Smart Energy Code

MP150

'Removing Table 28c from the GBCS'

Modification Report

Version 1.0

15 February 2021

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About this document

This document is a Modification Report. It sets out the background, issue, 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

If you have any questions on this modification, please contact:

Joe Hehir

020 7770 6874

joe.hehir@gemserv.com

1. Summary

This proposal has been raised by Gemma Slaney from Western Power Distribution.

GB Companion Specification (GBCS) Table 28c 'WAN Alert and Power Event Log settings to be configured prior to installation of Devices' is now recognised as a duplicate of normative information already existing in GBCS Table 16.2 'Event and Alert Codes'. This creates an inefficient use of the GBCS and could also lead to maintenance issues in the future with the same information appearing in two separate places. Additionally, GBCS Table 16.2 'Event and Alert Codes' provides the full context for Event and Alert Codes, whereas Table 28c only provides a subset of this information.

GBCS Table 28a 'Data items and values to be configured prior to installation of Devices' contains inconsistencies with other GBCS Table with its use of "NA" in the notes column. All other tables in the GBCS contain blank cells rather than "NA".

The Proposed Solution is to remove Table 28c from the GBCS. No information will be lost as all of the information contained in Table 28c can already be found in Table 16.2. All instances of "NA" in Table 28a will also be deleted in place of blank cells to align it with the other GBCS Tables.

This is a clarification change that will not impact any Parties, and implementation effort is limited to Smart Energy Code Administrator and Secretariat (SECAS) time and effort to update the SEC. If approved, this modification is targeted for the November 2021 SEC Release.

2. Issue

What are the current arrangements?

What did SECMP0018 implement?

[SECMP0018 'Standard Electricity Distributor Configuration Settings'](#) mandated meter Manufacturers, through the GBCS, to populate all Electricity Smart Metering Equipment (ESME) with a set of default configuration settings. It means that Electricity Networks now only need to use Service Request (SR) 6.5 'Update Device Configuration (Voltage)' if they need specific settings for a particular ESME upon installation.

Part of the SECMP0018 solution added a new table to GBCS, Annex 7 as new Table 28c 'WAN Alert and Power Event Log settings to be configured prior to installation of Devices'. This table lists all DNO related Alerts as defined in GBCS, Table 16.2 'Event and Alert Codes'. For each Alert the default configuration required by the DNO for sending the WAN Alert and storing the Alert in the Power Event Log is given.

SECMP0018 was implemented on 29 November 2019 (November 2019 SEC Release).

A guidance document for standard Electricity Distributor configuration settings, developed alongside SECMP0018 can be found on the SECAS website [here](#).

What is the issue?

The content of GBCS Table 28c is an entire duplicate of the same information contained in GBCS embedded table 16.2. Table 16.2 lists the full valid Event and Alert Codes and sets out their requirements.

GBCS Section 16.4 already states Event / Alert Codes beginning 0x80 or 0x81 in Table 16.2, which includes all Event / Alerts Codes that are configurable by Electricity Network, 'shall be those configured in ESME, Standalone Auxiliary Proportional Controller (SAPC) and Gas Smart Metering Equipment (GSME) prior to installation'. With the default settings identical to those required for SECMP0018, even at the time of implementation, the additional Table 28c was superfluous.

In addition, GBCS Table 28a contains inconsistencies with other GBCS Table with its use of "NA" in the notes column. All other tables in the GBCS contain blank cells rather than "NA". GBCS Table 28a is also inconsistent in itself as some cells in the notes column are blank whilst others are "NA". This creates inconsistent use of the GBCS Tables.

What is the impact this is having?

Table 28c creates an inefficient use of the GBCS, creates an unnecessary document maintenance overhead (maintaining the same information in two separate normative places within the GBCS, with a risk this information becomes misaligned) and could also mislead the reader. Also, GBCS Table 16.2 provides the full context for Event and Alert Codes, whereas Table 28c only provides a subset of its information and so Table 28c should be removed.

Impact on consumers

This issue has no impact on consumers.

3. Solution

Proposed Solution

The Proposed Solution is to remove Table 28c from the GBCS. No information will be lost as all of the information contained in Table 28c can already be found in Table 16.2.

All instances of "NA" in Table 28a will also be deleted in place of blank cells to align it with the other GBCS Tables. This element of the Proposed Solution is a housekeeping change.

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

Removing GBCS Table 28c does not impact on any Parties as the requirement already exists within Table 16.2. This modification is simply an administrative change.

DCC System

This modification will not impact the Data Communications Company (DCC) Systems.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 8 'GB Companion Specification'
- Schedule 11 'TS Applicability Tables'

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

Technical specification versions

For efficiency this modification will be targeted for a SEC Release that includes other modifications which require an uplift of the GBCS.

This modification will be implemented within a new Sub-Version of each active series of the GBCS. If this modification was to be implemented in the November 2021 SEC Release it would need to be applied to GBCS v3.3 (if an uplift to the version 3 series occurs) and GBCS v4.1 simultaneously.

Consumers

This modification will not impact consumers.

Other industry Codes

This modification will not impact any other industry Codes.

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Greenhouse gas emissions

This modification will not impact greenhouse gas emission.

5. Costs

DCC costs

This modification will not incur any DCC costs.

SECAS costs

The estimated Smart Energy Code Administration and Secretariat (SECAS) implementation costs to implement this modification is half a day of effort, amounting to approximately £300. The activities needed to be undertaken for this are:

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

SEC Party costs

This modification will not incur any direct SEC Party costs. However, should Parties choose to uplift to a new version of the GBCS, they would incur a cost, but this would include all other modifications associated with this uplift.

6. Implementation approach

Approved implementation approach

The Panel has agreed an implementation date of:

- **4 November 2021** (November 2021 SEC Release) if a decision to approve is received on or before 21 October 2021; or

- **30 June 2022** (June 2022 SEC Release) if a decision to approve is received after 21 October 2021 but on or before 16 June 2022.

As this modification impacts the GBCS, it should be implemented alongside other GBCS changes to prevent new versions being created unnecessarily. The November 2021 SEC Release is the earliest release this modification can be targeted for. If a decision is not received in time for the November 2021 SEC Release, it will be targeted for the June 2022 SEC Release, which is the next release expected to contain GBCS changes due to the anticipated Enduring Change of Supplier (ECoS) changes.

7. Assessment of the proposal

Observations on the issue

BEIS views

The Department for Business, Energy and Industrial Strategy (BEIS) highlighted that GBCS Table 28c contained duplicated information from GBCS Table 16.2 whilst SECMP0018 was pending implementation. BEIS suggested that Table 28c should not be added to the GBCS as it was inefficient to do so and could mislead readers. However, SECAS was not in a position to remove Table 28c at the time as the legal text had already been approved for SECMP0018. SECAS agreed to raise the removal of Table 28c via a new Draft Proposal.

BEIS also highlighted that GBCS Table 28a contained inconsistencies within the table itself and other GBCS tables. This was specifically the notes column and its use of "NA", whereby all other GBCS Tables use a blank cell. BEIS suggested that all instances of "NA" should be deleted to align it with the other GBCS Tables.

Change Sub-Committee views

The Change Sub-Committee agreed that the issue identified under this proposal is clearly defined and understood. It had no other comments.

Views against the General SEC Objectives

Proposer's views

Objective (g)[1]

The Proposer believes this modification would facilitate SEC Objective (g) by removing outdated and partially duplicated information from the GBCS. This would increase the transparency of the SEC.

Views against the consumer areas

Improved safety and reliability

If implemented, this modification will have a neutral impact against this consumer area.

Lower bills than would otherwise be the case

If implemented, this modification will have a neutral impact against this consumer area.

Reduced environmental damage

If implemented, this modification will have a neutral impact against this consumer area.

