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SECMP0018

'Standard Electricity Distributor Configuration Settings'

Modification Report

Version 1.4

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About this document

This document is the Modification Report for SECMP0018 'Standard Electricity Distributor Configuration Settings'. It provides detailed information on the background, issue, solution, costs, impacts and implementation approach. It also summarises the discussions that have been held and the conclusions reached with respect to this Modification Proposal.

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This document also has three annexes:

- **Annex A** contains the draft legal text changes to support this modification;
- **Annex B** contains the solution design document to support this modification; and
- **Annex C** contains the full Working Group Consultation responses.

1. Summary

Currently, Electricity Network Parties (ENPs) are required to configure new Electricity Spart Metering Equipment (ESMEs) with appropriate settings through relevant Service Requests as soon as the meter has been installed and commissioned. The configuration of ESMEs needs to occur for every new meter installation to set thresholds for voltage events on the ESP's network. This process is expected to be a burden to the ENPs because these settings only have minor differences from one ESME to the next.

The proposed solution is to require Manufacturers to populate ESMEs with standard configuration settings. ENPs have agreed a common set of configurations that should be set at installation. These settings would be captured in the GB Companion Specification (GBCS), thereby mandating Suppliers to ensure that procured ESMEs from Manufacturers contain the default settings. SECMP0018 will add a plain English table of the Standard Electricity Distributor Configuration Settings to GBCS.

The modification will impact all Supplier Parties, Electricity Network Parties and Other SEC Parties. There are no system changes required.

The total estimated implementation cost to deliver SECMP0018 is approximately £1,200 which consists of SEC Administration effort.

The Working Group recommends an implementation date of:

- 27 June 2019, if a decision to approve is made by 30 May 2019.

2. Background

Background

The Smart Metering Equipment Technical Specifications (SMETS) require that ESMEs can record a range of voltage related information and send a range of voltage related Alerts. The SMETS also outline several Configuration Data Items that ESME must use to control such voltage related recording.

Currently, ENPs update a newly installed and commissioned ESME's configuration settings as they see fit. However, a lot of the time, an ESME is set to the same standard set of configurations. ENPs have therefore requested that a set of default configurable data items be made available to manufacturers to be applied to all ESMEs pre-commissioning.

What is the issue?

GBCS specifies Use Cases which allow manufacturers to set the values of the configuration data items on ESMEs. GBCS does not specify any default values for voltage related Alerts and events that would be configured before an ESME is installed. Only when configured by an Electricity Distributor will an ESME report voltage related data on the basis of potentially varying configuration values.

The British Electrotechnical and Allied Manufacturers Association (BEAMA) noted that if meter manufacturers had knowledge of the requested configurations then they could pre-populate the relevant fields in the Smart Meter data structure in order to facilitate the manufacturing and testing process. Through the Energy Networks Association (ENA), ENPs have agreed a common set of default configuration settings. Both BEAMA and the Technical Specification Issue Resolution Subgroup (TSIRS) were comfortable with the proposed settings.

With all ESMEs containing these settings at the point of manufacture, ENPs will only need to update these fields when a change is required to the existing default data, on a case-by-case basis; therefore, fewer Service Requests will need to be sent. This would result in a reduction in DCC traffic, or enable the traffic to be scheduled to reduce the impact on the DCC systems, thus increasing the efficiency of the Smart Meter installation.

3. Solution

Proposed Solution

SECMP0018 aims to mandate meter Manufacturers, through the GBCS, to populate all ESMEs with a set of default configuration settings. ENPs would then only need to use Service Request SR 6.5 (Update Device Configuration (Voltage)) if they require specific settings for a particular ESME upon installation.

ENPs will still be able to configure individual or multiple ESMEs with more stringent or lax configurations, if needed, through the relevant Service Requests.

To deliver the Functional Requirements the following changes are required to GBCS:

- The voltage related Alert and event default configurations in GBCS section 16.2 would be amended; and
- The other voltage related configuration data items' default values would be added to GBCS Annex 7 'Data Item Values to be set prior to installation of Devices'.

The changes in this Modification would not affect the structure of any of the existing Use Cases, and so do not require changes to the DCC User Interface Specification (DUIS), Message Mapping Catalogue (MMC) or Data Service Provider (DSP) systems.

The agreed standard ENP Configuration Settings as well as more detailed solution requirements can be found in Annex B.

Legal text

The proposed legal text changes to SEC Schedule 8 'GB Companion Specification' version 3.1 are provided in Annex A. We will develop the changes to Schedule 11 'TS Applicability Tables' in conjunction with the Technical Architecture and Business Architecture Sub-Committee (TABASC) as part of this modification's implementation.

