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MP202 'Enduring Solution for SMETS1 and SMETS2+ PPMIDs'

Modification Report

Version 0.2

18 August 2022



About this document

This document is a draft Modification Report. It currently sets out the background, issue, and progression timetable for this modification, along with any relevant discussions, views and conclusions. This document will be updated as this modification progresses.

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1. Summary

This proposal has been raised by David Walsh from the Data Communications Company (DCC).

The Smart Energy Code (SEC) currently differentiates between Smart Metering Equipment Technical Specifications (SMETS) 1 and SMETS2+ Devices and is drafted in a manner so that a Device can be either SMETS1 or SMETS2+, but not both. Therefore, the DCC Systems are designed on the premise that the Devices are exclusively either SMETS1 or SMETS2+ Devices.

The DCC has several Users who have indicated they would like to use the same Prepayment Interface Device (PPMID) for both SMETS1 and SMETS2+ purposes. Where a PPMID is capable of being used for both SMETS1 and SMETS2+ purposes, the DCC is unable to identify which version of SMETS should be used by the DCC when communicating with these Devices. This results in the DCC being unable to determine whether to construct a Great Britain Companion Specification (GBCS) command for a SMETS2+ Device or forward a Service Request to the SMETS1 Service Provider (S1SP) for a SMETS1 Device.

2. Issue

What are the current arrangements?

The SEC currently differentiates between SMETS1 and SMETS2+ Devices and is drafted so that a Device can be either SMETS1 or SMETS2+, but not both. The DCC has established that some models of PPMID can work as both a SMETS1 Device and a SMETS2+ Device, which is referred to as a 'bilingual Device'. However, the SEC does not currently make provisions for such Devices. For example, the SEC currently differentiates between SMETS1 and SMETS2+ Device and is drafted in a way that a Device is either SMETS1 or SMETS2+, but not both. This means that a PPMID cannot currently be treated as both a SMETS1 PPMID and a SMETS2+ PPMID, even if it is physically able to behave as such.

SEC Appendix Z section 3:13 states:

Where a PPMID of a particular type is capable of forming part of either a SMETS1 Smart Metering System or a SMETS2+ Smart Metering System, any Device Model added to the Central Products List shall:

- (a) insofar as it relates to PPMIDs of that type forming part of SMETS2+ Smart Metering Systems, be the Manufacturer of the PPMID, its model, its hardware version and its firmware version; and*
- (b) insofar as it relates to PPMIDs of that type forming part of SMETS1 Smart Metering Systems, be the Manufacturer of the PPMID, its model, its hardware version and a value representing its firmware version that is different to the firmware version of the PPMID of that type that forms part of a SMETS2+ Smart Metering System.*

PPMIDs must be pre-notified to the DCC by the Supplier which includes the SMETS Version; this determines whether the PPMID must be used in a SMETS1 or SMETS2+ Smart Metering System. Starting at the time of pre-notifying the PPMID the Supplier or the installer must mark and track the PPMID accordingly until it is fully installed in the target Smart Metering System.

Tactical interim solution

In July 2021, the DCC consulted on potential solutions to this issue¹. Following stakeholder feedback, the DCC stated in its response² that it would implement a tactical interim solution and raise a SEC modification to enable the industry to assess the need for an enduring solution.

The DCC's tactical interim solution involves creating distinct entries in the Central Products List (CPL) for both the SMETS1 and SMETS2+ with a differentiating firmware version. The SMETS2+ PPMID CPL entry uses the real firmware version whereas the SMETS1 PPMID CPL entry uses a 'fictitious' firmware version.

What is the issue?

Installations of a SMETS1 PPMID in a SMETS2+ Smart Metering System or vice versa may result in aborted installations, cause inconvenience to the consumer, and possibly waste Devices.

The DCC understands that the tactical interim solution creates logistical complications for Suppliers where they must ensure that the correct PPMID is joined to an installation of the same SMETS version even though the Devices are identical, the result of which would be that the PPMID cannot be the target of any Service Requests.

The DCC has several Users who have indicated they would like to use the same PPMID model across SMETS1 and SMETS2+ Devices. The DCC is unable to determine for these whether to construct a GBCS command for a SMETS2+ Device or forward a Service Request to the S1SP for a SMETS1 Device. The SEC does not currently permit Devices to be both SMETS1 and SMETS2+ and the DCC Systems are unable to process commands to any Device type that is both SMETS1 and SMETS2+.

The benefit of this modification for Suppliers will mean the interim solution will be replaced with an enduring solution, and chance of failed installation and commission will be reduced.

What is the impact this is having?

