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MP193

‘Incorporation of Category 3 Issue Resolution Proposals into the SEC – Batch 6’

Modification Report

Version 0.3

7 March 2022

Corporate member of Plain English Campaign
Committed to clearer communication
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About this document

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

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This document also has one annex:

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

Contact

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1. Summary

This proposal has been raised by Terry Jefferson on behalf of Energy and Utilities Alliance (EUA).

Issue Resolution Proposals (IRPs) and Change Resolution Proposals (CRPs) identify and resolve issues in the Technical Specifications documents of the SEC. The Technical Specification Issue Resolution Sub-group (TSIRS) has determined all solutions and has requested these be progressed as a Modification Proposal for implementation into the SEC. Implementation of these IRPs will ensure Devices operate as they are intended.

The Data Communications Company (DCC) has performed an initial assessment of these IRPs and consider them to be non-DCC System impacting and not requiring any DCC System testing. They are therefore expected to have no DCC costs associated with their implementation.

The Proposed Solution is to incorporate these IRPs and CRP into the SEC.

The modification will affect Suppliers, Other SEC Parties and the DCC. There will be no DCC costs, and costs to SEC Parties will be confirmed in the Refinement Consultation. This is a Self-Governance Modification and is targeting the November 2022 SEC Release.

2. Issue

What are the current arrangements?

IRPs identify issues within the SEC Technical Specification documents and put forward a solution to the identified problem. In the early stages of the Smart Metering Implementation Program (SMIP), the Department for Business, Energy and Industrial Strategy (BEIS) took the lead in developing the SEC Technical Specifications. As part of this, BEIS also took responsibility for receiving and responding to issues raised internally, by the DCC, and by other interested parties. Since its inception, several hundred issues have been raised in relation to Technical Specifications through the TSIRS. In some cases, these queries have been resolved by providing an explanation of the Specifications, whilst others have resulted in proposed amendments to the Specifications in the form of IRPs. The IRP solutions identified have been developed by the TSIRS.

What is the issue?

The individual IRP details for this modification can be found on the Smart Energy Code Administrator and Secretariat (SECAS) website link here under document name 'MP193 IRP Details'. These documents reflect the issue, background information and details of the solution that has been discussed and agreed at TSIRS. They are an integral part of the SEC modification.

The IRPs included in this proposal, listed below, require changes to the Great Britain Companion Specification (GBCS), the Electricity Smart Metering Equipment Technical Specifications (ESMETS) and the Standalone Auxiliary Proportional Controller Technical Specification (SAPCTS) with initial key impacts identified below.

CRP630

GBCS and SMETS2 sets out the requirements for Devices with an Auxiliary Proportional Controller (APC), either Electricity Smart Metering Equipment (ESME) or a Standalone Auxiliary Proportional Controller (SAPC). The current drafting of the technical specifications does not include all information that these Devices could share with the Devices on the Home Area Network (HAN).

IRP634

The SMETS does not currently detail the Device requirements when an Auxiliary Proportional Controller (APC) [n] Limit Period / APC [n] Setting Period is in force, and then a Command to set a new such period is received by the Device.

IRP637

GBCS Table 13.2.4.4 details how Devices construct responses to CS02a Commands. The related requirements are found in section 12.3 and 12.4, however only 12.4 is referenced within the table.

IRP639

The GBCS v4.0, Section 18.1.1.1 details requirements for processing Demand Response/Load Control (DRLC) cluster Report Event Status ZCL commands from HAN Connected Auxiliary Load Control Switches (HCALCS). The only commands it refers to are: Event Status 0x02 (‘Event started’); or Event Status 0xFE (‘Load Control Event command Rejected').

If ESME receives a command populated with an Event Status other than these then it is ambiguous as to how the ESME should react. Therefore, the ESME may either not create an Auxiliary Controller Event Log entry or create a log entry with a value of 0x01 (‘Success’) or 0x02 (‘Failure’). Whilst this edge case should not arise, this IRP639 makes clear that, in the edge case where an HCALCS sends a command with an Event Status not required by GBCS, no log entry needs to be created by the ESME.