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

SECMP0018 seeks to mandate that all ESMEs are prepopulated with standard default ENP settings; Suppliers would need to arrange this with their meter manufacturers, to ensure this takes place.

The standard configurations would apply immediately upon the installation and commissioning of the meter is completed. Consequently, ENPs will be able to focus on meters that require a non-default configuration on a case by case basis.

Meter manufacturers will need to test and configure smart meters with the ENPs' standard configuration settings.

There are no further impacts on Parties anticipated.

DCC Systems

There are no impacts on DCC Central Systems.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

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

Other industry Codes

There are no other industry codes impacted by this change.

Greenhouse gas emissions

There are no Greenhouse Gas Emission impacts anticipated.

5. Costs

DCC costs

The DCC has confirmed that SECMP0018 will not incur any costs or impact on its central systems irrespective of whether the modification is implemented as part of a SEC Release or as a standalone change. However, it would be beneficial to implement this change alongside other GBCS changes for efficiency around version uplifts, although this is not essential.

SECAS costs

The estimated SECAS implementation 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

One meter manufacturer stated that they would incur costs as a result of this modification, but otherwise there were no other SEC Party costs associated with the modification.

6. Implementation approach

Recommended implementation approach

The Working Group is recommending an implementation date for SECMP0018 of:

- **27 June 2019** (June 2019 SEC Release), if a decision to approve is made by **30 May 2019**.

The DCC has confirmed this modification will not impact DCC Systems. It will generate a new version of GBCS, but the changes are text-only. Due to there being no systems impacts, this modification can be implemented with a short lead time and does not need to be implemented alongside other GBCS changes.

We recommend that the June 2019 SEC Systems Release is the earliest scheduled SEC Release to include this modification in. This will allow time for any SEC Parties who need to account for this change to prepare for this, while not unduly delaying implementation. This will also allow time for the relevant changes to Schedule 11 to be developed and agreed.

7. Discussions and development

BEIS Change Request Proposal 412

There were concerns regarding a potential conflict between BEIS's Change Request Proposal (CRP) 412: 'Events and Alerts (consolidated) PART 2' and SECMP0018. CRP412 sought to update Alert Codes in the GBCS in time for Release 2.0. The period between the implementation of CRP412 and SECMP0018 will mean that there will be some ESME that are not configured to the ENPs' requirements upon installation. BEIS confirmed in February 2018 that the ENPs' configurable data items had been partially designated in Release 2.0.

Retrospective amendments to ESMEs already installed

The Working Group agreed that SECMP0018 will not mandate any parties to update this information on meters that have already been installed. It will only apply to meters that are installed after this date. From the implementation of SECMP0018 onwards, ESMEs will be required to be pre-configured with these default settings prior to installation.

Frequency of changes to the default values

The Working Group raised a concern that the default values may change in the future, causing Manufacturers to constantly need to update the required firmware, and queried how frequently this might happen. However, ENPs have noted that this list is not expected to change in the short to medium term, and that any changes would likely be in the long term.

Impact on DCC

DCC initially noted that the solution agreed for SECMP0018 is unlikely to have any DCC impact as it is only proposing to add text into the GBCS. It later confirmed that there would be no DCC impact or cost associated with implementing SECMP0018, even as a standalone change.

However, as SECMP0018 is impacting the GBCS document, it would result in a GBCS version uplift. DCC suggested that SECMP0018 should be included into a Release with other changes being made to the GBCS, which would avoid any further testing costs being incurred.

BEIS initially advised that SECMP0018 would need to be subject to EC notification as it proposes a change to functionality already notified. It was later confirmed by BEIS that this notification would not be needed.

The interim approach

During the assessment of this modification, SECAS discovered that SEC Appendix AC 'Inventory Enrolment and Withdrawal Procedures' clause 3.3 states that it is the Responsible Supplier's obligation to take all reasonable steps to ensure that data items are configured in accordance to the Electricity Distributor's requirements. Therefore, Suppliers should be informing Manufactures about the ENPs' standard configuration settings. To facilitate this the ENA developed an engineering recommendation document that specifies the default values for the relevant configurable data items that ENPs require to be configured on each ESME. SECAS developed a guidance document to

accompany this, which is available on the SEC website. This interim solution will help reduce the number of ESMEs developed without the ENPs' default configuration settings.

Progression of this modification

The Panel originally determined that SECMP0018 to be progressed as a Path 2 'Authority-Determination' modification (SEC Section D2.6(b)) as SECMP0018 was considered to have a material impact on ESMEs. BEIS had initially advised that SECMP0018 would need to be subject to EC notification as it proposes a change to functionality already notified. It was later confirmed by BEIS that this notification would not be needed given the revision to the solution with it not being materially impacting, therefore it was approved to be changed from a Path 2 'Authority-Determination' to a Path 3 'Self-Governance' modification.

This modification was Sent Back by the Change Board on 22nd August 2018 due to not clarifying the full costs of implementation as a standalone change, which the SEC Panel agreed to and subsequently sent back to the Working Group to await the full implementation costs. Following this, SECAS received the full implementation costs from DCC on 15th November 2018, confirming there would be no impact or cost on DCC to implement SECMP0018 as a standalone change.

Comments on the legal text

One Working Group Consultation respondent queried whether the legal text had been validated by the ENA. SECAS responded that this had been confirmed by the ENA.

Another respondent was neutral to the legal text, specifying that they do not use GBCS in detail so therefore they felt other respondents were better positioned to comment.

All other respondents agreed with the legal text.

8. Conclusions

Benefits and drawbacks

The Proposer and the Working Group have identified the following benefits and drawbacks in implementing this modification:

Benefits

- This change will improve efficiency for ENPs. Currently, they are required to check every new meter that is installed to make sure these settings are correct. Following SECMP0018, they will only need to configure ESMEs that need a configuration different from the default settings.
- The number of alerts that ENPs and Suppliers will receive due to incorrect information on the ESME is expected to be reduced, reducing their workload in responding to these. This will also mitigate the risk of errors or issues from arising that could negatively impact the consumer.
- The modification will reduce Service Request traffic in the DCC's systems, as the ENPs will only need to update the settings when a different setting is required to the default data. This will result in fewer Service Requests needing to be sent.
- Additionally, the solution being proposed delivers no alterations to the structure of any of the existing Use Cases, and so does not require changes to DUIS, MMC or DSP systems. This is beneficial due to only requiring legal text changes to the GBCS. Furthermore, placing the values within the GBCS document will ensure that these values are taken as part of the baseline for future modifications and will not be overlooked.

Drawbacks

- The Working Group identified one drawback with the modification where ENPs may have to complete a back-filling exercise in order to calibrate their internal systems as a result of the selected solution for SECMP0018. However, they felt the long-term benefits outweighed the impacts of this one-off activity.

General SEC Objectives

Objective (a)

The Working Group believes that SECMP0018 will better facilitate the efficient provision, installation, operation and interoperability of ESMEs as it will better enable the ENPs to define network events to provide operational and planning related information. This is due to parameters, particularly the voltage thresholds and measurement periods, being pre-configured to the default settings sought by ENPs. It will also reduce the traffic in DCC systems and allow the traffic to be scheduled to reduce the overall impact on the DCC systems.

Objective (e)

The Working Group believes that SECMP0018 will better facilitate innovation in the design and operation of Energy Networks due to the provision of information to the ENPs on the performance of distribution networks. This information could be utilised to help develop improvements economically, in efficiency and in co-ordination for Network Providers by allowing ENPs to better explore innovative design and operational approaches.

Working Group members' views

The Working Group's unanimous view is that SECMP0018 better facilitates General SEC Objectives (a) and (e) and should be approved.

Consultation respondents' views

All Working Group Consultation respondents agreed that the modification should be approved and that it better facilitates the General SEC Objectives.

One respondent believed that the modification's solution only better facilitates General SEC Objective (a) [1] and not (e) [2]. They believed (a) is improved by increasing the efficiency with which standardised default values are set on electricity Smart Meters prior to installation. They stated they didn't believe that the modification better facilitates objective (e) due to seeing no benefit to the delivery of a secure and sustainable Supply of Energy via the design and operation of Energy Networks, as a result of removing the requirement for Network Operators to update the default values on electricity Smart Meters post-installation.

Panel's conclusions

The Panel will consider this report at its December 2018 meeting.

[1] Facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain.

[2] Facilitate such innovation in the design and operation of Energy Networks (as defined in the DCC Licence) as will best contribute to the delivery of a secure and sustainable Supply of Energy.

Appendix 1: Glossary

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

Glossary	
Acronym	**Full term**
ALT HAN	Alternative Home Area Network
BEAMA	British Electrotechnical and Allied Manufacturers Association
BEIS	Department for Business Energy and Industrial Strategy
DCC	Data Communications Company
DUIS	DCC User Interface Specification
DSP	Data Service Provider
EC	European Commission
ENA	Energy Networks Association
ENP	Energy Network Parties (SEC term)
ESME	Electricity Smart Metering Equipment
GBCS	Great Britain Companion Specification
IRP	Issue Resolution Proposal
MMC	Message Mapping Catalogue
SMETS	Smart Metering Equipment Technical Specifications
TSIRS	Technical Specification Issue Resolution Subgroup
SEC	Smart Energy Code
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SR	Service Request

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

Harry Jones

020 7081 3345

harry.jones@gemserv.com

Smart Energy Code Administrator and Secretariat (SECAS)

8 Fenchurch Place, London, EC3M 4AJ

020 7090 7755

sec.change@gemserv.com

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SECMP0018 'Standard Electricity Distributor Configuration Settings' Legal text – Version 0.5

About this document

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

We have redlined these changes against SEC Version 6.2.

Schedule 8 'GB Companion Specification' Version 3.0

Amend tables 28a and 28b in Annex 7 as follows:

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

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, the Auxiliary Load Control Switch switching times, and HAN Connected Auxiliary Load Control Switch 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
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

Device	Data Item	Reference	Value	Notes
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
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

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Maximum Meter Balance Threshold	SMETS 5.7.4.27	9000	0-0:94.44.2.20	4	value_ passive	double-long	0x11E1 A300	300,000 ,000
Randomised Offset Limit	SMETS 5.7.4.33	1	0-0:94.44.0.1	2	value	long-unsigned	0x0258	600
RMS Extreme Over Voltage Threshold	SMETS 5.7.4.35	71	0-0:17.0.1.255	4	threshold_normal	double-long-unsigned	0x00000 A5A	2650
RMS Extreme Over Voltage Measurement Period	SMETS 5.7.4.34	71	0-0:17.0.1.255	6	min_over_threshold_duration	double-long-unsigned	0x00000 0B4	180
RMS Extreme Under Voltage Threshold	SMETS 5.7.4.37	71	0-0:17.0.2.255	4	threshold_normal	double-long-unsigned	0x00000 76C	1900
RMS Extreme Under Voltage Measurement Period	SMETS 5.7.4.36	71	0-0:17.0.2.255	6	min_over_threshold_duration	double-long-unsigned	0x00000 0B4	180
RMS Voltage Sag Threshold	SMETS 5.7.4.40	71	0-0:17.0.3.255	4	threshold_normal	double-long-unsigned	0x00000 76C	1900
RMS Voltage Sag Measurement Period	SMETS 5.7.4.38	71	0-0:17.0.3.255	6	min_over_threshold_duration	double-long-unsigned	0x00000 0B4	180
RMS Voltage Swell Threshold	SMETS 5.7.4.41	71	0-0:17.0.4.255	4	threshold_normal	double-long-unsigned	0x00000 A5A	2650
RMS Voltage Swell	SMETS 5.7.4.39	71	0-0:17.0.4.255	6	min_over_thresh	double-long-	0x00000 0B4	180

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Measurement Period					old_duration	unsigned		
(Phase[1]) Average RMS Voltage Measurement Period	SMETS 5.7.4.6 (5.19.1.3)	7	1-0:32.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
(Phase[1]) Average RMS Under Voltage Threshold	SMETS 5.7.4.5 (5.19.1.2)	1	1-0:32.31.0.4	2	value	double-long-unsigned	0x00000848	2120
(Phase[1]) Average RMS Over Voltage Threshold	SMETS 5.7.4.4 (5.19.1.1)	1	1-0:32.35.0.4	2	value	double-long-unsigned	0x00000A14	2580
Phase[2] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	7	1-0:52.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
Phase[2] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	1	1-0:52.31.0.4	2	value	double-long-unsigned	0x00000848	2120
Phase[2] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	1	1-0:52.35.0.4	2	value	double-long-unsigned	0x00000A14	2580
Phase[3] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	7	1-0:72.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Phase[3] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	1	1-0:72.31.0.4	2	value	double-long-unsigned	0x00000848	2120
Phase[3] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	1	1-0:72.35.0.4	2	value	double-long-unsigned	0x00000A14	2580

Table 28b: DLMS COSEM values to be configured in Devices at manufacture.

Add tables 28c and 28d 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

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
0x8009	Average RMS Voltage below Average RMS Under Voltage Threshold on Phase 3 (current value below threshold; previous value above threshold)	Y	Y
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

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
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
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

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
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
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

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
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
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

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	0xF8	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	0xFFFF0A1FFF	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	0xFFFF (means any year), 0x02 (means second month, so February), 0x1C (means 28th), and 0xFF (means any day of the week)
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

Attribute	COSEM datatype	Tag	Length	Value	Meaning
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.

SEC
Smart Energy Code

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SECMP0018 'Standard Electricity Distributor Configuration Settings' Business Requirements – Version 0.6

About this document

This document contains the detailed context, Business Requirements and Proposed Solution to deliver SECMP0018.

Context

This section sets out the context for SECMP0018

Context

SMETS requires that ESME are able to record a range of voltage related information and send a range of voltage related Alerts. SMETS also lays out a number of Configuration Data Items that ESME must use to control such voltage related recording.

GBCS specifies Use Cases which allow Electricity Distributors to set the values of the Configuration Data Items. However, GBCS does not specify 'default values', to be configured before ESME installation, for these Configuration Data Items, except for the configuration of voltage related Alerts and events. Thus, until configured by an Electricity Distributor, an ESME will report voltage related data on the basis of potentially varying configuration values.

Business Requirements

This section sets out the detailed business requirements for the SECMP0018 Proposed Solution.

Functional Requirements

This modification is to require in GBCS that ESME:

- Are configured with specified default values for all voltage related and Maximum Demand Configurable Period Configuration Data Items and so have default values for:

  Detecting voltage related events; and

  Establishing the time period within which the value to be recorded as the Maximum Demand (Configurable Time) Active Power Import value is recorded as there are no current default values specified in GBCS 2.0 draft 2.

- Have default values for sending voltage related Alerts and logging events than those currently specified in GBCS 2.0 draft 2.

  Note that this Modification would be applied to GBCS after BEIS's CRP 412 and that CRP 412 sets out default values relating to the recording of Events in the Power Event Log and the sending of Alerts via the WAN. Thus, if both this Modification and CRP 412 were to be applied to GBCS at the same TSG Version, the Alert and event default values in this Modification would be reflected in GBCS at that TSG Version. This is the proposers preferred implementation approach.

Note that these default values are different than the equivalent values currently in GBCS and so are not those that will be configured in ESME being built for go-live.

Implementation Obligations

Supplier licences require the installation of ESME that comply with SMETS; SMETS requires that ESME comply with GBCS. Therefore, the GBCS requirement for ESME to have the default configuration values specified in this Modification would be a requirement on Suppliers in relation to ESME they install, which complies with the version of GBCS in to which these changes have been incorporated.

Changes

To deliver the Functional Requirements:

- The voltage related Alert and event default configurations in GBCS section 16.2 would be amended; and
- The other voltage related configuration data items' default values would be added to GBCS Annex 7 – 'Data Item Values to be set prior to installation of Devices'

The changes in this Modification would not affect the structure of any of the existing Use Cases, and so do not require changes to DUIS, MMC or DSP systems.

Compatibility

The default configuration values are allowable values at TSG1.0 and so do not give rise to any compatibility issues.

Configuration of events and Alerts as required here will only be fully possible once BEIS CRP412 is incorporated. However, the events in question can be recorded on TSG1.0 Devices and the Alerts in question can be generated by TSG1.0 Devices. Thus, again no compatibility issues arise.

Dependencies

This document is drafted on the basis that CRP412 has been incorporated in to the TSG version in which this Modification is included.

Proposed Solution

This section details the required changes to SEC and wider documents that are proposed to implement the requirement for this SEC Modification. Please note that all numbering, message codes, alert codes and so on GBCS 2.0 Draft 2 and related document versions.

SEC main body change

None

SMETS changes

None

CHTS changes

None

GBCS changes – ESME Default Configuration: Voltage Parameters and Thresholds

To add the remaining voltage related default configurations, amend GBCS Annex 7 by adding the green highlighted text, rows and table, data items and values that shall be configured in Devices prior to installation as per the following tables:

- Table 28a for the required values; and
- Table 28b listing the DLMS/COSEM data elements and content.

Note that the item "Maximum Demand Configurable Time Period" contained in table 28a is not related to voltage default values; it implements a subset of requirements raised as part of the now withdrawn SECMP0003.

