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MP078

'Incorporation of multiple Issue Resolution Proposals into the SEC - Part 2'

Modification Report

Version 0.6

25 November 2021



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

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1. Summary

This Proposal has been raised by Simon Trivella from British Gas.

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 three IRPs included in this modification. Two (IRP 550 and IRP 604) are aimed at ensuring when the Gas Smart Metering Equipment (GSME) receives a message known as GCS20r (report event configuration) the GSME can respond. The third (IRP 603) is to ensure Devices such as the In Home display (IHD), Prepayment meter Interface Device (PPMID) and Consumer Access Devices (CADs) cannot access the security logs on the GSME or Electricity Smart Metering Equipment (ESME).

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

This modification will cost £2,633,973 and require an estimated eight-month lead time for implementation. It will impact Large Suppliers, Small Suppliers, Other SEC Parties and the DCC. Implementation is targeted for the November 2022 SEC Release, if approved as a Self-Governance Modification.

2. Issue

What are the current arrangements?

IRP 550 and IRP 604

A 'GCS20' message is triggered by Service Request Variant (SRV) 6.2.10 'Read Device Configuration (Event and Alert behaviour)'. Currently, there are no instructions in the Technical Specification Great Britain Companion Specification (GBCS) on what response the GSME should provide in the instance it receives a message GCS20 from a Device. As it stands, when a GSME has no data to return, it is unable to provide a defined response to confirm this.

IRP 603

The Smart Metering Equipment Technical Specifications (SMETS) and GBGS require that the Gas Proxy Function (GPF), Communication Hub Function (CHF), GSME and ESME Security Logs can be read by remote parties. The GSME provides changes of its Security Log to the GPF so that the GPF can maintain a copy of the GSME's Security Log. This copy can be read by remote parties. Both the ESME and GSME make their Security Logs available on a user interface level through meter display. There are no explicit prohibitions currently for sharing Security Logs with Home Area Network (HAN) Devices.

What is the issue?

IRP 550

Currently when a GSME receives a message from the Communications Hub known as GCS20r it reports the event configuration back to the Communications Hub, which in turn sends a Service Response to the DCC User. However, there are no instructions in the technical specifications (GBCS) on what response the GSME should give if it cannot send the information (for instance if it does not have the data). This in turn means no Service Response will be received by the DCC User requesting the information.

IRP 604

This IRP has resulted from a typographical error in IRP 550. It has come to light there is an error in the alternate GCS20r response created for IRP 550. The Frame Control which has been set for this response has been defined as "profile -wide; not manufacturer specific; server-client; allow default response;". However, the direction should be 'client-server' and not 'server-client'. This is because the GSME is the client in the Device Management cluster and the response is sent from the client to the server.

IRP 603

Currently IHDs, PPMIDs and CADs on HAN can request security log information from the GSME or ESME and can display this information to the consumer.

The IRPs included in this proposal, listed below, require changes to the GBCS with initial key impacts identified by SECAS in the table below.

What is the impact this is having?

IRP 550

No response will be received by the DCC User if the GSME does not hold the data, leaving the User unsure where the problem is.

IRP 604

The IRP 550 solution has a typographical error which needs correcting for the response message to work accordingly. The incorrect direction of the Frame Control will cause inconsistency in the way the Device operates.




IRP 603

As things stand, the consumer could view the security log information, which could be a security risk.

Impact on consumers

These IRPs are inconsistencies within the Technical Specification. Manufactures are dependent on these specification for using and developing their Devices. Without these corrections being implemented, Manufacturers are impacted as their Devices are unable to provide an accurate service to consumers. The Technical Specification Issues Resolution Sub-group (TSIRS) has agreed that these are issues and has agreed upon the solutions.

IRP 603 impacts consumers as they can currently view Security Log information.

IRPs included in MP078							
IRP number	IRP title	Impacted Technical Specification	IRP document	Impacted Users	Devices Impacted	Complexity	Notes
IRP550	GCS20r - Response when an error occurs	GBCS	 IRP550 GCS20r - Response when an error occurs	<ul style="list-style-type: none"> Gas Suppliers Device (GSME) manufacturers 	<ul style="list-style-type: none"> GSME 	Low	Limited / no impact on GS.
IRP603	Security Log display over HAN	SMETS & CHTS	 IRP603 Security Log display over HAN v0_	<ul style="list-style-type: none"> Import Supplier Gas Suppliers 	<ul style="list-style-type: none"> CHF GPF GSME ESME 	Low	Expected little impact on Users
IRP604	Query on IRP550 - Frame Control	GBCS	 IRP604 Query on IRP550 - Frame Control	<ul style="list-style-type: none"> Gas Suppliers Device (GSME) manufacturers 	<ul style="list-style-type: none"> GSME 	Low	Limited / no impact on GS

3. Solution

Proposed Solution

IRP550

The Proposed Solution is to include instructions in the technical specifications for the case where the GSME does not have the necessary information.