IRP642

Changes to GBCS section 10.2.2.2 implemented in GBCS v3.2 aimed to clarify the timing of the Alert 0x8F69 when establishing a tunnel. However, it did not specify this Alert should only be sent for the first establishment of a tunnel, and not repeated on subsequent tunnel establishments.

IRP644

For Sub-Gigahertz (GHz) Gas Smart Metering Equipment (GSME), ZigBee Smart Energy (ZSE) specifications requires that the GSME does not turn on its HAN radio outside of its normal, 30 minute reporting cycle when it knows the Communications Hub is undertaking an energy scan.

The Technical Specifications require that, in normal operation, the GSME turns on its HAN radio (outside of its normal, 30 minute reporting cycle) in three circumstances:

1. When credit runs out and the GSME is in Prepayment Mode.
2. For the User Interface command, ‘Check for HAN Interface Commands’.

3. For the User Interface Command 'Find Smart Metering Home Area Network (SMHAN) and Re-establish Communications Links'.

For scenarios 2 and 3, GBCS section 10.6.4 recognise the ZSE restriction, when the Communications Hub is undertaking an energy scan, in stating:

> '*If bit 25 is set [Energy Scan Pending], the GSME shall disable the SMETS User Interface Commands '4.5.2.4 Check for HAN Interface Commands' and '4.5.2.8 Find Smart Metering Home Area Network and Re-establish Communications Links' until it next turns on its SMHAN radio*.'

However, there is no equivalent GBCS requirement to address the first scenario when the Communications Hub is undertaking an energy scan and IRP644 adds the requirement for the GSME to not turn on its HAN radio in the first scenario.

What is the impact this is having?

CRP630

ESMEs with APC and SAPCs currently share the Auxiliary Controller Calendar over the HAN, however the mechanism does not fully detail the entries and is therefore not useful. In addition, the Auxiliary Controller [n] State, Limit or Override applied and the use of the Boost button by the consumer are not shared with the HAN.

IRP634

The lack of clarity means Devices may act in different ways, either overwriting the existing Command, or waiting until the end of the time period, to implement a new Command. This could lead to delays in being able to adjust the limit of the consumer's energy usage.

IRP637

There is potential for Parties to miss a requirement due to the lack of an appropriate cross reference within the table.

IRP639

Currently ESMEs may create erroneous log entries that are not required.

IRP642

The lack of clarity within the current specifications allows Devices to send Alerts each time a tunnel is established with the Communications Hub Function (CHF). This in turn could lead to Devices sending unexpected Alerts to Users which could cause confusion.

IRP644

Currently, if a Sub-GHz GSME is in prepayment mode, runs out of credit whilst the Communications Hub is undertaking an energy scan and is not in a non-disablement period then Devices can behave in different ways. The Device may turn on its HAN radio outside of its 30 minute reporting cycle, in an

attempt to communicate with the Communications Hub. However, if the energy scan is still running then the GSME will not receive commands to disable supply. If the GSME does not turn on its radio, then it may disable supply if it cannot retrieve commands, or it may defer any decision until its next scheduled 30 minute wake up.

Either behaviour could result in the consumer unable to add a top up via a Prepayment Meter Interface Device (PPMID). However, it is noted that consumers will still be able to Add Credit (by entry of the associated Unique Transaction Reference Number (UTRN)) and Activate Emergency Credit on the GSME's User Interface.

A summary of the impacts has been set out in the table below.

Impact of the IRPs included in this modification			
IRP/CRP Number	**Impacted Technical Specification**	**Impacted Users**	**Devices Impacted**
CRP630	GBCS 4.x ESMETS v5.x SAPCTS v5.x	Device Manufacturers Suppliers	ESME SAPC
IRP634	ESMETS v5.x	Device Manufacturers Suppliers	ESME
IRP637	GBCS v4.x	Device Manufacturers	None
IRP639	GBCS v4.x	Device Manufacturers Suppliers	ESME
IRP642	GBCS v4.x	Device Manufacturers Suppliers	GSME
IRP644	GBCS v4.x	Device Manufacturers Suppliers	GSME

IRP642 is being implemented into the GBCS v3.x series as part of MP143. This modification aims to implement the same change into the GBCS v4.x series.