Currently this issue is not impacting the DCC due to a tactical interim solution which has been put in place. However, this is impacting Suppliers as they are responsible for handling the PPMID and must ensure that the correct version of the PPMID and must ensure that the correct version of the PPMID is pre-notified and that the correct SMETS version is installed. If the Supplier encounters an issue with the process, it must contact the DCC for manual Smart Metering Inventory (SMI) changes following an unsuccessful installation.

There are two known Suppliers who are impacted by this issue and a reported six million Devices which are impacted, but it is anticipated this number will increase in the future. This also impacts PPMIDs manufacturers and any future Users of PPMIDs that could work with both versions, for instance following a Change of Supplier (CoS). A more enduring solution would better resolve this issue in the longer-term.

¹ <https://www.smartdcc.co.uk/customer-engagement/smets1-consultation-on-changes-related-to-ppmids-and-chs/>

² <https://www.smartdcc.co.uk/consultations/dcc-response-to-its-smets1-consultation-on-changes-related-to-ppmids-and-chs/>

Impact on consumers

Suppliers will need to ensure they are installing the correct SMETS Device at a premise. If an incorrect Device is installed this will need to be physically replaced which will cause inconvenience to consumers and impact the reputation of the Smart Meter Installation Programme. There is also an issue where Suppliers who gain these Devices on CoS cannot communicate with them or carry out firmware updates. This will result in consumer PPMIDs not being able to be upgraded accordingly.

Resolving this issue would benefit consumers as it will support greater energy efficiency and cost saving for Suppliers. The Suppliers could install the same model of PPMID on any installation, which will improve efficiency in Suppliers' metering operations, which they can pass on to consumers.

3. Proposed Solution

Currently, the Primary Key (comprising of Firmware Version, Device Model, Device Type and the Manufacturer ID) held in the table can only accept one record for each firmware version.

The proposed solution involves having two rows of the same firmware version for a Device Model included in the Central Products List (CPL): one row for SMETS1 and the other for SMETS2. The data received via the CPL is stored in the Firmware Version table in the Smart Inventory.

Devices can be pre-notified as a SMETS1 or SMETS2+, but the Data Service Provider (DSP) will need to change the SMETS version in the SMI when the PPMID is whitelisted.

This table shows how this solution will work, with the assumption that all models exist in the CPL.

PPMID SMETS Version in SMI as per pre-notification	CH SMETS version as per pre-whitelisting	Resulting PPMID SMETS version in SMI
SMETS1	SMETS1	SMETS1
SMETS1	SMETS2+	SMETS2+
SMETS2+	SMETS1	SMETS1
SMETS2+	SMETS2+	SMETS2+

4. Assessment of the proposal

Areas for assessment

Sub-Committee input

The TABASC asked to be keep up to date on progress as it will likely impact the Business and Technical Architecture.

Observations on the issue

SECAS has identified the following areas and questions that will need to be further considered before a suitable solution will be able to be found:

Will the processing of the CPL submissions by SECAS and the handling of the CPL by the DCC need to be changed?

Will the above result in changes to SEC Appendix Z (for CPL)?

Currently when adding a PPMID to a Smart Metering System the first step carried out by the Supplier are to pre-notify the PPMID and secondly to Whitelist the PPMID on the targeted Communications Hub. The second step does not check whether the Device being whitelisted has the correct SMETS version. It may be possible to whitelist a SMETS1 PPMID on the SMETS2+ Communications Hub. The error will only be flagged up later in the process.

SECAS will confirm this during the Refinement Process.

Appendix 1: Progression timetable

This Modification will be presented to the TABASC on 1 September 2022 and will seek the views on the issue and business requirements before presenting to the Working Group.

Timetable	
Event/Action	Date
Draft Proposal raised	8 Mar 2022
Present to CSC for initial comments	15 Mar 2022
CSC converts Draft Proposal to Modification Proposal	19 Apr 2022
Business requirements developed with Proposer and DCC	19 Apr – 1 May 2022
Modification discussed with TABASC	1 Sep 2022
Modification discussed with Working Group	7 Sep 2022
Preliminary Assessment requested	12 Sep 2022
Preliminary Assessment returned	7 Oct 2022
Update provided to CSC	18 Oct 2022

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	Full term
CoS	Change of Supplier
CPL	Central Product List
CSC	Change Sub-Committee
DCC	Data Communications Company
DSP	Data Service Provider
GBCS	Great Britain Companion Specification
PPMID	Pre-Payment Interface Devices

Glossary	
Acronym	Full term
SEC	Smart Energy Code
SMETS	Smart Metering Equipment Technical Specifications
SMI	Smart Metering Inventory
S1SP	SMETS1 Service Provider
TABASC	Technical Architecture and Business Architecture Sub-Committee
OPSG	Operations Group
SSC	Security Sub-Committee
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority