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SECMP0015

'GPF timestamp for reading instantaneous Gas values'

Modification Report

Version 2.2

8 January 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 seven 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 first Refinement Consultation (previously known as Working Group Consultation) Consultation.
- **Annex E** contains the Modification Report Consultation responses.
- **Annex F** contains the DCC statement around the costs. This annex is classified as **RED** – Parties can request a copy by emailing sec.change@gemserv.com.
- **Annex G** contains the responses received to the second Refinement Consultation.

Contact

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1. Summary

This proposal has been raised by Tim Larcher from E.ON.

A gas meter (Gas Smart Metering Equipment (GSME)) is battery powered and uses a low energy circuit to continuously record how much gas has passed through its measuring element. This then continuously updates the meter balance. Approximately every 30 minutes the GSME powers up to pass this information (known as instantaneous values) to the Gas Proxy Function (GPF). However, there is no date or time stamp on the values. Where the GSME is unable to communicate with the GPF the information will not be updated.

This discrepancy between the values on the GSME and the values stored on the GPF could have an impact on a Supplier's interactions with a customer. It could also provide an out-of-date picture of consumption and meter balance to customers via In-Home Displays (IHDs) or Prepayment Meter Interface Devices (PPMIDs). This could lead to issues with direct debit payments, tariff issues and, most importantly, lead prepayment meter customers to believe they have a higher balance on their meter than the actual position. Under these circumstances prepayment customers could have their gas supply cut off before they expect and possibly have the PPMID displaying an incorrect credit balance.

The Proposed Solution is to allow Parties and Devices reading the instantaneous values from the GPF to know the time on the GSME's clock when those values were provided. This will be implemented by updates to Communications Hub software and the Smart Metering Equipment Specifications (SMETS). These updates will ask for the GSME to provide a date and time stamp with the instantaneous values. If a GSME is unable to provide the date and time stamp, the date and time will be populated from the GPF. The Communications Hub will then provide the values along with a date and time stamp and the source of the stamp in the Service Response to Service Requests for the information. Similarly, IHDs and PPMIDs will also be able to determine the time on the GSME clock and may display the time of the last update.

This modification will impact Suppliers, Gas Network Parties and the DCC Systems. The total estimated cost to deliver SECMP0015 as a stand-alone SEC Release is estimated to be approximately £4.6 million. However, if implemented in a SEC Release alongside other modifications the DCC estimate the cost would be approximately £1.77 million. This is an Authority-Determined Modification and if approved is targeted for the June 2022 SEC Release.

2. Issue

What are the current arrangements?

A GSME, usually known as a 'gas meter', is battery powered and uses a low energy circuit to continuously record how much gas has passed through its measuring element, known as the consumption register. This then continuously updates the meter balance. Approximately once every 30 minutes the GSME powers up and connects to the GPF via the Home Area Network (HAN). The GPF is part of the Communications Hub and is therefore continuously powered.

Consumption register changes also:

- cause values in other registers to change continuously, depending on Tariff settings, specifically registers in the Tariff Block Counter Matrix and the Tariff Time of Use (ToU) Register Matrix; and
- cause changes in the Emergency Credit Balance when a meter is in prepayment mode.

These are referred to as 'instantaneous' values.

When Parties or Devices such as IHDs and PPMIDs request information, they receive these instantaneous values from the GPF to save the GSME battery life.

Upon the GSME powering up, the instantaneous values (including meter balance and read information) are passed from the GSME to the GPF. Although the GSME has a clock, the information passed to the GPF does not have an associated date and time stamp. It has been identified that sometimes the GSME cannot communicate with the GPF and therefore the GPF does not always hold up to date information, just the instantaneous values with no date and time stamp.

What is the issue?

Where the GSME is unable to communicate with the GPF (e.g. due to local radio interference on the HAN) the information will not be updated.

Presenting this information with no date and time stamp could be misleading, having an impact on a Supplier's interactions with a customer on aspects such as billing, direct debit payments and Time of Use tariffs.

Additionally, an out-of-date picture of consumption and meter balance could be displayed on a customer's IHD or PPMID, without it being obvious that the position is out-of-date. This could also be of particular concern for prepayment customers, leading them to believe they have a higher credit balance on their meter than the actual position. Under these circumstances prepayment customers could have their gas supply cut off before they expect and possibly have the PPMID displaying an incorrect credit balance.

What is the impact this is having?

Impact on consumers

This could lead to various issues such as:

- prepayment meter customers being unaware that they are using their emergency credit or that their gas supply has been cut off;
- underestimating a customer's direct debit payments, if these are based on a 'historical' instantaneous value;
- underestimating a customer's bill; and
- customer queries if there is a discrepancy between:
    - the real position known to the GSME and the Supplier's view gained by querying the GPF;
    - the values seen by the customer on the GSME and the Supplier's view; or

- the values seen by the customer on the GSME and the IHD or PPMID.

3. Solution

Proposed Solution

This modification will allow Parties and Devices reading the instantaneous values from the GPF to know the time on the GSME's clock when those values were provided or the time on the GFP when the values were received if the GSME cannot provide a time and date stamp. Specifically, it looks to ensure that:

- The GSME will provide the GPF with a date-time stamp value whenever the GSME provides its instantaneous values.
- The GPF will update its copy of this date-time stamp whenever it updates its copy of the GSME's instantaneous values.
- The GPF will make available its copy of the GSME date-time stamp to Devices on the HAN.
- When the GPF creates a Response that contains these instantaneous values, for example:
  - Use Case GCS13a 'Read GSME Consumption Register';
  - Use Case GCS13b 'Read GSME Block Counters';
  - Use Case GCS13c 'Read GSME Register (ToU)';
  - Use Case GCS14 'Read GSME Pre-Payment Register(s)'; or
  - Use Case GCS60a 'Read Meter Balance for GSME',

  these will use the copy of the GSME date-time stamp to populate the date-time field in the Response it generates. It will also mark the GSME as the source of that date-time stamp in the Response.
- Where a GSME does not support providing its date-time stamp value when it provides its instantaneous values, the GPF will populate the date-time field in the Response using the time of reading. It will also mark the GPF as the source of that date-time stamp in the time status of the Response.
- Parse and Correlate will decode the time status in Responses as GSME- or GPF-sourced and whether the date-time is reliable, unreliable or invalid.

The Smart Energy Code Administrator and Secretariat (SECAS) is recommending that these changes require a new Principle Version of the GB Companion Specification (GBCS), Smart Metering Equipment Technical Specifications (SMETS) and the Message Mapping Catalogue (MMC) as there will be a change in functionality. The Communications Hub Technical Specifications (CHTS) will have an increase to the sub-version number as historically all increases in version have been sub-versions. The TSAT will be prepared in conjunction with the Technical Architecture and Business Architecture Sub-Committee (TABASC) post decision.

The business requirements for this solution can be found in Annex A.

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 Gas Network Operators

All Suppliers and Gas Network Parties that use the relevant Service Requests to read the instantaneous values will be impacted by this modification and its Proposed Solution to read the GPF to identify the time on the appropriate GSME.

Other SEC Parties

This modification will have an impact on Device manufacturers, who will need to build Devices to the new specifications that include the changes made in this modification's solution.

DCC System

Communications Hub software will need be updated to populate Responses to Use Cases GCS13a, GCS13b, GCS13c, GCS14 or GCS60 with a date-time stamp received from the GSME or generated by the GPF. They will also construct message headers such that Users can determine the source of the date-time stamp (as either the GSME or the GPF) and whether the date-time stamp is reliable, unreliable or invalid.

Parse and Correlate will be updated to decode the date-time stamp to identify the source (GSME or GPF) and whether it is reliable, unreliable or invalid, and present this information to the User. MMC Extensible Markup Language (XML) schema will need to be updated to allow Parse and Correlate to implement this change.

Additionally, DCC User Gateway Interface Design Specification (DUGIDS) and GBCS Integration Testing For Industry will be amended to reflect these changes to Communications Hub and MMC changes.

The full impacts on DCC Systems and 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 Specification’ (GBCS)
- Schedule 9 ‘Smart Metering Equipment Technical Specification 2’ (SMETS2)
- Schedule 10 ‘Communications Hub Technical Specifications’ (CHTS)
- Schedule 11 ‘Technical Specification Applicability Table’ (TSAT)
- Appendix AD ‘DCC User Interface Specification’ (DUIS)
- Appendix AF ‘Message Mapping Catalogue’ (MMC)

Technical specification versions

SECAS is recommending a new Principle Version of the GBCS, SMETS and MMC be created, and a new Sub Version of CHTS.

A new Use case (GCS60a) will be created and therefore a new version of the DUIS will be created.

The TSAT will be prepared in conjunction with the TABASC post decision.

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

Consumers

Consumers will be positively affected by this modification as interactions with Suppliers will be based on information that the Supplier will know to be accurately time and date stamped. For example, decisions regarding customer bills or direct debit payments would not be subject to errors caused by believing that instantaneous values are current, when in fact they are not. Consumers are expected to have fewer issues with Suppliers regarding direct debit and billing-related matters.

Customers are expected to have fewer issues with information presented to them by IHDs and PPMIDs being out of line with the GSME’s view of this data.

These amendments are expected to especially beneficial to prepayment customers, whose budgeting could be negatively impacted where they are presented unknowingly with out of date information.

Other industry Codes

No impacts have been identified on other industry Codes.

Greenhouse gas emissions

There are no impacts on greenhouse gas emissions identified.

5. Costs

DCC costs

The estimated DCC implementation costs to implement this as a standalone modification is £4,596,044 as set out in Annex C. However, if implemented as part of the June 2022 SEC Release the DCC estimates that significant testing costs could be saved bringing the cost down to £1,772,600. A more detailed document (Annex F) was provided by the DCC. However, this is classified as **RED** and can therefore only be shared with named individuals. If you wish to receive a copy of Annex F please email sec.change@gemserv.com.

Breakdown of DCC implementation costs – June 2022 SEC Release	
Activity	**Cost**
Design, Build and Pre-Integration Testing (PIT)	£1,335,568
Systems Integration Testing (SIT) and User Integration Testing (UIT)	£437,032

More information can be found in the DCC Impact Assessment response setting out the full costs for a stand-alone release in Annex C and a further statement on costs specific to SECMP0015 in Annex F (**RED**).

SECAS costs

The estimated SECAS cost 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.
- Reviewing and updating any impacted SEC guidance materials.

SEC Party costs

A view on Party costs was sought as part of the first Refinement Consultation. Respondents said there were no direct costs to them, though one said that they expected they would incur costs through manufacturers passing on charges due to changes required for meter specifications. The full responses received can be found in Annex D.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **30 June 2022** (June 2022 SEC Release) if a decision to approve is received on or before 28 May 2021; or

- **3 November 2022** (November 2022 SEC Release) if a decision to approve is received after 28 May 2022 but before 1 October 2021.

This is to enable the DCC sufficient time to design, build, test and implement the changes set out and for Parties to make associated changes, should they wish to. The DCC has stated that if this modification is implemented in the June 2022 SEC Release the combined savings from implementing and testing implementation of other modifications would be substantial. More details can be found in Section 5 above and in Annex F (**RED**). This modification is dependent on the implementation of SECMP0007 'Firmware updates to IHDs and PPMIDs'.

If the November 2022 SEC Release does not contain any other technical specification uplifts, the Panel will subsequently request the Authority directs this modification be implemented in the next SEC Release which implements a technical specification uplift.

7. Assessment of the proposal

Solution development

Solution discussions

The Working Group considered in detail how the end-to-end solution will operate and considered the impact on Parties and other Devices on the HAN querying the GPF. The GBCS Use Cases Responses that should be amended were set out in the business requirements.

The Working Group also considered the interoperability considerations, determining behaviour when a Communications Hub that does support the change is paired with a GSME that does not support the change, and vice versa. The Working Group agreed that an older Communications Hub should be able to support the change (following a firmware update) recording the GSME clock timestamp when it received the instantaneous read from the GSME. It further agreed that if a GSME was on an older firmware version and did not send its clock timestamp then the Communications Hub would include its own timestamp alongside the GSME values. In addition, the source of the timestamp would be made clear to allow Suppliers and Devices to understand how accurate the data was. The Working Group agreed with this and noted its importance to prepayment consumers, specifically when dealing with emergency credit matters.

The Working Group also considered whether the modification should remain an Authority Determined Modification or change to a Self-Governance Modification. The Working Group suggested this question should be included as part of the Working Group Consultation. Respondents suggested this should be changed to a Self-Governance Modification, citing it fits the definition of Self-Governance, as provided in SEC Section D2.6. Respondents to the first Working Group Consultation believed the modification should be progressed as a Self-Governance Modification Proposal.

Costs of the solution

Following the Authority's send back decision on 18 September 2020, a further Working Group meeting was held to discuss the DCC implementation costs. The general problems members highlighted were:

- The Communication Services Providers' (CSPs') costs are different by orders of magnitude;

- One Service Provider's testing costs are excessive; and
- The total costs in the Impact Assessment had increased significantly from those in the Preliminary Assessment.

The DCC answered these by stating:

- During the full Impact Assessment one Service Provider had identified more risks in implementation than the other;
- One Service Provider quotes for two rounds of regression testing as it has found in the past that use of emulators (currently the standard way of testing) does not pick up all the issues found in live; and
- The Preliminary Assessment costs only cover the Design, Build and PIT phases but do not include SIT and UIT. The Impact Assessment includes all these costs. In addition, as the Authority requires a modification to have standalone costs presented, the costs of each system impacting modification include around six months of testing costs which are included in the Impact Assessment.

SECAS and the DCC reiterated that there was no intention to implement this modification as a stand-alone modification.

The DCC also stated at the Working Group that it expected 60% of the standalone costs could be saved by including this change in the June 2022 SEC Release. This would reduce the cost specific to implementing SECMP0015 to around £2m. Further details can be found in Annex F (**RED**).

Business case for change

Prepayment meter and pay-as-you-go (PAYG) consumers are often vulnerable and are low-income households. If this issue affects them, they could be left in a position where their PPMID displays reading or balances that indicate they have credit remaining, whereas in fact the information is based on an out-of-date instantaneous value obtained from the GPF. This could affect their ability to budget and, in a worst-case scenario, their gas could be cut off without them realising as the GSME records they have used all their credit, but this has not been updated to the PPMID.

