SEC
Smart Energy Code

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MP131

‘Default maximum demand configuration conflict’

Modification Report

Version 1.0

20 July 2020

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About this document

This document is a draft Modification Report. It currently sets out the background, issue, proposed solution, impacts, costs, implementation approach and progression timetable for this modification, along with any relevant discussions, views and conclusions.

Contents

This document also has one annex:

- **Annex A** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.

Contact

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1. Summary

This proposal has been raised by Chun Chen on behalf of the Data Communications Company (DCC).

SEC Schedule 8 'Great Britain Companion Specification' (GBCS) Table 28d includes values for maximum demand configuration. Due to the implementation of the SEMP0018 'Standard Electricity Distributor Configuration Settings' solution, GBCS Table 28d is currently in conflict with the Energy Network Association (ENA)-required default configuration, the Smart Metering Equipment Technical Specifications (SMETS), GBCS use cases, the DCC User Interface Specification (DUIS) and the Message Mapping Catalogue (MMC).

This modification proposes that a correction to GBCS Table 28d is made to align the table with ENA-required default configuration. The implementation costs are limited to Smart Energy Code Administrator and Secretariat (SECAS) effort in updating the SEC. The Proposed Solution will impact Large and Small Suppliers, meter Manufacturers and Electricity Network Operators. If approved, this modification is recommended for inclusion in the November 2020 SEC Release.

2. Issue

What are the current arrangements?

SECMP0018 'Standard Electricity Distributor Configuration Settings' introduced a requirement for Device Manufacturers to populate Electricity Smart Metering Equipment (ESME) Devices with standard configuration settings. Electricity Network Parties have agreed a common set of configurations that should be set at installation. These configurations can be found using the Energy Network website links below:

https://www.energynetworks.org/electricity/futures/smart-meters.html

https://www.energynetworks.org/assets/files/ENA_EREC_M30_Issue_2.pdf

The solution for SECMP0018 resulted in the addition of GBCS Table 28d and includes default values for maximum demand configuration. Maximum demand monitoring occurs from 31 October to 29 February every year from Monday to Friday during a configured time of day.

What is the issue?

According to the SMETS, GBCS use case definitions, the DUIS and the MMC, values of week definition and date range cannot be configured; only the time of day can be configured via defined use case.

The Companion Specification for Energy Metering (COSEM) template (attached in GBCS Section 18.2 (use case ECS37)) also shows the date configuration for the maximum demand as below:

Maximum demand monitoring is daily in between configured time of day for its whole life.

1. *Value of week day is 0xFE*
2. *Value of begin date is 0x000001FFFF*

3. *Value of end date of 0xFFFFFFFFFF*

This means that as a result of SECMP0018's implementation, GBCS Table 28d is in conflict with the ENA-required default configuration and the SMETS, GBCS use cases, the DUIS and the MMC.

It is proposed that a correction is made to GBCS v3.2 Table 28d to align this with the ENA-required default configuration.

What is the impact this is having?

This conflict in the current SEC Technical Specifications is causing a barrier for ESME Manufacturers to develop GBCS compliant Devices.

3. Solution

Proposed Solution

The Proposed Solution is to make amendments to GBCS Table 28d. A number of values currently found in this table conflict with what is stated in the SMETS, GBCS use case definitions, the DUIS, the MMC and the COSEM. The Proposed Solution is to amend the table so that the current conflicting values are corrected to align with the other Technical Specifications. This will mean that, once implemented, meter Manufacturers will be able to build Devices that comply with the Technical Specifications, removing any confusion as to which Technical Specification to follow.

4. Impacts

This section summarises the impacts that would arise from the implementation of this modification.

SEC Parties

SEC Party Categories impacted			
✓	Large Suppliers	✓	Small Suppliers
✓	Electricity Network Operators		Gas Network Operators
✓	Other SEC Parties		DCC

This modification will impact Other SEC Parties as meter Manufacturers will now be able to manufacture Devices that comply with the Technical Specifications as the maximum demand configurations will now be aligned across the specifications.

Suppliers are impacted by this modification as they must procure Devices from the Manufacturers. This modification will result in Suppliers installing Technical Specification-compliant ESME in Consumers' premises.

Electricity Network Operators will also see a benefit from this modification as the maximum demand data they will receive will be derived from ESME that comply with each of the Technical Specifications.

DCC System

There are no impacts on DCC Systems.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 8 'Great Britain Companion Specification'
- Schedule 11 'Technical Specification Applicability Tables'

The changes to the SEC required to deliver the proposed solution can be found in Annex A.

