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Paper Reference:	TABASC_92_0308_07
Action:	For Discussion

Update on MP085B Proposed Solutions

1. Purpose

The Panel has requested that the Smart Energy Code Administrator and Secretariat (SECAS) progresses [MP085B 'Synchronisation of smart meter voltage measurement periods \(meters currently installed\)'](#) to decision. SECAS has worked with the Proposer to develop Proposed Solutions and seeks the Technical Architecture and Business Architecture Sub-Committee's (TABASC's) views on each option.

2. MP085B 'Synchronisation of smart meter voltage measurement periods (meters currently installed)'

2.1 Overview

Electricity Network Parties have a statutory obligation to ensure that the voltage supplied to consumers' premises from Low Voltage electricity networks is always between defined limits.

In order to monitor the efficiency of their networks and meet the legal obligation of the voltage at the premises being within the prescribed limits, Electricity Distribution Network Operators (DNOs) use Root Mean Square (RMS) voltage readings from all meters across their network. When the Smart Energy Code (SEC) was first drafted, the Technical Specifications were silent on the average RMS voltage readings from smart meters measuring across a consistent period synchronised in time for all meters, which is essential for monitoring. An example of this would be for an average to be measured across a 30-minute period starting on the hour and on the half hour, which would match half hour consumption profile data. This has led to different ESME Device Models applying varying start times for the RMS voltage measurement. It is not possible for the DNO to configure the start time of the RMS voltage measurement period.

There are examples where some electricity meter Manufacturers' meters begin the measurement period on the hour or half hour, however this is not uniform across the industry. This has resulted in Electricity Network Parties:

- (i) making conservative, less efficient analysis assumptions to account for the lack of data alignment; or
- (ii) recreating synchronised data by downloading high granularity (for example minute resolution) data and calculating the required data.

The issue was addressed under [MP085A 'Synchronisation of smart meter voltage measurement periods'](#) for new ESME Device Models compliant with ESMETS v5.2, however the issue remains for Devices compliant with previous iterations of ESMETS (provided they do not already have the required functionality).

2.2 Further rationale from the Proposer

This modification will provide synchronised RMS voltage measurement period readings across all ESME for DNOs, meaning they will no longer have to download granular data sets and recalculate voltage data because of data misalignment.

This will enable them to:

- understand voltage issues on Low Voltage feeders that may be affecting more than one customer;
- identify trends or forecast future voltage issues;
- the synchronised data will help DNOs to deliver the smart meter benefits that they are expected to deliver.

2.3 Proposed Solutions

End dating existing versions of ESMETS

- End dating ESMETS pre v5.2 versions will force Suppliers to update Devices onto ESMETS v5.2 or later, once the Installation and Maintenance End Dates have passed.
- This will deliver MP085A functionality.
 - Pro: All Devices will benefit from updated functionality (not just MP085A).
 - Con: Devices that cannot be updated will no longer support 'smart' capabilities (once their Maintenance Validity Period (MVP) has expired), and would require replacing at one point in time.

Retrospective uplift to ESMETS version 4.X

- This will allow Suppliers to update Devices to the next available sub-version (v4.3), as opposed to forcing an uplift to v5.2 or later.
 - Pro: All Devices will benefit from updated MP085A functionality only.
 - Con: End Dates still need to be populated to existing versions to incentivise updates. Some Devices that cannot be updated may no longer support 'smart' capabilities (once their MVP has expired), and would require replacing at one point in time.

Populating MVP end dates for ESMETS

- This will allow SEC Parties to continue to install Devices built to ESMETS v5.1 or earlier. Once installed they will have to be updated to v5.2 due to the expired MVP end date. SECAS will consult on the proposed MVP end dates to obtain feedback from SEC Parties.
 - Pro: Devices built to an older specification will still be able to be installed, reducing scrappage costs.
 - Pro: Devices will benefit from updated functionality (not just MP085A).

Voluntary MP085A functionality implementation

- Manufacturers including MP085A functionality (aligning the RMS voltage period with the half hour (implemented in ESMETS v5.2)) in firmware upgrades.
- Suppliers will then need to purchase these upgrades.
- DNOs would want some level of transparency on when/where the upgrades are made – CPL would potentially help if Manufacturers made information available for SECAS to identify firmware versions with the desired functionality.
- Note – this would not be codified in the SEC and would therefore not require a modification.

2.4 Feedback from industry

SECAS has presented these Proposed Solutions to BEAMA and the Working Group. BEAMA members stated that each of the solutions would result in Suppliers and Device Manufacturers incurring substantial costs to upgrade Devices that are currently on an earlier ESMETS iteration. The Working Group was unsupportive of each solution and provided no preference.

A Working Group member highlighted that the cost of implementing any change will sit with Supplier Parties but the benefit will be with Network Parties. The assumption is that cost benefit analysis should be carried out within the same Party Category, otherwise there isn't an economic conversation to have. The Working Group member added that DNOs have got a workaround solution that is labour-intensive. They also commented that due to the high financial impact on Parties, there is no net benefit, and instead the solution of MP085A should be realised over time.

Another Working Group member added that either Proposed Solution would have a negative impact on triaged Devices that are in the field. They advised that it would be detrimental if the modification results in Devices having to be physically removed and potentially scrapped.

2.5 Questions for the TABASC

- Does the TABASC have any preference on the Proposed Solutions?
- Is the 'Do Nothing' option more reasonable?
- Is there anything else to consider?

3. Next steps

- SECAS will update the MP085B Modification Report.
- SECAS to issue the Refinement Consultation.

4. Recommendations

The TABASC is requested to:

- **NOTE** the contents of this paper;
- **CONSIDER** the Proposed Solutions for MP085B; and
- **AGREE** advise which, if any, Proposed Solution should be progressed

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27 July 2023

Attachments:

Appendix A: MP085B Modification Report v0.6