IRP637 is being implemented into GBCS v4.x series under this modification, however it is not being implemented into the GBCS v3.x series as it would impact the implementation of MP143 in the November 2022 SEC Release.

Impact on consumers

For CRP630 consumers are not able to receive certain data items over the HAN to connected Devices. They could be missing out on functionality within these that could be beneficial.

3. Solution

The Proposed Solution is to incorporate these IRPs into the SEC to add clarity and consistency to the Technical Specification. These changes have been discussed and approved by TSIRS as part of the closure of the IRP.

CRP630

The technical specifications will be updated to allow the additional data items to be shared over the HAN.

IRP634

The drafting changes proposed clarifying that the Device should immediately end any current period, when a valid Command to set a new period is received.

Additionally, the IRP corrects a typographical error in SMETS, 5.29.1.2 which refers to an APC [n] Limit Period, where it should be an APC [n] Setting Period.

IRP637

This change will add clarity to the Table 13.2.4.4 to have correct references to section 12.3 and 12.4.

IRP639

This clarification will confirm that no log entry needs to be created on the ESME.

IRP642

This clarification will confirm that a tunnel only needs to be established the first time.

IRP644

This clarification will confirm that the Device should not turn receive or execute Commands until it next turns on its HAN radio.

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

Breakdown of Other SEC Party types impacted			
	Shared Resource Providers		Meter Installers
✓	Device Manufacturers		Flexibility Providers

Although Suppliers are not directly affected by the modification, they will be impacted by an optional uplift to the GBCS.

The extent of the Device Manufacturer impacts will be determined during the Refinement Consultation.

Although there are no DCC system changes, they will be impacted by an uplift to the specifications.

DCC System

The DCC has identified these IRPs as 'Category 3' and therefore do not have any impacts on the DCC Systems or require any testing.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 8 'Great Britain Companion Specification'
- Schedule 9 'Smart Metering Equipment Technical Specifications'
- Schedule 11 'Technical Specification Applicability Tables'

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

Technical specification versions

These changes will be applied to the next Sub-Version of the following Technical Specification series at the time the modification is implemented:

- GBCS v4.x
- Electricity Smart Metering Equipment Technical Specifications (ESMETS) v5.x
- Standalone Auxiliary Proportional Controller Technical Specification (SAPCTS) v5.x

These changes will also be applied to any new Principal Versions of these documents that subsequently become effective on or before the implementation date.

Consumers

Consumers will be positively impacted by having more data passed from the ESME to Devices connected to the HAN.

Other industry Codes

No other industry Codes are impacted by this proposal.

Greenhouse gas emissions

This proposal will have no effects on greenhouse gas emissions.

5. Costs

DCC costs

There is no impact on the DCC system so there is expected to be no DCC costs to implement this modification.

SECAS costs

The estimated Smart Energy Code Administrator and Secretariat (SECAS) implementation cost to implement this as a stand-alone modification is one day of effort, amounting to approximately £600. This cost will be reassessed when combining this modification in a scheduled SEC Release. The activities needed to be undertaken for this are:

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

SEC Party costs

Views of SEC Parties will be gained during the Refinement Consultation.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **3 November 2022** (November 2022 SEC Release) if a decision to approve is received on or before 3 July 2022; or
- **29 June 2023** (June 2023 SEC Release) if a decision to approve is received after 3 July 2022 but on or before 28 February 2023.

The technical specifications are usually only uplifted once per year, with the next scheduled uplift this modification could aim for being the November 2022 SEC Release. The 2023 Release schedule is expected to contain the technical specification uplifts within the June SEC Release.