Technical specification versions

If implemented in the November 2020 SEC Release (see Section 6 below), these changes will only be applied to GBCS version 4.0. A separate housekeeping modification will be raised at a later date to include these in any GBCS version 3.3 once material changes have been identified that would require such an uplift.

Consumers

If approved, this modification will result in Technical Specification-compliant ESME being installed in Consumers' premises. More so, the maximum demand data collected by Electricity Network Operators will allow them to facilitate a more consistent and efficient service for Consumers.

Other industry Codes

There are no impacts on other industry Codes.

Greenhouse gas emissions

There are no impacts on greenhouse gas emissions.

5. Costs

DCC costs

There are no anticipated DCC implementation costs to implement this modification.

SECAS costs

The estimated SECAS costs to implement this modification is two days of effort, amounting to approximately £1,200. The activities needed to be undertaken for this are:

- Updating the SEC and releasing the new version to the industry.

SEC Party costs

There will be no costs to SEC Parties.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **5 November 2020** (November 2020 SEC Release) if a decision to approve is received on or before 22 October 2020; or
- **4 November 2021** (November 2021 SEC Release) if a decision to approve is received after 22 October 2020 but on or before 21 October 2021.

The Panel has already baselined the scope of the November 2020 SEC Release, but can choose to add further modifications by exception if it is deemed either necessary or efficient to do so.

As the Proposed Solution impacts the GBCS, the modification should be implemented in a SEC Release that includes an uplift to GBCS to prevent more than one change in a calendar year. The November 2020 SEC Release is the earliest such release this modification can be targeted for. If this modification is not included in the November 2020 SEC Release, it will be targeted for the November 2021 SEC Release, which is when the next uplift to the GBCS is expected. However, if an earlier uplift occurs, MP131 may be able to be incorporated into the uplift at the same time.

7. Assessment of the proposal

Solution development

The Proposed Solution was developed between SECAS and the DCC. The Proposer for SECMP0018 was also consulted. The Proposed Solution was agreed as the most effective method of ensuring that meter Manufacturers produce ESME that comply with the Technical Specifications in regards to maximum demand configuration. An option was initially explored where GBCS Table 28d would be removed from GBCS altogether; however it was agreed that this could cause further issues relating to the operability of ESME.

Views of the Sub-Committees

The proposal was presented to the Change Sub-Committee (CSC) for discussion and recommendation. The CSC members believed that the issue was clear and agreed that as the solution is straightforward, should progress to the Report Phase. One CSC member queried which version of GBCS this would be implemented in. SECAS confirmed that the aim is to implement this into GBCS v4.0 as part of the November 2020 SEC Release. SECAS also confirmed that at this time, there are no plans to create a GBCS v3.3 in November 2020.

The modification was taken to the Technical Architecture and Business Architecture Sub-Committee (TABASC) to discuss the Proposed Solution. The Sub-Committee questioned why Table 28d cannot be removed altogether. This is because the table contains pre-configuration attributes. Removing the table could potentially lead to out-of-the-box behavioural issues for Devices. Furthermore, the TABASC questioned the possibility of duplicated data if the table remains. Table 28d holds data contained in different Device Language Message Specification (DLMS) Use Cases, however those in Table 28d relate solely to pre-configuration. The TABASC Chair also stated that there may be a GBCS v3.3 released at a later date if it is needed. The Proposed Solution of this modification would also need to be included in v3.3.

Views against the General SEC Objectives

Proposer's views

The Proposer believes that this modification will better facilitate SEC Objective (a)[1] as once implemented, ESME that supports ENA-required default configuration will be installed in Consumers' premises.

They also feel that this modification will better facilitate SEC Objective (c)[2] as the ESME will provide maximum demand data that meets the Technical Specifications.

Appendix 1: Progression timetable

This Proposal was raised on 21 May 2020. The proposal will now be taken to the SEC Panel to conversion into a Modification Proposal and proceed directly to the Report Phase. This modification is recommended to be progressed as a Self-Governance Modification.

Timetable	
Event/Action	**Date**
Draft Proposal raised	21 May 2020
Legal text developed with the Proposer	Jun 2020
Presented to CSC for initial comment and recommendations	30 Jun 2020
Panel converts Draft Proposal to Modification Proposal	17 Jul 2020
Modification Report approved by Panel	17 Jul 2020

[1] Facilitate the efficient provision, installation, operation and interoperability of smart metering systems at energy consumers' premises within Great Britain.
[2] Facilitate energy consumers' management of their use of electricity and gas through the provision of appropriate information via smart metering systems.