Consumers could be incorrectly billed due to out-of-date consumption measurements and this could affect their direct debit payments. Consumers using ToU tariffs could be billed incorrectly since the consumption would not be recorded across the correct time period. In addition, consumers with inaccurate information displayed on their IHD or PPMID would be less able to 'shop around' for a competitive energy supply deal, or worse still could sign up to one and then find themselves penalised as they are not using their energy in the patterns that were agreed. This could lead to a lack of confidence in IHDs, PPMIDs, Smart Metering, their Supplier and the energy industry as a whole.

Device manufactures stated in the Modification Report Consultation that the addition of the time and date stamp to the instantaneous values would lead to more innovation in the Device market.

Information received to date suggests that the costs to Parties to implement this change will be small and that the costs of not making the change are difficult to assess as they are reputational.

Support for Change

Working Group

The Working Group supported the intention of the solution and cited clear benefits that would help prevent disputes between Suppliers and customers. The Working Group further noted that this change is particularly important to prepayment customers as it could help when dealing with emergency credit matters and loss of supply. The Working Group members agreed that all GSMEs need to have a firmware update to be able support the functionality that is offered by the Modification Proposal.

Working Group members initially stated (following the DCC Preliminary Assessment) that they felt the benefits outweighed the costs (estimated at the time to be around £600k for Design, Build and PIT). Whilst members felt that the costs reflecting implementation in a SEC Release with other modifications were more representative the high level of costs was still a concern.

First Refinement Consultation

The first Refinement Consultation (previously known as the Working Group Consultation) returned three positive responses and no negative responses. One neutral response was given where one participant acknowledged that as they don't operate using GSME meters they would not be best suited to answer.

All Large Suppliers and an Other SEC Party who responded agreed with the solution on the grounds that it would provide a better quality of information for a consumer and prevent a Supplier from using an inaccurate "read value". They believed this would provide a better experience for all involved. Additionally, they believed that, noting the costs (only the DCC Preliminary Assessment was available at the time) and benefits of the modification, it should be approved.

The Working Group Consultation respondents also supported the belief that the Modification Proposal should be changed from an Authority Determined one to a Self-Governance one on the grounds that it was consistent with the definition of a Self-Governance modification as per SEC Section D2.6.

Finally, when asked what the long-term impacts would be if the Modification Proposal was rejected and not implemented, the Large Suppliers stated there would be drawbacks. In particular, the issues would be meter reading values potentially being misleading, and the possibility of adversely affecting proportion of their prepayment customer base.

The full responses can be found in Annex D.

Modification Report Consultation responses

There were three respondents to the Modification Report Consultation. All respondents were supportive of the proposed changes but were concerned about the excessive costs presented in the DCC Impact Assessment which were £4.6m, a very significant increase from the Preliminary Assessment of around £600k.

Change Board vote and subsequent appeal and Authority send back

This modification was presented to Change Board for vote on 22 July 2020. During the vote, questions were raised around the costs. Whilst Change Board members were supportive that the

modification better facilitated the SEC Objectives (a)[1] and (c)[2], they felt that the costs were excessive and therefore the business case was not clear. The result of the vote was to reject the modification on costs.

As this was a Self-Governance modification, a 10 Working Day referral window began following the Change Board vote pursuant to SEC Section D9.4(a). On 30 July 2020, British Gas submitted an appeal to the SEC Panel against the Change Board vote. This was then discussed by the Panel on 14 August 2020 where the Change Board decision to reject was overturned. Panel members believed that the solution better facilitated the SEC Objectives and therefore voted to approve.

On 27 August British Gas further appealed the Panel's decision to approve the modification to the Authority as per SEC Section D9.4(b) on the grounds of the costs.

On 18 September 2020, the Authority decided to send this modification back to Panel for further work, specifically requesting:

- A clear business case be laid out in the Modification Report; and
- The cost variance between Preliminary Assessment and the Impact Assessment is clearly explained.

Addressing the Authority's concerns

SECAS has requested information from SEC Parties to support the business case for this modification and further support was sought as part of the second Refinement Consultation and is included in the business case section.

The DCC has provided a further breakdown of the costs specifically identifying the cost savings that are likely to be achieved by including this modification in the June 2022 SEC Release. This can be found in Annex F.

Views against the General SEC Objectives

Proposer's views

Objective (a)

The Proposer believes that SECMP0015 will better facilitate SEC Objective (a) by reducing billing, direct debit and other customer queries and reducing issues such as settlement imbalances.

Objective (c)

The Proposer believes that SECMP0015 will better facilitate SEC Objective (c) by enabling Suppliers and customers to determine if information made available remotely or in the home is out of date.

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

[2] Facilitate energy consumers' management of their use of electricity and gas through the provision of appropriate information via smart metering systems.

Industry views

The Working Group agreed unanimously that the modification better facilitates General SEC Objectives (a) and (c), and that the benefits this modification provides, while qualitative in nature, warrant its implementation.

First Refinement Consultation views

The first Refinement Consultation returned three positive responses and one neutral with all four respondents agreeing with the rationale and solution proposed by the Proposer. Whilst some respondents noted they would be impacted by the MMC schema changes, they will not require any development efforts to deliver this.

Three of the respondents agreed that, noting the costs of the modification, it should be approved on the basis that it provides consumers with more accurate data on their energy usage. Two of these respondents further noted that failure to implement this modification would have long term impacts on being able to provide accurate information to their consumer and could end up misleading them. The fourth respondent abstained from giving a view.

Second Refinement Consultation (after send back) views

Following the Authority send back a second Refinement Consultation was issued. This included the DCC's revised costs, amended to show the cost of implementing the modification as part of a multi-modification SEC Release rather than as a standalone SEC Release.

Four responses were received to the Refinement Consultation, from three Large Suppliers and the Consumer Representative. Three respondents believed that this modification should be approved but one Large Supplier did not. It believed that the solution was not complete as the actual time for the instantaneous values would not necessarily be displayed. SECAS responded agreeing that this would not be the case for all Devices. Devices on the GBCS versions with the update would be able to access the data with the time stamp and where possible will be able to display the time.

Respondents in support believed that this modification would allow customers and Suppliers access to more accurate consumption data, particularly important for prepayment meter customers who may lose supply through the lack of the time stamp.

Views against the consumer areas

Improved safety and reliability

Safety would be improved in so much as prepayment customers will be better protected from unexpected loss of supply.

Lower bills than would otherwise be the case

Bills would not be lower, but they may be more accurate.

Reduced environmental damage

No impact identified.

Improved quality of service

More accurate bills and avoiding the chance that prepayment customers might be unexpectedly lose supply would be an improvement in service.

Benefits for society as a whole

No impact identified.

Appendix 1: Progression timetable

The Modification Proposal will be returned to the Panel following the clarifications into the cost of the solution from the DCC. Once presented to the Panel, if approved, it will be issued directly to the Change Board to repeat its vote to recommend to the Authority whether it should be approved or rejected.