IRP604

The Proposed Solution is to correct the GCS20r message template. The correction will be made to the direction of the Frame Control to display 'client-server', and not 'server-client'. By amending this in GBCS the specification will align with the ZigBee Smart Energy (ZSE) requirements.

IRP603

The Proposed Solution is to include instructions to ensure the security log information is not accessible by IHDs, PPMIDs and CADs.

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

Large Suppliers, Small Suppliers and Other SEC Parties are impacted as they would 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 solution put forward and advised there are gaps that need to be corrected to ensure robustness of the specification. It noted

the changes to the SMETS and the GBCS would have to be understood and further work would be required with its meter providers to produce a firmware that adheres to the new specification.

DCC System

The implementation of these IRPs will impact both CSPs and the DSP. The DCC has highlighted the following anticipated areas of impact:

- Parse & Correlate application
 - SMITEn Lite
- GBCS Integration Testing For Industry (GFI) tool
 - SMITEn Lite
- CSP design and build activities
- Device Future Dated Command processing
- Transform Library
- Self Service Interface (SSI)

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

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 8 'Great Britain Companion Specifications' (GBCS)
- Schedule 9 'Smart Metering Equipment Technical Specifications 2' (SMETS2)
- Schedule 10 'Communications Hub Technical Specifications' (CHTS)
- 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:

- GSME Technical Specification (GSMETS) v4.x
- ESME Technical Specification (ESMETS) v5.x
- CHTS v1.x
- GBCS v4.x

These changes will also be applied to any new Principal Versions of these documents that subsequently become effective on or before the MP078 implementation date.

Consumers

No impacts of Consumers have been identified.

Other industry Codes

No impacts on other industry Codes have been identified.

Greenhouse gas emissions

No impacts other Greenhouse gas emissions have been identified.

5. Costs

DCC costs

The DCC implementation costs to implement this modification is £2,633,973 if this was implemented as a standalone modification.

The breakdown of these costs are as follows:

Breakdown of DCC implementation costs	
Activity	Standalone cost
Design and Build	£580,643
Pre-Integration Testing (PIT)	£1,306,073
Systems Integration Testing (SIT)	£727,257
User Integration Testing (UIT)	£0
Implement to Live	£20,000

Application Support costs will also be applicable at a cost of £1,573pa.

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

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.

Party costs

One respondent to the Refinement Consultation advised they would incur cost through testing of new firmware Devices, but no other information was provided.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **3 November 2022** (November 2022 SEC Release) if a decision is received on or before 28 February 2022; or
- **2 November 2023** (November 2023 SEC Release) if a decision to approve is received after 28 February 2022 but on or before 1 November 2022.

As the change impacts Technical Specifications, the modification should be implemented in a SEC Release that included an uplift to the Technical Specifications. The DCC Impact Assessment has stated that there is an anticipated lead time of eight months for its Service Providers up to implementation.

The earliest release this modification can be implemented in is the November 2022 SEC Release.

If, this modification misses the cut-off date, it will then be implemented in the next Release which included a Technical Specification update. This is expected to be the November 2023 SEC Release.

7. Assessment of the proposal

Observations on the issue

Views of the Change Sub-Committee

The Change Sub-Committee (CSC) agreed that the Draft Proposal clearly outlined an issue that needed to be resolved. It recommended to the SEC Panel that the Draft Proposal be converted to a Modification Proposal and proceed to the Refinement Process.

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 the findings of the DCC Preliminary Assessment to the Working Group, which included the cost for delivering the changes and services required to implement this modification. This was originally expected to be £1,700,000 with a full DCC Impact Assessment costing £274,860 with a lead time of three to six months for the DSP and six to twelve months for the CSPs. The Working Group members noted the DCC Preliminary Assessment findings and questioned the high cost. The DCC has been continuously challenging the cost with Service Providers since the first DCC Preliminary Impact Assessment was presented to the Working Group.

SECAS subsequently presented the revised DCC Preliminary Assessment findings, which was received on 18 November 2020, to the Working Group. This included the revised cost, up to end of

PIT, to be £705,680. SECAS highlighted the DCC's estimate of the cost to deliver MP078 would reduce by £240,000 if MP078 was released alongside SECMP0015 and SECMP0056 in the June 2022 SEC Release. This would reduce the overall cost to £465,680. This was due to synergies across the testing phase.