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[1] To facilitate the efficient and transparent administration and implementation of this Code.

Improved quality of service

If implemented, this modification will have a neutral impact against this consumer area.

Benefits for society as a whole

If implemented, this modification will have a neutral impact against this consumer area.

Appendix 1: Progression timetable

Timetable	
Event/Action	**Date**
Presented to CSC for final comment and recommendations	26 Jan 2021
Draft Proposal raised	27 Jan 2021
Panel converts Draft Proposal to Modification Proposal	12 Feb 2021
Modification Report Consultation	15 Feb 2021 – 5 Mar 2021
Change Board Vote	24 Mar 2021

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**
BEIS	Department for Business, Energy and Industrial Strategy
CSC	Change Sub-Committee
DCC	Data Communications Company
ECoS	Enduring Change of Supplier
ESME	Electricity Smart Metering Equipment
GBCS	GB Companion Specification
GSME	Gas Smart Metering Equipment
SAPC	Standalone Auxiliary Proportional Controller
SEC	Smart Energy Code
SECAS	Smart Energy Code and Secretariat
SR	Service Request
WAN	Wide Area Network

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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 4.0.

These changes will be applied to versions 3.n (if an uplift to the version 3 series occurs in the given release) and 4.n.

Amend Annex 7 as follows:

28   Annex 7 – Data Item Values to be set prior to installation of Devices

Tables 28a and 28b lists data items and values that shall be configured in ESME prior to installation.

ESME shall also be configured prior to installation to give effect to the settings in Tables ~~28c and~~ 28d.

The values in Tables 28a and 28b, that relate to 'Randomised Offset Limit', shall be configured in SAPC prior to installation.

Where an SAPC supports the functionality associated with a row in Tables 28a, 28b, ~~28c~~ or 28d, the SAPC shall be configured according to those rows prior to installation.

Amend Table 28a as follows:

Device	Data Item	Reference	Value	Notes
ESME (all variants)	Maximum Meter Balance Threshold	SMETS 5.7.4.27	300,000,000 millipence	~~NA~~
ESME (all variants)	Randomised Offset Limit	SMETS 5.7.4.33	600 seconds	The Randomised Offset Is the product of the Randomised Offset Limit(5.7.4.33) and the Randomised Offset Number(5.7.1.5) rounded to the nearest second. This value is used to delay the Tariff Switching Table times and the Auxiliary Controller switching times.
ESME (all variants)	RMS Extreme Over Voltage Threshold	SMETS 5.7.4.35	265.0 volts	GBCS Use Cases specify a resolution to tenths of volts
ESME (all variants)	RMS Extreme Over Voltage Measurement Period	SMETS 5.7.4.34	180 seconds	~~NA~~

Device	Data Item	Reference	Value	Notes
ESME (all variants)	RMS Extreme Under Voltage Threshold	SMETS 5.7.4.37	190.0 volts	~~NA~~
ESME (all variants)	RMS Extreme Under Voltage Measurement Period	SMETS 5.7.4.36	180 seconds	~~NA~~
ESME (all variants)	RMS Voltage Sag Threshold	SMETS 5.7.4.40	190.0 volts	~~NA~~
ESME (all variants)	RMS Voltage Sag Measurement Period	SMETS 5.7.4.38	180 seconds	~~NA~~
ESME (all variants)	RMS Voltage Swell Threshold	SMETS 5.7.4.41	265.0 volts	~~NA~~
ESME (all variants)	RMS Voltage Swell Measurement Period	SMETS 5.7.4.39	180 seconds	~~NA~~
ESME (all variants)	(Phase[1]) Average RMS Voltage Measurement Period	SMETS 5.7.4.6 (5.19.1.3)	1800 seconds	~~NA~~
ESME (all variants)	(Phase[1]) Average RMS Under Voltage Threshold	SMETS 5.7.4.5 (5.19.1.2)	212.0 volts	~~NA~~
ESME (all variants)	(Phase[1]) Average RMS Over Voltage Threshold	SMETS 5.7.4.4 (5.19.1.1)	258.0 volts	~~NA~~
Polyphase ESME	Phase[2] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	1800 seconds	~~NA~~
Polyphase ESME	Phase[2] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	212.0 volts	~~NA~~
Polyphase ESME	Phase[2] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	258.0 volts	~~NA~~
Polyphase ESME	Phase[3] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	1800 seconds	~~NA~~
Polyphase ESME	Phase[3] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	212.0 volts	~~NA~~