Timetable	
Event/Action	**Date**
Modification Proposal raised	31 May 2016
Initial Modification Report presented to Panel	17 Jun 2016
Business requirements developed with Proposer and DCC	1 Aug 2016 – 3 Oct 2016
Preliminary Assessment requested	3 Oct 2016
Preliminary Assessment returned	21 Mar 2017
Modification discussed with Working Group	24 Apr 2017
Impact Assessment requested	5 May 2017
Impact Assessment returned	18 Jun 2018
Modification discussed with Working Group	17 Jul 2018
Refinement Consultation	3 Apr 2019 – 24 Apr 2019
Updated Impact Assessment requested	25 Apr 2019
Updated Impact Assessment returned	30 Apr 2020
Modification Report approved by Panel	15 May 2020
Modification Report Consultation	19 May 2020 – 10 Jun 2020
Change Board Vote	22 July 2020
Appeal of Change Board vote to Panel	30 July 2020
Appeal presented to Panel	14 Aug 2020
Appeal of Panel decision to Authority	27 Aug 2020
Authority decision to send back	18 Sep 2020
Modification discussed with Working Group	7 Oct 2020
Send back timetable agreed with Panel	16 oct 2020
Modification discussed with Working Group	4 Nov 2020

Timetable	
Event/Action	**Date**
Second Refinement Consultation	16 Nov – 4 Dec 2020
Updated Modification Report approved by Panel	15 Jan 2021
Change Board vote	24 Feb 2021
Authority decision (anticipated date)	31 Mar 2021

Appendix 2: Glossary

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

Glossary	
Acronym	**Full term**
CHTS	Communications Hub Technical Specifications
CSP	Communication Services Provider
DCC	Data Communications Company
DUGIDS	DCC User Gateway Interface Design Specification
DUIS	DCC User Interface Specification
GBCS	GB Companion Specification
GPF	Gas Proxy Function
GSME	Gas Smart Meter Equipment
HAN	Home Area Network
IHD	In Home Display
MMC	Message Mapping Catalogue
MRC	Modification Report Consultation
PAYG	pay-as-you-go
PIT	Pre-Integration Testing
PPMID	Prepayment Meter Interface Device
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS2	Smart Metering Equipment Technical Specifications 2
HAN	Home Area Network
TABASC	Technical Architecture and Business Architecture Sub-Committee
ToU	Time of Use
TSAT	Technical Specification Applicability Tables
UIT	User Interface Testing
XML	Extensible Markup Language

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SECMP0015 'GPF timestamp for reading instantaneous Gas values'

Annex A

Business Requirements – version 1.0

About this document

This document contains the Business Requirements that would be required to deliver this Modification Proposal.

These changes have been drafted against SEC Version 5.20.

Functionality Requirements

This SEC modification is to allow Remote Parties and Devices reading the instantaneous values from the GPF to know what the time was on the GSME's Clock to which those values relate. Specifically

1. The GSME is to provide to the GPF with a date-time stamp value whenever the GSME provides its instantaneous values;
2. The GPF is to update its copy of this date-time stamp whenever it updates its copy of the GSME's instantaneous values;
3. The GPF is to make available its copy of the GSME date-time stamp to Devices on the SMHAN;
4. When the GPF creates a Response to Use Cases GCS13a, GCS13b, GCS13c, GCS14 or GCS60, the GPF is to use its copy of the GSME date-time stamp to populate the date-time field in the Response it generates, and mark the source of that date-time stamp in the time status of the Response accordingly; and
5. Parse and Correlate is to decode the time status in Responses so that GSME sourced date-time stamps are flagged, along with (as an option) a decoding as to whether the date-time is (1) reliable, (2) unreliable or (3) invalid.

Changes required to deliver functional requirements

To deliver the functional requirements:

1. GSME would be required to maintain a new Smart Metering Equipment Technical Specifications (SMETS) operational data item ('Instantaneous Values Last Update Date and Time') and provide that value to the GPF each time it provides the instantaneous values. In Zigbee Smart Energy (ZSE), this equates to the ReadingSnapshotTime attribute (0x0007) in the Reading Information Attribute Set within the Metering Cluster;
2. GPF would be required to keep a copy of that value, where it is provided by the GSME, and use it to populate the date-time field in the Responses to Use Cases that read instantaneous values [currently, the GPF puts the Communications Hub (CH) Date and Time in this field]. This Communications Hub Functionality (CHF) would be required to continue to use CH Date and Time, where the GSME does not provide the new data item;
3. GPF would make available its copy of the ReadingSnapshotTime attribute (0x0007) in the Reading Information Attribute Set within the Metering Cluster to Devices on the SMHAN (or would set the to 'invalid time' when it does not have a valid value from the GSME, to make clear to other Devices that it does not have a GSME provided value);
4. Parse and Correlate would decode bit 2 of the 'time status' (in the date-time field with Responses) to flag where date-times come from the GSME rather than the Device (GPF) creating the Response (so where bit 2 is set to 0b1). As an option, Parse and Correlate would also decode bits 0 and 1, in line with GBCS Table 9.1.4.2b. This would require a corresponding change to the MMC.
5. These changes do not affect the structure of any of the existing Use Cases, and so do not require changes to the DCC User Interface Specification (DUIS) or Data Service Provider (DSP) systems.

Testing Requirements

This section sets out the necessary testing requirements to delivery SECMP0015:

1. The DCC will provide Testing Services to support the implementation of SECMP0015 to assess the interoperability of User Systems with DCC Systems and Smart Metering Devices.
2. The DCC will provide an analysis including supporting assumptions and rationale, of any testing required to the DCC Total System.
3. The DCC will prepare a report setting out the scope, phases, timetable, Testing Participants, any assumptions and rationale in relation to SECMP0015 testing.
4. The testing environment that the DCC provides in support of SECMP0015 as part of Testing Services will support the following Service Requests:
    a. 'Read Instantaneous Import Register' Service Request Variance (SRV) 4.1.1
    b. 'Read Instantaneous Import Block Counted' SRV 4.1.4
    c. 'Read Instantaneous Import TOU Matrices' SRV 4.1.2
    d. 'Read Instantaneous Prepay values' SRV 4.3
    e. 'Read Meter Balance' SRV 4.18
5. The testing environment will be open to the User Role of Gas Suppliers in respect of SRV 4.1.1 and SRV 4.1.2.
6. This environment should be made available for a minimum of 15 Working Days, depending on the impact of the change. The DCC must provide the costs and assumptions associated with providing this Testing Service, including whether the testing costs are based on a set number of Users utilising the Testing Service, i.e. up to 10 Users, noting that at least two Large Suppliers may test the functionality. This is to ensure it operates correctly before it is put into the End-to-End and Production environments.
7. The objective of testing as part of the Testing Services will be to ensure that, in response to each of the Service Requests, the User receives the corresponding Service Response from the DCC.
8. As part of the Testing Services, the DCC will provide Users with a corresponding version of the Parse and Correlate software and Message Mapping Catalogue.
9. The acceptance criteria for testing as part of the Testing Services will be, following successful execution of the corresponding Command, the User receives the corresponding Service Response from the DCC.
10. The DCC will provide:
    a. a reasonable number of Test CH for use in the testing environment which represent every combination of Home Area Network (HAN) and Wide Area Network (WAN) Variant. This includes Test CH that comply with version of Communications Hub Technical Specifications (CHTS) in force prior to the Release as well as Test CH that comply with the version CHTS which will be effective on the Release date;

b. Test Stubs (or other alternative arrangements) to emulate GSME behaviour of version(s) of SMETS in force prior to the Release as well as the version of SMETS which will be effective on the Release date.

Implementation Approach

Implementation requirements

The associated changes to SEC documents, including SMETS, CHTS, Great Britain Companion Specification (GBCS) and Message Mapping Catalogue (MMC) would be implemented at 'Version 5.20' of the SEC.

