SEC
Smart Energy Code

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Smart Energy Code

MP099

'Incorporation of multiple Issue Resolution Proposals into the SEC – Batch 4'

Modification Report

Version 1.0

19 April 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.

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This document also has four annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex C** contains the full Data Communications Company (DCC) Impact Assessment response.
- **Annex D** contains the full responses received to the Refinement Consultation.

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1. Summary

This proposal has been raised by Chun Chen from the DCC.

Issue Resolution Proposals (IRPs) identify and resolve issues in the Technical Specifications documents of the SEC. The IRPs contained in this document have been identified as DCC System impacting and have been requested to be progressed as a Modification Proposal for implementation into the SEC. Implementation of these IRPs ensures that Devices will operate as intended.

There are two IRPs included in this modification. The first (IRP571) is aimed at ensuring the Gas Proxy Function (GPF) does not share historical data with other Home Area Network (HAN) Devices, where the Device has no meaningful time and where there has been at least one Change of Tenancy (CoT) recorded on the Device since installation. The second (IRP586) is to ensure the GPF will align to the Great British Companion Specification (GBCS) requirements when providing snapshots to HAN Devices. It is also to ensure the Gas Smart Metering Equipment (GSME) will align to Zigbee standards.

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

The total cost to implement this modification will approximately be £307,683 and require a timescale of eight months to complete. It will impact Large Suppliers, Small Suppliers, Other SEC Parties and the DCC. This modification will be targeted for the November 2022 SEC Release, if approved as a Self-Governance Modification.

2. Issue

What are the current arrangements?

IRP571

Currently, the GPF and the Electricity Smart Metering Equipment (ESME) pick up data consumption information so long as those Devices have a Greenwich Mean Time (GMT) timestamp attached to them. This data information is then stored and shared across other HAN Devices.

IRP586

Currently, the GBCS explicitly requires that, when reading logs, log entries returned are inclusive of any with a time stamp equal to the 'toDateTime' command. However, in the Zigbee Specification there are several cases which are open to interpretation regarding the inclusivity and exclusivity of time stamp which is causing inconsistency. As a result, the ESME, the GSME and the GPF are not behaving in the same way when returning time stamp values.

What is the issue?

IRP571

The issue is where there are edge cases, such as briefly after a power restoration at a premise, the Devices might not have a GMT timestamp attached to the data consumption. This issue is being applied to historical data on Devices.

IRP586

There is an inconsistency on the 'EndDateTime' value in the GBCS command. There is a second missing on the time value stamp.

The IRPs included in this proposal, listed below, require changes to the GBCS with initial key impacts identified by Smart Energy Code Administrator and Secretariat (SECAS) in the table below.

What is the impact this is having?

IRP571

The impact is there is a risk of historical information, such as data consumption by a previous tenant of the premise, being shared across HAN Devices. This causes a General Data Protection Regulation (GDPR) issue. Furthermore, there is a chance that In Home Devices (IHD) could display data consumption associated with an incorrect time. This would impact the consumer as it would be providing misleading data information thus preventing them from changing tariffs to benefit them.

IRP586

The impact is the GSME log entries, with an invalid time, will not be captured and read accordingly. It will also continue to be different to the way the ESME and GPF log entries are read. This will cause inconsistency on the data consumption reading for GSME, which will reflect inaccurate data. Currently, the lack of clarification in the command which is open to interpretation is causing inconsistency.

Impact on consumers

This change will benefit consumers as they will have the most up to date Devices according to the Technical Specification.

Proposed IRPs							
IRP number	**IRP title**	**Impacted Technical Specification**	**IRP document**	**Impacted Users**	**Devices Impacted**	**Complexity**	**Notes**
IRP571	Historic Data when Device does not know the time	GBCS	IRP571 Historic Data when Device does not	• Gas Suppliers • Electricity Suppliers	• GSME • ESME	Low	Limited / no impact on GS.
IRP586	Modify use cases so ESME GSME & GPF behave in the same way (exclusion options)	GBCS	IRP586 Modify use cases so ESME GSME	• Gas Suppliers	• GPF	Middle	impact on Users. impact on GPF.

3. Solution

Proposed Solution

IRP571

The proposed solution is to ensure the GBCS specifies that the GPF and ESME should not share historical data with other HAN Devices. This rule will be applied in the instances where the Device has no meaningful time and where there has been at least one change of tenancy recorded on the Device since installation.