Device	Data Item	Reference	Value	Notes
Polyphase ESME	Phase[3] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	258.0 volts	NA
ESME (all variants)	Maximum Demand Configurable Time Period: - start time	SMETS 5.7.4.26	16:00 in hh:mm	
ESME (all variants)	Maximum Demand Configurable Time Period:- end time	SMETS 5.7.4.26	20:00 in hh:mm	

Table 28a: Data items and values to be configured prior to installation of Devices

Delete Table 28c as follows:

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8002	Average RMS Voltage above Average RMS Over Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x8003	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x8004	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 2 (current value above threshold; previous value below threshold)	Y	Y
0x8005	Average RMS Voltage above Average RMS Over Voltage Threshold on Phase 3 (current value above threshold; previous value below threshold)	Y	Y
0x8006	Average RMS Voltage below Average RMS Under Voltage Threshold (current value below threshold; previous value above threshold)	Y	Y
0x8007	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 1 (current value below threshold; previous value above threshold)	Y	Y
0x8008	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 2 (current value below threshold; previous value above threshold)	Y	Y
0x8009	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 3 (current value below threshold; previous value above threshold)	Y	Y

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8020	RMS Voltage above Extreme Over Voltage Threshold (voltage rises above for longer than the configurable period)	Y	Y
0x8021	RMS Voltage above Extreme Over Voltage Threshold on Phase 1 (voltage rises above for longer than the configurable period)	Y	Y
0x8022	RMS Voltage above Extreme Over Voltage Threshold on Phase 2 (voltage rises above for longer than the configurable period)	Y	Y
0x8023	RMS Voltage above Extreme Over Voltage Threshold on Phase 3 (voltage rises above for longer than the configurable period)	Y	Y
0x8024	RMS Voltage above Voltage Swell Threshold (voltage rises above for longer than the configurable period)	N	N
0x8025	RMS Voltage above Voltage Swell Threshold on Phase 1 (voltage rises above for longer than the configurable period)	N	N
0x8026	RMS Voltage above Voltage Swell Threshold on Phase 2 (voltage rises above for longer than the configurable period)	N	N
0x8027	RMS Voltage above Voltage Swell Threshold on Phase 3 (voltage rises above for longer than the configurable period)	N	N
0x8028	RMS Voltage below Extreme Under Voltage Threshold (voltage falls below for longer than the configurable period)	Y	Y
0x8029	RMS Voltage below Extreme Under Voltage Threshold on Phase 1 (voltage falls below for longer than the configurable period)	Y	Y
0x802A	RMS Voltage below Extreme Under Voltage Threshold on Phase 2 (voltage falls below for longer than the configurable period)	Y	Y
0x802B	RMS Voltage below Extreme Under Voltage Threshold on Phase 3 (voltage falls below for longer than the configurable period)	Y	Y
0x802C	RMS Voltage below Voltage Sag Threshold (voltage falls below for longer than the configurable period)	N	N
0x802D	RMS Voltage below Voltage Sag Threshold on Phase 1 (voltage falls below for longer than the configurable period)	N	N
0x802E	RMS Voltage below Voltage Sag Threshold on Phase 2 (voltage falls below for longer than the configurable period)	N	N