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 [INFO] Is the product of the Randomised Offset Limit(5.7.4.33) and the Randomised Offset Number(5.7.1.5)

Device	Data Item	Reference	Value	Notes
				rounded to the nearest second. This value is used to delay the Tariff Switching Table times, the Auxiliary Load Control Switch switching times, and HAN Connected Auxiliary Load Control Switch 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
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

Device	Data Item	Reference	Value	Notes
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
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:	SMETS 5.7.4.26		
	- start time		16:00 in hh:mm	
	- end time		20:00 in hh:mm	

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

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Maximum Meter Balance Threshold	SMETS 5.7.4.27	9000	0-0:94.44.2.20	4	value_passive	double-long	0x11E1A300	300,000,000
Randomised Offset Limit	SMETS 5.7.4.33	1	0-0:94.44.0.1	2	value	long-unsigned	0x0258	600
RMS Extreme Over Voltage Threshold	SMETS 5.7.4.35	71	0-0:17.0.1.255	4	threshold_normal	double-long-unsigned	0x00000A5A	2650
RMS Extreme Over Voltage	SMETS	71	0-0:17.0.1.255	6	min_over_threshold_	double-long-	0x0000 00B4	180

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Measurement Period	5.7.4.34				duration	unsigned		
RMS Extreme Under Voltage Threshold	SMETS 5.7.4.37	71	0-0:17.0.2.255	4	threshold_normal	double-long-unsigned	0x0000076C	1900
RMS Extreme Under Voltage Measurement Period	SMETS 5.7.4.36	71	0-0:17.0.2.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180
RMS Voltage Sag Threshold	SMETS 5.7.4.40	71	0-0:17.0.3.255	4	threshold_normal	double-long-unsigned	0x0000076C	1900
RMS Voltage Sag Measurement Period	SMETS 5.7.4.38	71	0-0:17.0.3.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180
RMS Voltage Swell Threshold	SMETS 5.7.4.41	71	0-0:17.0.4.255	4	threshold_normal	double-long-unsigned	0x00000A5A	2650
RMS Voltage Swell Measurement Period	SMETS 5.7.4.39	71	0-0:17.0.4.255	6	min_over_threshold_duration	double-long-unsigned	0x000000B4	180
(Phase[1]) Average RMS Voltage Measurement Period	SMETS 5.7.4.6 (5.19.1.3)	7	1-0:32.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
(Phase[1]) Average RMS Under Voltage Threshold	SMETS 5.7.4.5 (5.19.1.2)	1	1-0:32.31.0.4	2	value	double-long-unsigned	0x00000848	2120
(Phase[1]) Average RMS Over Voltage Threshold	SMETS 5.7.4.4 (5.19.1.1)	1	1-0:32.35.0.4	2	value	double-long-unsigned	0x00000A14	2580
Phase[2] Average RMS Voltage	SMETS	7	1-0:52.24.0.255	4	capture_period	double-long-	0x00000708	1800

Data Item	Reference	COSEM class ID	OBIS Code	Attribute ID	Attribute Name	COSEM datatype	Encoded value	Decoded value
Measurement Period	5.19.1.3					unsigned		
Phase[2] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	1	1-0:52.31.0.4	2	value	double-long-unsigned	0x00000848	2120
Phase[2] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	1	1-0:52.35.0.4	2	value	double-long-unsigned	0x00000A14	2580
Phase[3] Average RMS Voltage Measurement Period	SMETS 5.19.1.3	7	1-0:72.24.0.255	4	capture_period	double-long-unsigned	0x00000708	1800
Phase[3] Average RMS Under Voltage Threshold	SMETS 5.19.1.2	1	1-0:72.31.0.4	2	value	double-long-unsigned	0x00000848	2120
Phase[3] Average RMS Over Voltage Threshold	SMETS 5.19.1.1	1	1-0:72.35.0.4	2	value	double-long-unsigned	0x00000A14	2580

Table 28b: DLMS COSEM values to be configured in Devices at manufacture.

GBCS Changes – ESME Default Configuration: WAN Alert and Power Event Log

SMETS and GBCS define the Alerts which are generated by the ESME when the measurement values for voltage related parameters either exceed or fall below set thresholds. These Alerts are recorded in the Power Event Log and sent to the Distribution Network Operator.

CRP412 introduces the ability for Distribution Network Operators to send Service Requests to the ESME and configure whether these Alerts should be stored in the Power Event Log and whether they should be send via the WAN.

DNO require that all ESME have the same default configuration with regards to the sending and storing of Alerts prior to installation. This configuration must be set by the ESME manufacturer during the manufacturing process.

The following table lists all DNO related Alerts as defined in GBCS, table 16.2. 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. This table needs to be added to GBCS, Annex 7 as new table 28c.

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
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

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
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

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
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
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

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
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
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

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
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

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
0x8010	Over Current	N	N
0x8011	Over Current L1	N	N
0x8016	Over Current L2	N	N
0x8013	Over Current L3	N	N
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

GBCS changes – ESME Default Configuration: Maximum Demand Configurable Time Period

The ESME supports the Maximum Demand Configurable Time Period as per SMETS requirements. The DUIS Service Request Variant 6.18.1 allows Service Users to set the start time and the end time; but all other items listed in GBCS Use Case ECS37 cannot be set by the DNO as part of the Service Request.