The Functional Requirements in this Modification would need to be met by all GSME / CH which comply with 'Version 5.20' or a later SEC version, covering both those GSME / CH that are newly installed and those whose firmware is upgraded to 'Version 5.20' or a later SEC version.

There would be no requirement to upgrade firmware on installed GSME / CH to implement this Modification. It would be for Suppliers to decide whether to upgrade GSME and for the DCC to decide whether to upgrade CH.

There would be no requirement for other Device types to be upgraded as part of this Modification (e.g. to be able to read the GSME date-time stamp), as there is no requirement for other Device types to use the additional information. It would be for Suppliers (excluding Consumer Access Device (CADs)) or Consumers (CADs) to decide whether to upgrade other Device Types.

From the point at which 'Version 5.20' comes in to force, the DCC would need to make available to DCC Users an updated version of Parse and Correlate software, which includes support for the decoding of time status. In terms of this Modification, it would be for DCC Users to decide whether and when to implement the updated version of Parse and Correlate software.

There would be no obligation on DCC Users or the DCC to make any specific use of the GPF provided GSME date-time stamp, and so there are no additional changes to DCC User or DCC SEC obligations.

Compatibility Requirements

In terms of compatibility between CH and GSME at differing versions of the Technical Specifications, there should be no compatibility issues, since:

1. as above, the CH will revert to existing behaviour where the GSME does not support this feature
2. if the CH does not support this feature it should discard any GSME provided *ReadingSnapshotTime* attribute value reported to it. [DN: DCC to confirm]

In terms of another Device (e.g. CADs) attempting to read the GPF copy of the *ReadingSnapshotTime* attribute, the other Device will receive an UNSUPPORTED_ATTRIBUTE status from the GPF in the response, if the GPF does not support this Modification. It would receive 0xFFFFFFFF (meaning invalid time) if the GPF supports this Modification but the GSME does not. Both these behaviours are part of the ZigBee Specification and so should be factored in to the design of such Device types.

In line with the wider SEC approach, there is no requirement to update already installed GSME or CH to support these changes. The additional attribute shared over the SMHAN does not affect any other Devices.

From a DCC User perspective, access to these Use Cases would be provided by existing, unchanged Service Requests. The structure of existing Responses would also be unchanged. Versions of Parse and Correlate that do not decode the time status in Responses would still be able to process Responses (since the structure and content of Responses is unchanged).

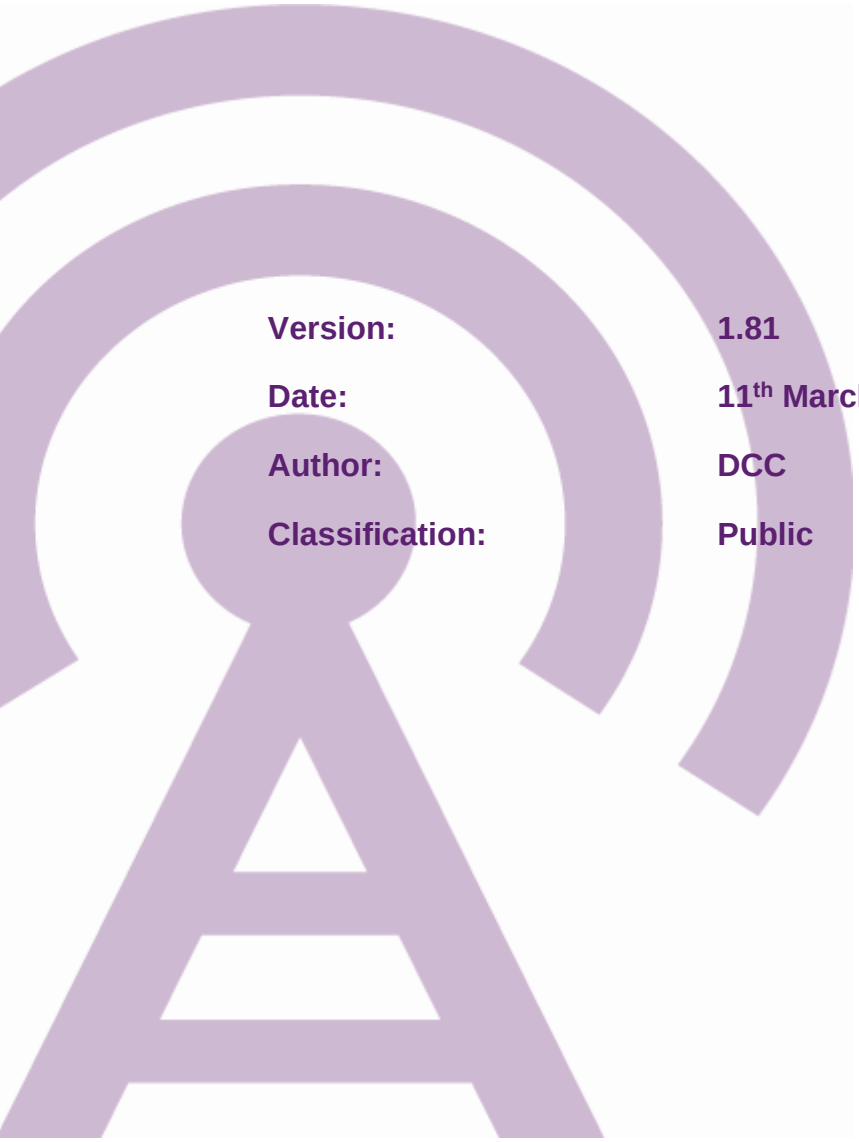
Thus, there would be no requirements for a DCC User to make any changes as a result of this Modification, save that Gas Suppliers would, for newly installed GSME, need to install GSME that include this functionality.

Data Communications Company

SEC Modification Proposal, SECMP0015

GPF Timestamp for Reading Instantaneous Gas Values

Full Impact Assessment (FIA), DCC CR213 and CR1197



Version:	**1.81**
Date:	**11th March, 2020**
Author:	**DCC**
Classification:	**Public**

Data Communications Company

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1 Document History

1.1 Revision History

Revision Date	Revision	Summary of Changes
21/5/2018	0.1	Initial compilation from Service Providers
24/5/2018	0.2	Internal DCC Review
8/6/2018	1.0	Included all review comments
8/8/2019	1.1	Updated GCS60 to be replaced with GCS60a, completed RAID, ready for re-estimate of testing costs
16/8/2019	1.2	Added testing assumptions
16/10/2019	1.6	Included SIT, UIT and Implementation costs, CR1197
2002/2020	1.67	Updated costs and created separate ANNEX document
11/03/2020	1.81	Added updated DUGIDS document from the DSP, updated RAID

1.2 Associated Documents

This document is associated with the following documents:

#	Title and Originator's Reference	Source	Issue Date
1	SECMP0015 - GPF timestamp - Solution Design Document	https://smartenergycodecompany.co.uk/modifications/sending-commands-via-ppmids//	16/10/2017
2	SECMP0015_DCC_ PA	DCC Document	23/03/2017

1.3 Document Information

The original Business proposer for this Modification was Tim Newton.