IRP586

The proposed solution is to ensure the GBCS is explicit that the GPF will align to GBCS and ESME requirements for remote Party commands and when providing snapshots to HAN Devices. The proposed solution will also ensure the GSMEs will align to Zigbee standards.

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

Suppliers and Other SEC Parties are impacted as they would potentially require additional firmware for Devices. This would then require further testing from a User perspective. A new firmware version, which would require testing, would incur costs around testing, piloting, and deployment.

A Large Supplier responded to the Refinement Consultation supporting the content of the solution put forward and agreed that it should be implemented. However, the Large Supplier highlighted the creation of new sub-versions of GBCS would require all Devices installed compliant with the previous sub versions to be upgraded.

The concern raised by the Large Supplier applied to Devices that could not be upgraded, which would mean that it would no longer be compliant with Supplier obligations to maintain Devices to a valid version of the Technical Specifications.

DCC System

The implementation of these IRPs will impact both Communication Service Providers (CSPs) and the Data Service Provider (DSP). The DCC has highlighted the following anticipated areas of impact:

- GBCS Integration Testing For Industry (GFI) tool
- The Communications Hub Detailed Specification (CH02)

The full impacts on DCC Systems and the DCC's proposed testing approach can be found in the DCC Impact Assessment response in Annex C.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 8 'Great Britain Companion Specifications' (GBCS)
- Schedule 11 'Technical Specifications Applicability Tables' (TSAT)

The changes to the SEC required to deliver the Proposed Solution can be found in Annex C.

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

These changes will also be applied to any new Principal Versions of this document that subsequently become effective on or before the MP099 implementation date.

Consumers

Without these corrections being implemented, Manufacturers are impacted as their Devices are unable to provide an accurate service to consumers.

Other industry Codes

No impacts on other industry Codes have been identified.

Greenhouse gas emissions

No impacts on Greenhouse gas emissions have been identified.

5. Costs

DCC costs

The total DCC implementation cost to implement this modification is £307,683. The breakdown of these cost are as follows:

Breakdown of DCC implementation costs	
Activity	**Jun 22 Release cost**
Design, Build and Pre-Integration Testing (PIT)	£188,446
Systems Integration Testing (SIT)	£89,238
User Integration Testing (UIT)	NIL
Implement to Live	NIL

More information can be found in the DCC Impact Assessment response in Annex C.

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 respondent to the Refinement Consultation advised they would incur cost through testing of new firmware Devices. They highlighted the cost will be higher if they were required to upgrade Devices which they already installed to be compliant with the new version of the GBCS.

6. Implementation approach

Agreed implementation approach

Panel has agreed an implementation date of:

- **3 November 2022** (November 2022 SEC Release) if a decision to approve is received on or before 3 March 2022.

As the change impacts Technical Specifications, the modification should be implemented in a SEC Release that included an uplift to those documents. The next SEC Release that is targeted to include new versions of the GBCS is the November 2022 SEC Release.

If, following a decision and allowing enough lead time, an earlier Release is approved to make updates to the relevant Technical Specifications, the Panel may request that this modification be moved to that Release. The DCC's total lead time to implement this change, including the post-PIT stages, is eight months.

7. Assessment of the proposal

Observations on the issue

Views of the TSIRS

The issues and the solutions have been discussed and agreed upon by the TSIRS. Although the TSIRS is a Department of Business, Energy, and Industrial Strategy (BEIS) led group, various SEC Parties are represented. The TSIRS agreed the solutions and agreed they should be implemented into the SEC.

Views of the Change Sub-Committee

The Change Sub-Committee (CSC) agreed that this Draft Proposal clearly outlines an issue.

The CSC believed that this should be able to catch up and be combined with MP078 'Incorporation of multiple Issue Resolution Proposals into the SEC - Part 2', if the DCC could deliver the DCC System changes required in time. However, the progress of MP078 has fallen behind that of MP099 but both are still targeted for the November 2022 SEC Release.

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.

SECAS presented MP099 to the Working Group who noted the costs and lead time outlined in the DCC Impact Assessment. A Working Group member advised the business benefit case for IRPs is correcting defects that have been identified. It was suggested at the Working Group that IRPs should take a different approach whereby a justification is not required as they have been approved and

passed through the TSIRS. However, SECAS advised members the modification process requires a business case to justify the changes it is proposing to make. Members of the Working Group commented that business cases are not discussed at TSIRS. SECAS acknowledged the comments received from the Working Group regarding the business case and followed up with the BEIS TSIRS representative why the TSIRS believed these IRPs need to be implemented via a modification. This information can be found under the 'business case' section below.