In order to establish the same default behaviour in all ESME with regards to the Maximum Demand Configuration Time Period, OBIS code 0-0:12.0.0.255 must be configured accordingly during the ESME manufacturing process using the details listed in the below table. It is proposed to add this table to GBCS, Annex 7 as new Table 28d.

Note that SRV 6.18.1 results in Use Case ECS37 being send to the meter with all fields populated using the values given in the GBCS Use Case except for start time and end time. Upon reception the meter will overwrite the default values configured at manufacturing with those sent in ECS37. Once this has occurred the default values set at manufacturing cannot be re-instated.

This behaviour has been shared with DNOs and has been found to satisfy the needs. Further actions were not deemed necessary, e.g. the creation of a new Service Request which allows DNOs to fully configure the details contained in ECS37 using the DUIS interface (as proposed earlier in SECMP0003).

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	0xF8	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	0xFFFF0A1FFF	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	0xFFFF (means any year), 0x02 (means second month, so

Attribute	COSEM datatype	Tag	Length	Value	Meaning
					February), 0x1C (means 28th), and 0xFF (means any day of the week)
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.

SEC Appendix E changes

None

DUIS changes

None

MMC changes

None

Other SEC document changes

None

Changes to documents outside of SEC

None

Appendix 1: Glossary

The table below provides definitions of the terms used in this document.

Acronym	Definition
BEIS	Business, Energy and Industrial Strategy
CRP	Change Resolution Proposal
DCC	Data Communications Company
DNO	Distribution Network Operator
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ENP	Electricity Network Party
ESME	Electrical Smart Metering Equipment
GBCS	Great Britain Companion Scheme
MMC	Meter Mapping Catalogue
SMETS	Smart Metering Equipment Technical Specification
WAN	Wide Area Network

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SECMP0018 'Standard Electricity Distributor Configuration Settings' Working Group Consultation responses

About this document

This document contains the full non-confidential collated responses received to the SECMP0018 Working Group Consultation.

Question 1: Do you agree that the proposed solution better facilitates the SEC Objectives?

Question 1			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other Sec Parties	Yes	It better facilitates SEC Objective a & e
Npower	Large Supplier	Yes	We feel this modification would provide better information at smart installation and therefore improve the process
Scottish Power	Large Supplier	Yes	The proposed solution facilities objectives a) and e)
SSEN	Network Operator	Yes	SSEN supports the statement made within SECMP0018.
E.ON	Large Supplier	Yes	We believe that this Modification better facilitates objective a via increasing the efficiency with which standardised default values are set on electricity Smart Meters prior to installation. However, we do not believe that this Modification better facilitates objective e: we see no benefit to the delivery of a secure and sustainable Supply of Energy via the design and operation of Energy Networks, as a result of removing the requirement for Network Operators to update the default values on electricity Smart Meters post-installation.
Western Power Distribution	Network Operator	Yes	We believe that this proposal better facilitates SEC Objective (a) as it will facilitate the efficient installation and operation of ESMEs. It will reduce traffic in the DCC systems as DNOs will not need to send the Service Requests to configure the EMSEs at install.

Question 2: Will there be any impact on your organisation to implement SECMP0018?

Question 2			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other SEC Parties	Yes	Mainly due to the inclusion of this data as part of the device configuration, though the benefits far exceeds this impact.
Npower	Large Supplier	No	
Scottish Power	Large Supplier	Yes	Factory configuration update required for all ScottishPower procured Electricity S2 meters.
SSEN	Network Operator	Yes	SSEN will see a lowering of back office activities related to monitoring alerts that will indicate that standard settings were now configured correctly.
E.ON	Large Supplier	No	
Western Power Distribution	Network Operator	Yes	As a Distribution Network Operator, Western Power Distribution will have assurance that the appropriate configuration settings will be placed on the meter prior to installation. As a result we will no longer need to send Service Requests ourselves at installation to configure these devices, and will have reassurance that there are consistent values being used.

Question 3: Will your organisation incur any costs in implementing SECMP0018?