This DCC Full Impact Assessment was requested of DCC, and the Service Providers instructed to proceed with their submissions on 7/9/2017. However a change in the requirements, and a SECAS request to provide standalone testing costs meant that the document was reissued in August 2019, and the new Service Provider information and estimates was sent back to SECAS in October 2019.

Note that the term "Change Request" is used interchangeably with "Modification" throughout this document.

1.4 Document Purpose

This Full Impact Assessment (FIA) is provided further to a DCC Preliminary Impact Assessment (PIA), which was requested by the Working Group with the information requested in accordance with SEC Section D6.9 and D6.10. This document builds on the information previously provided as part of the PIA, clarifying and refining the impact of this SEC Modification on DCC.

2 Solution Requirements and Overview

2.1 Context

Instantaneous Gas Smart Metering Equipment (GSME) register values can be read from the Gas Proxy Function (GPF). These will not normally be in-line with the readings on the GSME, since the GSME only provides intermittent updates to the GPF, typically once every 30 minutes.

When reading these attributes from the GPF the date-time field in the response is set to the GPF read time and not the GSME consumption measurement time. Without a timestamp to know when the GSME last updated the GPF, the Supplier cannot know the currency of the information.

In order to provide accurate information to the suppliers, this change proposes that a GSME shall make the time at which an *instantaneous* register is updated available to the GPF whenever the register values are shared with the GPF. When GPF creates Responses to the corresponding use cases, it shall populate date-time stamp value with the value received from GSME and specify the source (indicates whether the value is from GSME or GPF) of the date-time stamp. The value held by the source field will be used to validate the reliability of the date-time stamp in the Critical Software Parse and Correlate application.

In summary, this Modification helps inform the gas suppliers of the currency of the instantaneous register values.

2.2 Requirement

The functional requirements for SECMP0015 as stated in the initial solution design [1] are as stated following. This Modification allows Remote Parties and Devices reading the instantaneous values from the GPF to know what the time was on the GSME's Clock to which those values relate. Specifically:

- The GSME is to provide to the GPF a date-time stamp value whenever the GSME provides its instantaneous values
- The GPF is to update its copy of this date-time stamp whenever it updates its copy of the GSME's instantaneous values
- The GPF is to make available its copy of the GSME date-time stamp to Devices on the SMHAN
- When the GPF creates a Response to GCBS Use Cases GCS13a, GCS13b, GCS13c, GCS14 or GCS60[1], the GPF is to use its copy of the GSME date-time stamp to populate the date-time field in the Response it generates, and mark the source of that date-time stamp in the time status of the Response accordingly
- Parse and Correlate is to decode the time status in Responses so that GSME sourced date-time stamps are flagged, along with (as an option) a decoding as to whether the date-time is (1) reliable, (2) unreliable or (3) invalid.

[1] See section **Error! Reference source not found.** and Appendix A – GBCS Changes for changes

3 Solution Overview

The Communications Hub GSME mirror will be updated to mirror the GSME 'Reading Snapshot Time' and GPF will populate the Use Cases with 'Reading Snapshot Time'. As the change is populating a field that already exists there are no structural changes to the relevant schemas. Backward compatibility is maintained, so there is no impact beyond those listed in the Communications Hub sections below.

The mechanism using which the Timestamp values are populated in the Device Responses corresponding to the following Service Request Variants (SRVs) will undergo modifications due to this change.

- 4.1.1 Read Instantaneous Import Registers
- 4.1.2 Read Instantaneous Import TOU Matrices
- 4.1.4 Read Instantaneous Import Block Counters
- 4.3 Read Instantaneous Prepay Values
- 4.18 Read Meter Balance

3.1 Communication Hubs Changes

The major impact of SECMP0015 to services is on the Communications Hub (Comms Hub), through an uplift of the r2.x Communications Hub firmware codebase to support the time stamping of GSME instantaneous values. These will be implemented by the CSPs.

The Comms Hub will require changes to the GSME mirror to make the attribute available on the HAN, and GPF functions both to record to record a value of the 'ReadingSnapshotTime' attribute provided by a GSME on the connected HAN attribute and to populate the date-time field in the responses for the specific GBCS use cases. This will also impact the Parse and Correlate component.

3.1.1 Mirror Reading Snapshot Time

The ReadingSnapshotTime attribute is optional, and represents the last time all of the Current Summation Delivered, Current Summation Received, Current Max Demand Delivered, and Current Max Demand Received attributes supported by the device were updated. The default value shall be 0xFFFFFFFF.

It is expected this will be updated by the GSME every time the GSME data is mirrored from GSMEs that support this Modification. The CH will support GSMEs that both implement and do not implement this SEC Modification. Test cases shall be added that cover meters that both support and do not support this optional attribute.

The GSME mirror shall make this attribute available to devices on the HAN. If the attribute is read when it has not been populated the response status 'unsupported attribute' shall be returned.

Note: the SEC solution design document [1] proposed the attribute shall be set to 'invalidTime' as opposed to 'unsupported attribute' as defined by ZigBee. This should be implemented to match the GBCS/CHTS update.

3.1.2 Populate Identified Use Cases Timestamp Field

When the GPF creates a Response to Use Cases GCS13a, GCS13b, GCS13c, GCS14 or GCS60a, the GPF shall use its copy of the GSME date-time stamp to populate the date-time field in the Response it generates if available. If the GSME date-time stamp is null or not available, the current time shall be used. The source of the timestamp shall be used to indicate the GSME consumption time or the CH current time.

The Time Stamp ‘bit 2’ element will be set to 1 for data from the GSME and 0 for the CH. The GBCS section 7.2.7, "Message construction – Grouping Header", specifies the message construction for the above mentioned GBCS messages.

All the affected messages will require the ‘Date-time stamp in response’ as specified in the column Z of tab ‘Use Case Reference’ of GBCS section 20 mapping table.

3.2 DUIS, DUGIDS and MMC

The DCC User Interface Specification (DUIS) is expected to remain unchanged. The DCC User Gateway Interface Design Specification (DUGIDS) and Message Mapping Catalogue (MMC) will require changes; as described following.

3.2.1 DUIS, DUGIDS and Related GBCS Changes

The description of the following SRVs in DUGIDS shall be updated to reflect the behaviour of the timestamp field.

- 4.1.1 Read Instantaneous Import Registers
- 4.1.2 Read Instantaneous Import TOU Matrices
- 4.1.4 Read Instantaneous Import Block Counters
- 4.3 Read Instantaneous Prepay Values
- 4.18 Read Meter Balance

The structures of these SRVs are not expected to change and hence there will not be any changes to the DUIS XML Schema Definition.

The GSME GBCS Use Case associated with SRV 4.18 will be changed to GCS60a from GCS60; however the input parameters do not change. In this case the definition of the Service Requests within the DUIS schema requires no changes, but DUIS will be uplifted to a new version to support the new GBCS version. It shall be noted that the Service Users shall be able to send SRV4.18 using the old DUIS version and, where supported by the Device, DCC Data Systems will transform the request to the new GBCS case.

DUGIDS will be updated to describe the new behaviour for the benefit of the Service Users and other applications including Parse and Correlate. An illustrative example of the changes required to DUGIDS is available in the

extract embedded below. A complete version of DUGIDS will be developed by the DSP during the Design phase.



CR1197 DUGIDS Extract v0.3.docx

The structures of these SRVs are not expected to change and hence there will be no changes to the DUIS XML Schema Definition.