Views of Sub-Committees

SECAS presented MP099 and the Impact Assessment findings to the Technical Architecture and Business Architecture Sub-Committee (TABASC) for feedback. The TABASC highlighted that given MP099 includes changes to the GPF, this modification would be best implemented along with all other Communication Hub changes, which at the time was expected to be the June 2022 SEC Release.

The TABASC members queried whether the Network Evolution Communications Hub will have this modification built into it. The DCC advised that the Network Evolution Communications Hub will have the functionality built in and will not require any additional changes.

SECAS also presented MP099 to the Security Sub Committee (SSC) regarding IRP571 which demonstrated a security and privacy concern. The SSC agreed the IRP was an edge case and Suppliers were accepting of the issue. The DCC SSC representative confirmed the level of risk associated with IRP571 is very low. The SSC agreed it did not require any further risk assessment on this IRP.

Support for Change

Working Group

The Working Group agreed that these IRPs need to be implemented to resolve the identified issues.

Business case

These IRPs add clarity and corrections to the Technical Specifications documents. Device manufacturers are required to follow these Specifications when developing or maintaining their Devices. Therefore, any errors or miscommunication of these Specifications will mean the Device will not work as intended. Implementing MP099 will benefit the industry as Devices will be performing accurately. It will also add clarity and consistency across the Specification.

Views against the General SEC Objectives

Proposer's views

The Proposer believes that MP099 would better facilitate SEC Objective (a)[1], as these IRPs resolve issues with the Technical Specifications which are the minimum requirements for Device manufacturers.

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

Industry views

One response was received to the Refinement Consultation. A Large Supplier believed the modification should be approved as these IRPs resolve issues within the Technical Specification and will ensure Devices operate correctly. However, the Large Supplier did state it would be impacted if MP099 was implemented. It advised it would need to ensure Devices it procures and is responsible for are compliant with the new version of the GBCS. The Large Supplier did remain supportive of the MP099 and agreed the modification effectively facilitates the SEC Objective.

Views against the consumer areas

Improved safety and reliability

The change is neutral against this area.

Lower bills than would otherwise be the case

The change is neutral against this area.

Reduced environmental damage

The change is neutral against this area.

Improved quality of service

This implementation will have a positive impact as manufacturers will have access to the most up to date Technical Specification which are accurate and consistent. This will enable manufacturers to develop or enhance their Devices using the guidance provided from these specifications. The quality of service their Device provides will benefit their customers as the Devices will operate as they should per the Technical Specification.

Benefits for society as a whole

The change is neutral against this area.

Appendix 1: Progression timetable

This Modification Report will be presented to the Panel on 16 April 2021. A Modification Report Consultation (MRC) will then be issued before the Modification is presented to Change Board for vote.

Timetable	
Action	**Date**
Draft Proposal raised	12 Dec 2019
Presented to CSC for comment and recommendations	2 Jan 2020
Panel converts Draft Proposal to Modification Proposal	17 Jan 2020
Preliminary Assessment requested	3 Feb 2020
Preliminary Assessment returned	17 Mar 2020
Modification discussed with Working Group	1 Apr 2020
Refinement Consultation	17 Apr – 11 May 2020
Impact Assessment requested	29 Apr 2020
Impact Assessment returned	21 Dec 2020
Modification discussed with TABASC	4 Feb 2021
Modification discussed with Working Group	3 Mar 2021
Modification discussed with SSC	10 Mar 2021
Modification Report approved by Panel	16 Apr 2021
Modification Report Consultation	19 Apr – 10 May 2021
Change Board Vote	26 May 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 of Business, Energy, and Industrial Strategy
CoT	Change of Tenancy
CH02	Communications Hub Detailed Specification
CSC	Change Sub-Committee
CSP	Communication Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
ESME	Electricity Smart Metering Equipment
GBCS	Great Britain Companion Specification
GDPR	General Data Protection Regulation
GFI	GBCS Integration Testing For Industry

Glossary	
Acronym	**Full term**
GMT	Greenwich Mean Time
GSME	Gas Smart Metering Equipment
GPF	Gas Proxy Function
HAN	Home Area Network
IHD	In Home Devices
IRP	Issue Resolution Proposal
PIT	Pre-Integration Testing
MRC	Modification Report Consultation
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SSC	Security Sub Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee
TSIRS	Technical Specifications Issue Resolution Sub-Group
TSAT	Technical Specifications Applicability Tables
UIT	User Integration Testing