Question 3			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other SEC Parties	Yes	As this configuration data will trigger some extra device testing, though the benefits far exceeds this minor extra cost,
Npower	Large Supplier	No	
Scottish Power	Large Supplier	Yes	We will incur minor costs for the update to the factory configuration. Larger costs may be incurred in testing depending on the approach agreed at an industry level for the testing of each electricity meter model and DCC comms hub variant in live operation.
SSEN	Network Operator	No	Saving in manpower will be used to deal with smart meter system overall issues.
E.ON	Large Supplier	Yes	Our share of the implementation fee; otherwise there will be no costs incurred following the implementation of this Modification
Western Power Distribution	Network Operator	Yes	Our share of the implementation costs.

Question 4: Having considered the potential impacts and costs to your organisation, as well as the cost to deliver the modification, do you agreed that SECMP0018 should be approved?

Question 4			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other SEC Parties	Yes	
Npower	Large Supplier	Yes	It will improve the smart installation process and make It more efficient.
Scottish Power	Large Supplier	Yes	
SSEN	Network Operator	Yes	Manpower saving outweigh modification costs.
E.ON	Large Supplier	Yes	Mandating the requirement for Network Operators' preferred default values to be present in electricity Smart Meters prior to their installation will increase the efficiency of the DCC's Total System via a reduction in Service Request (SR) processing, and it will facilitate robust governance of any changes required to these default values.
Western Power Distribution	Network Operator	Yes	We believe that this modification should be improved as the costs are purely administration fees and the benefit of reducing network traffic and having assurance that all new installations will have consistent configurations far outweighs the associated costs.

Question 5: Do you believe that the draft legal text changes deliver the intention of the modification?

Question 5			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other SEC Parties	Yes	
Npower	Large Supplier	Yes	
Scottish Power	Large Supplier	Yes	Yes
SSEN	Network Operator	No	SSEN assume these settings have been confirmed by the ENA particularly the inclusion within the GBCS Annex 7 (Table 28c: WAN Alert and Power Event Log settings to be configured prior to installation of Devices) as some of the alerts have a N against both columns. Was this validated by the ENA? When you read the description found in the SMETS2 under RMS voltage sag detection 0x8024,0x8025, 0x8026 and 0x8027 all display a N in both columns RMS voltage sell detection 0x8028, 0x8029, 0x802A and 0x802B all display a Y in both columns but the reading indicates that in all cases an alert or an entry is generated!
E.ON	Large Supplier	Yes	
Western Power Distribution	Network Operator	Neutral	With regards to the draft legal text, we have reviewed and agree with the data items and values, however, as we do not use the GBCS in detail we feel that others will be better positioned to comment.

Question 6: Do you agree with the recommended implementation date?

Question 6			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other SEC Parties	Yes	
Npower	Large Supplier	Yes	
Scottish Power	Large Supplier	Yes	
SSEN	Network Operator	No	SSEN is disappointed that it took so long for this modification to reach its implementation date considering all the lead time meter manufacturers need to incorporate these requirements in their meter built program. The delay between approval and implementation could be reduced to minimise meters not receiving the standard settings.
E.ON	Large Supplier	Yes	We agree that this Modification should be implemented with the next GBSC-containing Release, and where the June 2019 Release is the next GBCS-containing Release that accords with the Release Implementation Policy we support the proposed implementation date. Otherwise we do not support the June 2019 implementation date, instead we are happy to await the decision of Panel with regard to which Release this should be implemented in.
Western power Distribution	Network Operator	Yes	

Question 7: How long will Electricity Network Parties (ENPs) need to resolve any backlog of smart meters that will not have the requested configuration settings following the implementation of SECMP0018?

Question 7			
Respondent	**Category**	**Response**	**Rationale**
Landis+Gyr	Other SEC Parties	Don't know	I'll leave it to the ENPs to estimate,
Npower	Large Supplier	N/A	N/A
Scottish Power	Large Supplier	N/A	N/A
SSEN	Network Operator	10 minutes/meter	This will depend of the interaction between this modification being publicised to relevant meter manufacturers. Some could already incorporate these future requirements ahead of the need.
E.ON	Large Supplier	N/A	
Western Power Distribution	Network Operator	Unknown	Western Power Distribution are unable to provide a timescale as there are a lot of variables. We currently try and configure at the time of installations, however there are some instances where this is not possible.

Question 8: Please provide any further comments you may have.

Question 8		
Respondent	**Category**	**Comments**
Landis+Gyr	Other SEC Parties	
Npower	Large Supplier	
Scottish Power	Large Supplier	We would welcome further information about the testing approach for this change, including for any SMETS2 devices impacted by Q7 which may have churned away from the installing supplier to a third party supplier..
SSEN	Network Operator	SECAS need to be on top of modification progress to minimise delay in implementation outcome.
E.ON	Large Supplier	
Western Power Distribution	Network Operator	