The DCC Impact Assessment was received in November 2021. The costs for development, PIT, SIT and Implementation were increased to £2,6m. This increase is largely due to the increase in proposed testing by CSP North. The Impact Assessment will be presented to the Working Group and TABASC for discussion.

Support for Change

Working Group

The Working Group agreed the issue was clear and should progress further. The Working Group members were supportive of IRP603, IRP604 and IRP550 being included in MP078.

Views of Sub-Committees

SECAS presented MP078 and the latest DCC Preliminary Impact Assessment (PIA) findings to the Technical Architecture and Business Architecture Sub-Committee (TABASC) for feedback. The TABASC highlighted it is dependent on the DCC to reduce any costs. The TABASC acknowledged and noted the DCC cost to complete the Full Impact Assessment of £94,430 and was supportive of MP078 to proceed for a DCC Impact Assessment.

SECAS also presented MP078 to the Security Sub Committee (SSC) regarding IRP603 which demonstrated security concerns. The SSC agreed and requested the DCC Security Team to conduct a risk assessment on IRP603. The findings of the assessment confirmed the level of risk associated with IRP603 is very low and tolerable as a standalone issue.

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 MP078 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 MP078 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

Two responses were received from the Refinement Consultation. A Network Party supported the modification as it was not impacted by IRP550, IRP603 and IRP 604. A Large Supplier supported the solution put forward due to gaps which require correcting to ensure a robust specification. However, the Large Supplier did state it would be impacted if MP078 was implemented. It advised IRP603, IRP604 and IRP550 would require additional firmware for Devices which are not compliant to the current gaps. Changes to the GBCS and the SMETS would need to be understood and further discussions with meter providers would need to be conducted to produce firmware that adheres to the new specification. The Large Supplier did remain supportive of the MP078 and agreed the modification effectively facilitates the SEC Objectives.

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.

Benefits for society as a whole

This implementation will benefit society as premises will have the most up to date Devices which operate as they should per the Technical Specification.

Appendix 1: Progression timetable

The DCC Impact Assessment findings will be presented to the Working Group and the TABASC for discussion before the Modification Report is presented to CSC.

Timetable	
Action	Date
Draft Proposal raised	10 Jul 2019
Presented to CSC for comment and recommendations	23 Jul 2019
Panel converts Draft Proposal to Modification Proposal	9 Aug 2019
First Preliminary Assessment requested	6 Sep 2019
First Preliminary Assessment returned	31 Dec 2019
Modification discussed with Working Group	5 Feb 2020
Refinement Consultation	17 Feb – 6 Mar 2020
Second Preliminary Assessment requested	16 Apr 20
Second Preliminary Assessment returned	3 Sep 2020
Updated Preliminary Assessment with cost information received	18 Nov 2020
Presented to Security Sub Committee	25 Nov 2020
Presented to TABASC	4 Feb 2021
Impact Assessment costs approved by Change Board	24 Mar 2021
Impact Assessment requested	10 May 2021
Impact Assessment returned	18 Nov 2021
Present to Working Group	1 Dec 2021
Present to TABASC	2 Jun 2021
Modification Report approved by CSC	21 Dec 2021
Modification Report Consultation	22 Dec 2021 – 14 Jan 2022
Change Board vote	26 Jan 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
BEIS	Department of Business, Energy and Industrial Strategy
CAD	Consumer Access Device
CHF	Communications Hub Function
CSC	Change Sub-Committee
CSP	Communication Service Provider
DCC	Data Communications Company

Glossary	
Acronym	Full term
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ESME	Electricity Smart Meter Equipment
GBCS	Great Britain Companion Specification
GFI	GBCS Integration Testing For Industry
GPF	Gas Proxy Function
GSME	Gas Smart Meter Equipment
GSMETS	GSME Technical Specification
HAN	Home Area Network
IHD	In Home Device
IRP	Issue Resolution Proposal
PIT	Pre-Integration Testing
PPMID	Prepayment meter Interface Device
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS	Smart Metering Equipment Technical Specifications
SMETS2	Smart Metering Equipment Technical Specifications 2
SRV	Service Request Variant
SSC	Security Sub Committee
SSI	Self Service Interface
TABASC	Technical Architecture and Business Architecture Sub-Committee
TSIRS	Technical Specifications Issue Resolution Sub-group
UIT	User Integration Testing
ZSE	ZigBee Smart Energy