Although most modifications to technical specifications require six months' notice, the DCC has confirmed that because these are document only changes for it, it could meet a November 2022 implementation. Views of SEC Parties, in particular Device manufacturers, will be gained during the Refinement Consultation to confirm whether this would be feasible for them.

7. Assessment of the proposal

Observations on the issue

Sub-Committee views

The Change Sub-Committee (CSC) agreed the issue was clear and should proceed to Refinement with a view to being implemented.

The Technical Architecture and Business Architecture Sub-Committee (TABASC) reviewed the issues and noted that they should all proceed. They noted that the IRPs should have little impact to Devices and many Devices are likely to be displaying these behaviours already.

Solution development

The issues and the solutions have been discussed and agreed upon by the TSIRS. Although the TSIRS is a BEIS led group, various SEC Parties are represented. The TSIRS agreed the solutions and agreed they should be implemented into the SEC. Please note, no business case analysis is performed by the TSIRS.

Business case

The TABASC noted that as these were not impacting the DCC System then the costs should be minimal for implementation, although noted that any impacts to Devices would need to be confirmed by Device manufacturers.

The Working Group did not believe that it was able to provide comment on the business case and this should be developed through discussion with Device manufacturers and the Refinement Consultation.

Views against the General SEC Objectives

Proposer's views

The Proposer believes that this modification will better facilitate SEC Objective (a)[1] as the implementation of the IRPs will reduce the risk of future operational issues arising.

[1] Facilitate the efficient provision, installation, operation and interoperability of smart metering systems at energy consumers' premises within Great Britain

Industry views

Industry views will be sought during the Refinement Consultation.

Views against the consumer areas

Improved safety and reliability

This change is positive in this area as the clarity on technical specifications will ensure Devices operate as intended.

Lower bills than would otherwise be the case

This change is neutral in this area.

Reduced environmental damage

This change is neutral in this area.

Improved quality of service

This change is positive in this area as the additional data shared over the HAN can be utilised by the Consumer's connected Devices.

Benefits for society as a whole

This change is neutral in this area.

Appendix 1: Progression timetable

This modification has been issued for Refinement Consultation. Once responses are received, the final Modification Report will be presented to the CSC for approval on 19 April. If approved, a Modification Report Consultation will be issued and the Change Board vote then held on 25 May under Self-Governance.

Timetable	
Event/Action	**Date**
Draft Proposal raised	23 Nov 2021
Draft Proposal converted to Modification Proposal	30 Nov 2021
Presented to Working Group for discussion	2 Mar 2022
Presented to TABASC for feedback	3 Mar 2022
Refinement Consultation	7 Mar – 25 Mar 2022
Modification Report approved by CSC	19 Apr 2022
Modification Report Consultation	20 Apr – 11 May 2022

Timetable	
Event/Action	**Date**
Change Board Vote	25 May 2022

Appendix 2: Glossary

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

Glossary	
Acronym	**Full term**
APC	Auxiliary Proportional Controller
BEIS	Department of Business, Energy and Industrial Strategy
CHF	Communications Hub Function
CRP	Change Resolution Proposal
CSC	Change Sub-Committee
DCC	Data Communications Company
DRLC	Demand Response/Load Control
ESME	Electricity Smart Metering Equipment
ESMETS	Electricity Smart Metering Equipment Technical Specifications
EUA	Energy and Utilities Alliance
GBCS	Great Britain Companion Specification
GHz	Gigahertz
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
HCALCS	HAN Connected Auxiliary Load Control Switch
IRP	Issue Resolution Proposal
PPMID	Prepayment Meter Interface Device
SAPC	Standalone Auxiliary Proportional Controller
SAPCTS	Standalone Auxiliary Proportional Controller Technical Specification
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications
SMHAN	Smart Meter Home Area Network
SMIP	Smart Metering Implementation Program
TABASC	Technical Architecture and Business Architecture Sub-Committee
TSIRS	Technical Specifications Issue Resolution Sub-group
UTRN	Unique Transaction Reference Number
ZSE	ZigBee Smart Energy