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x802F	RMS Voltage below Voltage Sag Threshold on Phase 3 (voltage falls below for longer than the configurable period)	N	N
0x8085	Average RMS Voltage below Average RMS Over Voltage Threshold (current value below threshold; previous value above threshold)	Y	Y
0x8086	Average RMS Voltage below Average RMS Over Voltage Threshold on Phase 1 (current value below threshold; previous value above threshold)	Y	Y
0x8087	Average RMS Voltage below Average RMS Over Voltage Threshold on Phase 2 (current value below threshold; previous value above threshold)	Y	Y
0x8088	Average RMS Voltage below Average RMS Over Voltage Threshold on Phase 3 (current value below threshold; previous value above threshold)	Y	Y
0x8089	Average RMS Voltage above Average RMS Under Voltage Threshold (current value above threshold; previous value below threshold)	Y	Y
0x808A	Average RMS Voltage above Average RMS Under Voltage Threshold on Phase 1 (current value above threshold; previous value below threshold)	Y	Y
0x808B	Average RMS Voltage above Average RMS Under Voltage Threshold on Phase 2 (current value above threshold; previous value below threshold)	Y	Y
0x808C	Average RMS Voltage above Average RMS Under Voltage Threshold on Phase 3 (current value above threshold; previous value below threshold)	Y	Y
0x808D	RMS Voltage above Extreme Over Voltage Threshold (voltage returns below for longer than the configurable period)	Y	Y
0x808E	RMS Voltage above Extreme Over Voltage Threshold on Phase 1 (voltage returns below for longer than the configurable period)	Y	Y
0x808F	RMS Voltage above Extreme Over Voltage Threshold on Phase 2 (voltage returns below for longer than the configurable period)	Y	Y
0x8090	RMS Voltage above Extreme Over Voltage Threshold on Phase 3 (voltage returns below for longer than the configurable period)	Y	Y
0x8091	RMS Voltage above Voltage Swell Threshold (voltage returns below for longer than the configurable period)	N	N

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8092	RMS Voltage above Voltage Swell Threshold on Phase 1 (voltage returns below for longer than the configurable period)	N	N
0x8093	RMS Voltage above Voltage Swell Threshold on Phase 2 (voltage returns below for longer than the configurable period)	N	N
0x8094	RMS Voltage above Voltage Swell Threshold on Phase 3 (voltage returns below for longer than the configurable period)	N	N
0x8095	RMS Voltage below Extreme Under Voltage Threshold (voltage returns above for longer than the configurable period)	Y	Y
0x8096	RMS Voltage below Extreme Under Voltage Threshold on Phase 1 (voltage returns above for longer than the configurable period)	Y	Y
0x8097	RMS Voltage below Extreme Under Voltage Threshold on Phase 2 (voltage returns above for longer than the configurable period)	Y	Y
0x8098	RMS Voltage below Extreme Under Voltage Threshold on Phase 3 (voltage returns above for longer than the configurable period)	Y	Y
0x8099	RMS Voltage below Voltage Sag Threshold (voltage returns above for longer than the configurable period)	N	N
0x809A	RMS Voltage below Voltage Sag Threshold on Phase 1 (voltage returns above for longer than the configurable period)	N	N
0x809B	RMS Voltage below Voltage Sag Threshold on Phase 2 (voltage returns above for longer than the configurable period)	N	N
0x809C	RMS Voltage below Voltage Sag Threshold on Phase 3 (voltage returns above for longer than the configurable period)	N	N
0x8010	Over Current	N	N
0x8011	Over Current L1	N	N
0x8016	Over Current L2	N	N
0x8013	Over Current L3	N	N

Event / Alert Code	Event / Alert Code Meaning	Default Configuration - Send WAN Alert Y = Send Alert N = Do not send Alert	Default Configuration - Store Alert in Power Event Log Y = Store in log N = Do not store in log
0x8014	Power Factor Threshold Below	N	N
0x8015	Power Factor Threshold Ok	N	N

Table 28c: ~~WAN Alert and Power Event Log settings to be configured prior to installation of Devices~~This table is not used.