Timetable	
Event/Action	**Date**
Modification Report Consultation	20 Jul 2020 – 7 Aug 2020
Change Board Vote	26 Aug 2020

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**
COSEM	Companion Specification for Energy Metering
CSC	Change Sub-Committee
DCC	Data Communications Company
DLMS	Device Language Message Specification
DUIS	DCC User Interface Specification
ENA	Electricity Network Association
ESME	Electricity Smart Metering Equipment
GBCS	Great Britain Companion Specification
MMC	Message Mapping Catalogue
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications

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Annex A

Legal text – version 1.0

About this document

This document contains the redlined changes to the SEC that would be required to deliver this Modification Proposal.

Schedule 8 'GB Companion Specification'

These changes have been redlined against Schedule 8 version 3.2.

Amend Section 28 'Annex 7 – Data Item Values to be set prior installation of Devices' as follows:

Attribute	COSEM datatype	Tag	Length	Value	Meaning
entries:entries[1..2]	array	0x01	0x02		An array with two entries, the first turns on monitoring and the second turns it off
entries:entries[1]. schedule_table_entry. Index	long-unsigned	0x12		0x0001	The first entry which turns monitoring on
entries:entries[1]. schedule_table_entry. enable	boolean	0x03		0x01	True, so the entry always executes
entries:entries[1]. schedule_table_entry. script_logical_name	octet-string(6)	0x09	0x06	0x00000A8064FF	0-0:10.128.100.255 which, as per Table 7.3.8, is the script table controlling monitoring
entries:entries[1]. schedule_table_entry. script_selector	long-unsigned	0x12		0x0001	Meaning start monitoring at the time in this entry
entries:entries[1]. schedule_table_entry. switch_time	octet-string(4)	0x09	0x04	0x10000000	16:00:00:00 - the time at which monitoring is to turn on
entries:entries[1]. schedule_table_entry. validity_window	long-unsigned	0x12		0xFFFF	The script is processed at any time after power failure
entries:entries[1]. schedule_table_entry. exec_weekdays	bit-string(7)	0x04	0x07	0xFE~~0xF8~~	0xFE = 0b11111110, which means execute this script every day ~~0xF8 = 0b11111000, which means execute this script on Monday to Friday inclusive~~
entries:entries[1]. schedule_table_entry. exec_specdays	bit-string(0)	0x04	0x00		No special day processing
entries:entries[1]. schedule_table_entry. begin_date	octet-string(5)	0x09	0x05	0x000001FFFF~~0xFFFF0A1FFF~~	From the start of time ~~0xFFFF (means any year), 0x0A (means tenth month, so October), 0x1F (means 31st), and 0xFF (means any day of the week)~~
entries:entries[1]. schedule_table_entry. end_date	octet-string(5)	0x09	0x05	~~0xFFFF021CFF~~0xFFFFFFFFFF	For all time ~~0xFFFF (means any year), 0x02 (means second month, so February), 0x1C (means 28th), and 0xFF (means any day of the week)~~

Attribute	COSEM datatype	Tag	Length	Value	Meaning
entries:entries[2]. schedule_table_entry. index	long-unsigned	0x12		0x0002	The second entry which turns monitoring off
entries:entries[2]. schedule_table_entry. enable	boolean	0x03		0x01	True, so the entry always executes
entries:entries[2]. schedule_table_entry. script_logical_name	octet-string(6)	0x09	0x06	0x00000A8064FF	0-0:10.128.100.255 which, as per Table 7.3.8, is the script table controlling monitoring
entries:entries[2]. schedule_table_entry. script_selector	long-unsigned	0x12		0x0002	Meaning stop monitoring at the time in this entry
entries:entries[2]. schedule_table_entry. switch_time	octet-string(4)	0x09	0x04	0x14000000	20:00:00:00 - the time at which monitoring is to turn off
entries:entries[2]. schedule_table_entry. validity_window	long-unsigned	0x12		0xFFFF	The script is processed at any time after power failure
entries:entries[2]. schedule_table_entry. exec_weekdays	bit-string(7)	0x04	0x07	0xFE	0xFE = 0b11111110, which means execute this script every day
entries:entries[2]. schedule_table_entry. exec_specdays	bit-string(0)	0x04	0x00		No special day processing
entries:entries[2]. schedule_table_entry. begin_date	octet-string(5)	0x09	0x05	0x000001FFFF	From the start of time
entries:entries[2]. schedule_table_entry. end_date	octet-string(5)	0x09	0x05	0xFFFFFFFFFF	For all time

Table 28d: Tag, length and values to be populated in attribute 2 of OBIS code 0-0:12.0.0.255 (which relates to the SMETS ‘Maximum Demand Configurable Time Period ‘) to be configured prior to installation of ESME.