3.2.2 MMC Changes

The MMC XML Schema Definition shall be modified to add two new optional attributes to the existing timestamp field within the Response Header:

IsFromGSME	If the IsFromGSME attribute of the Timestamp in the Response is set to Tue, then this indicates that the value of Timestamp is set by the GSME, not the GPF.
ClockStatus	Indicates if this time is RELIABLE, UNRELIABLE or INVALID.

The Service User Simulator (SUS) will need to integrate the new MMC schema to ensure that the implementation is consistent with that of the Parse and Correlate software.

3.3 Transform Libraries

Transform will build the library for the new GBCS Use Case GCS60a, which will be based on the GCS60 implementation.

3.4 GBCS Changes

The following GBCS use case and message responses shall be updated:

- GCS13a Read GSME Consumption Register
- GCS13b Read GSME Block Counters
- GCS13c Read GSME Register (TOU)
- GCS14 Read GSME Prepayment Register(s)
- GCS60 Read Meter Balance for GSME, will be replaced with GCS60a

Changes to the use cases are covered in detail in Appendix A – GBCS Changes on page 25.

3.5 Parse and Correlate Application

Parse and Correlate will provide a solution to read the Grouping Header date-time field from the responses and decode bit 2 of that field, which corresponds to the ‘time status’, to flag where date-times came from the GSME rather than the CH. Parse and Correlate would also decode bits 0 and 1, in line with GBCS Table 9.1.4.2b and flag that date-time as (1) reliable, (2) unreliable or (3) invalid.

As noted above, a new MMC schema with all the relevant changes for this solution needs to be supplied and applied to Parse and Correlate.

3.6 Critical Software GBCS Integration Testing For Industry (GFI)

The GFI Testing Tool and GFI Comms Hub will be impacted by this Modification.

The GFI Testing Tool will require the following changes to its GPF data structures:

- Add the attribute ReadingSnapshotTime to the GPF data structures
- Initialize ReadingSnapshotTime on the GPF with 0xFFFFFFFF (invalid value)
- Support mirroring of ReadingSnapshotTime by a GSME sending a Report Attributes command
- Expose ReadingSnapshotTime to devices on the HAN

GPF response construction will also need to be updated for the use cases GCS13a, GCS13b, GCS13c, GCS14 and GCS60a in order to correctly set the Grouping Header date-time:

- If the GPF ReadingSnapshotTime is invalid, date-time will be set to the GFI CommsHub system time, and the status field will indicate the value as unreliable and as having the same source as the response
- If the GPF ReadingSnapshotTime is invalid, date-time will be set to the value of that attribute, and the status field will indicate the value as reliable and as having a source different from the source of the response

The test reports produced by GFI will also be enhanced to display the Grouping Header date-time status information.

The GFI GSME emulator will require improvements to validate the changes required by this Modification. These improvements will include the ability for the GSME emulator to act both as a device that mirrors ReadingSnapshotTime and a device that does not mirror that attribute.

The solution described above will allow the GFI GPF to work with Gas Meters capable of mirroring ReadingSnapshotTime as well as GSMEs that do not mirror this attribute.

A change in the GBCS mapping table that sets the grouping header date-time field as mandatory for use case GCS60a will be required.

Is also assumed that a given GSME will have a consistent behaviour regarding the mirroring of ReadingSnapshotTime when mirroring Instantaneous GSME register values. It will either always report ReadingSnapshotTime or never report it. Although an inconsistent behaviour will not prevent the use of GFI it may cause the GFI GPF to provide misleading information both to remote parties and to devices on the HAN.

4 Impact on DCC Systems, Processes, and People

This section describes the impact of SECMP0015 on DCC's Services and Interfaces that impact Users and/or Parties.

4.1 Solution Infrastructure

No additional infrastructure will be required.

4.2 Impact on Safety

This change does not affect the processing, storage or transmission of data within DCC Data Systems. No new types of hardware infrastructure are required to be procured or installed as a result of this change and, therefore, there is no foreseeable HSE impact. The proposed functionality will be accommodated within existing infrastructure which have already been subject to assessment.

4.3 Impact on Consumers

Consumers will not be impacted, but there will be benefits to the addition of this metadata, including considerations around Pre-payment and emergency credit calculations.

4.4 Modification Deliverables

The changed documents and deliverables for SECMP0015 are as described in the table below.

Deliverable	Changes Required
SD4.1 DCC User Gateway Interface Design Specification	DUGIDS Updates required to Annex 4.
SD4.1.19 MMC XML schema	MMC Changes to support the new functionality
Communications Hub Detailed Specification (CHDS) CH02	CHDS will be uplifted to include new commands with PIT Test Approach
Communications Hub Technical Specification (CHTS)	CHTS will be uplifted to include new commands with PIT Test Approach
Parse and Correlate Application	CRITICAL Software Changes: Use Case Specifications Test Approach Test Case Specifications Test Reports Installation Document Software Architecture Specification API Release Notes Traceability Matrix Release Notes

Deliverable	Changes Required
GFI Software	CRITICAL Software Changes: Installation Document, and Release Notes
Released based test artefacts (Test Plans, Heatmaps, new/updated test scenarios etc.)	This Modification will contribute to Release based test artefacts

4.5 Impact on Security

This section describes the impact the DCC considers SECMP0015 will have on the Security of the DCC's Total System.

DCC has carried out a security risk assessment for SECMP0015 and determined that there is no change to the security model as a result of the planned Modification.

4.6 Transition to Operations (TTO) Approach

No TTO-specific charges related to the DSP have been included in this FIA on the basis that it is relatively small. It is assumed that other larger or more complex Change Requests will include partial provision for TTO and that the overall release CR will address any collective shortfall.

4.7 Application Support

The Application Management Support team are responsible for the provision of application level support for the DCC Data System application.

It is not expected that this new functionality will result in an increase in service calls.

5 Testing Considerations

This Full Impact Assessment includes the cost to develop, fully test and deliver this SEC Modification.

Testing costs for SIT and UIT have been built on the following assumptions:

- A standalone SEC Modification release, with an Implementation of Go Live in November 2020 (although has no bearing on the final costs and durations)
- SIT testing 8 weeks
- UIT testing 4 weeks
- 10 test sets per Comms Hub type. This means 10 for Arqiva (5 Single Band CH, 5 Dual Band CH), 20 for Telefonica (same split per band, but two meter manufacturers).
- Full regression testing

In addition, the cost for all testing and implementation costs will be determined as part of a "Grouping CR" or SEC Release CR, once the full scope of the release that this SEC Mod is allocated to is finalised; that cost will apply to the release and not to an individual SEC Modification.

Note there is no requirement for CHM and BSS regression testing, as there are no changes in these applications.

Timelines are shown in section 6.1 following although times may well be called out in the following sections.

5.1 Pre-Integration Testing

Pre-Integration Testing (PIT) estimates are subject to a PIT environment being available for this testing to be carried out. The Communications Hub change testing will be limited to PIT testing of the new functionality outlined in this Modification as well as PIT regression testing. PIT System Comms Hub testing will consist of 2 cycles of testing of the new functionality delivered by this Modification, plus 2 cycles of regression testing. A repeat of a subset of PIT System test cases will be conducted for DCC Test Assurance witnessing.

