however to submit two Active Power (MW) signals per unit; one signal aggregating the sub-assets in the portfolio that utilise relaxed metering requirements, and another signal for the remaining sub-assets that use 1 s metering. Both signals should have a meter refresh rate of 1 s as they are portfolio level signals.
2. Communications related to Trading Points and Control Points should be made via dedicated communication circuit wherever possible, see [LINK](#) for more details.
3. Lead Parties are required to store the sub-asset-level operational metering data, with the sub-assets' refresh rate, for at least 31 days. Lead Parties are required to share this data with NESO within 5 working days from receiving NESO's request.
4. Lead Parties who have electricity storage sub-assets in their portfolio who intend only to reduce their import/export from the Physical Notification (PN) level towards zero must still submit data reflecting this intent as required by the Grid Code, including GC0166. If they cannot increase the import/export in either direction, they can submit the Maximum Deliverable Offer/Bid (MDO/MDB) accordingly, i.e., 0 MWh.
5. Lead Parties are reminded to adhere to the obligations outlined in the Grid Code paragraph BC2.7.5 (f): "When complying with **Bid-Offer Acceptances** for an **Additional BM Unit** or **Secondary BM Unit** they will operate in accordance with the applicable **Aggregator Impact Matrix**."

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Sub-asset ID	Meter reading #1	Meter reading #2	Meter reading #3
1	HH:00:00	HH:00:30	HH:01:00
2	HH:00:13	HH:00:43	HH:01:13
3	HH:00:28	HH:00:58	HH:01:28
4	HH:00:07	HH:00:37	HH:01:07
5	HH:00:21	HH:00:51	HH:01:21

Must be fully random for the sub-assets in the portfolio.

Figure 1: A diagram explaining the randomness required in the seconds field for the time stamps of the meter readings. HH:MM:SS is a time format representing Hours:Minutes:Seconds.

- The timestamps at which the sub-assets in a portfolio send meter readings, i.e., the measurement reading time, must have fully randomised¹ seconds field, see Figure 1.

Important links

Balancing Mechanism Wider Access	https://www.neso.energy/industry-information/balancing-services/balancing-mechanism-wider-access
Power responsive	https://www.neso.energy/industry-information/balancing-services/power-responsive
Guidance Note on FPN: Good Industry Practice	https://www.neso.energy/document/323451/download
Communications Standards For Electronic Data, Communication Facilities, Operational Metering and Automatic Logging Devices	https://www.neso.energy/document/303756/download

¹Fully randomised means not assigned based on postcode or geographical area or any other characteristic.