When the software has been deployed into PIT, it may be possible to operate the following phases of testing in parallel:

- Devices Acceptance testing
- Networks testing
- System testing

Device testing focuses on both acceptance testing new releases from the CH manufacturers, the testing of physical aspects of the Communication Hub and the testing of core functionality relating to start up and initial operation.

Networks testing focuses on how the Communication Hub interacts with the SMWAN.

System testing focuses on how the Communication Hub interacts with the CSP systems including:

- GBCS message processing
- Firmware distribution
- Device management related functionality including power outage processing

Multiple PIT teams may be engaged operate in parallel to minimise the duration of the overall testing phase.

5.2 System Integration Testing and User Integration Testing

The DSP SIT team will create a set of test scenarios to validate the new functionality introduced by the new Use Case GCS60a and to include SRs 4.1.1; SR4.1.2; SR4.1.4; 4.3 and 4.18. SIT effort also includes also regression testing of the affected functional areas and supporting CSP testing.

The DSP UIT Test team will prepare and execute the necessary tests to verify a successful deployment of the changes has been completed in the UIT environment. UIT resources will then be available to support service users with their own user testing activities in a two (2) calendar month period. The DSP UIT support for CR1197 is expected to be part-time throughout this period.

This particular change will require UIT environments to undergo specific post-deployment verification of some key components (Service User Simulator incorporating the new version of Parse and Correlate) in addition to other standard deployment checks that are part of this change.

CSP test lab support will be required to Permit the System Integrator (CGI SI) to execute the SI regression test pack for System Integration Testing (SIT) and User Integration Testing (UIT). The same support will provide triage and defect resolution activities during any SI managed integrated testing.

5.3 Framework and Testing Tools

This Modification will require the following changes to support CH testing:

- Update to testing framework to verify and validate the backward compatibility use cases
- Update to test support tools to support upstream and downstream mechanism limits / no limits
- Update the PIT meter Test Stub capability to assure the Modification Communication Hub software uplift

5.4 Reference Test Data Set (RTDS)

The RTDS data set will be updated with the following changes:

- New GBCS payloads for the use cases GCS13a, GCS13b, GCS13c, GCS14 and GCS60a run on a GPF. These payloads will include a mix of examples where the GPF returns the GSME timestamp (reliable date-time) and its own timestamp (unreliable date-time).
- Update of existing GCS60a payloads to include the Grouping Header date-time.
- New and updated DUIS and MMC examples for SRV 4.1.1, 4.1.4, 4.1.2, 4.3, and 4.18 matching the payloads mentioned above.

It is assumed there will be a change in the GBCS mapping table that sets the grouping header date-time field as mandatory for use case GCS60a.

6 Implementation Timescales and Releases

This Modification was expected to be included in a SEC release in November 2020. Implementation timescales will be finalised as part of the relevant SEC release Change Request.

6.1 Change Lead Times and Timelines

From the date of approval (in accordance with Section D9 of the SEC), to implement the changes proposed DCC requires a lead time of **13 months**.

The broad breakdown of the testing regime is shown in the following table in months after an approval decision date (D).

Phase	Start	End
SECAS agreement on scope of release	Decision Date (D)	
CAN signature	D + 1 Month	
PIT Phase	D + 1 Month	D + 6 Months
SIT Phase (functional changes only)	D + 6 Months	D + 10 Months
UIT Phase (functional changes only)	D + 11 Months	D + 12 Months
Transition to Operations and Go Live	D + 12 Months	D + 13 Months

For the CSPs, the testing cycles follow the pattern described in section 5.1 onwards with two PIT cycles, an additional cycle of defect fixes, and two SIT cycles.

6.2 Release Allocation and Other Modifications

When a decision is made on the potential SEC Release for this Modification, an assessment of any overlaps or duplication of functionality, particularly testing will be made. Allocation to a SEC Release is decided when the Modification is approved. The allocation to any release may be dependent on other Modification timings and the suitability of a release.

At this time, there no functionality overlaps with other Modifications has been identified.

6.3 Costs and Charges

This section indicates the quote per application development stage for this Modification. Note these costs assume a standalone release of just this SEC Modification without any other Modifications or Change Requests in the release, which is not truly reflective of what the test costs or programme duration will look like. A calculation of those costs will be carried out when the contents of the future Release are finalised and the post-PIT costs determined through a "Grouping CR" also referred to as a "Release CR".

£	Design	Build	PIT	SIT	UIT	TTO	App. Support	SP Total
Phase Total	244,695	583,985	1,187,698	708,588	651,239	121,718	90,701	4,596,044

Design	The production of detailed System and Service designs to deliver all new requirements.
Build	The development of the designed Systems and Services to create a solution (e.g. code, systems, or products) that can be tested and implemented.
Pre-Integration Testing (PIT)	Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.
Systems Integration Testing (SIT)	All the Service Provider's PIT-complete solutions are brought together and tested as an integrated solution, ensuring all SP solutions align and operate as an end-to-end solution.
User Integration Testing (UIT)	Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change.
Implementation to Live (TTO)	The solution is implemented into production environments and made ready for use by Users as part of a live service.
Application Support	Any costs associated with supporting the new functionality.

6.4 Impact on Contracts and Schedules

It is not expected that there will be material changes to the contract as a result of this change. The actual changes will be assessed as part of the Contract Amendment Note (CAN).

There are modifications in the contract schedules required to support the changes in this Modification (*impacted Service Provider(s) shown like this below*):

Schedule 2.1: (*CSP*) For update to DSP Functional Requirements

Schedule 2.3: (*CSP*) The GBCS version in schedule 2.3 is to be updated

Schedule 4: (*CSP*) Technical requirement details to be added to this Schedule.

Schedule 6.1: (*DSP, CSP*) Consideration for updates to DSP Milestones if this change is to be implemented outside of the standard release cycle;

Schedule 7.1: (*DSP, CSP*) For updates to payments linked to milestones and Operational charges.

Schedule 11: (*CSP*) Technical requirement details to be added to this Schedule along with references to updated specification documents.

Schedule 12: (*CSP*) To reflect the uplifted GBCS specification version.

7 Risks, Assumptions, Issues, and Dependencies

The tables below provides a summary of the Risks, Assumptions, Issues, and Dependencies (RAID) observed during the production of the Full Impact Assessment. DCC requests that the Working Group considers this section and considers any material matters that have been identified. Changes may impact the proposed solution, implementation costs and/or implementation timescales.

RAID and Clarifications already considered in the PIA have been rolled up into



PIA RAID.docx

the attached file:

7.1 Risks

Ref	Description	Status/Mitigation
SIA15-A-R1	Any changes to the scope or interpretation of the items in scope will need to be agreed with the DCC in the first instance and will require reassessment and therefore agreement from the DCC that they accept the impact in terms of cost and time.	Accepted.
SIA15-A-R2	There is a risk that any changes to previous deliveries or overrunning of previous projects will impact the timescales for delivery of the Modification.	Accepted
SIA15-A-R3	The availability of the revised CHTS and GBCS specifications may delay this programme.	Accepted
SIA15-A-R4	If the GSME firmware version which aligns with GBCS functionality within the Modification is not available for SIT testing, new functionality cannot be effectively verified.	Accepted.
SIA15-A-R5	Any requests for additional or extended rounds of testing would impact the overall cost and schedule.	Accepted
SIA15-A-R6	Should test phases be delayed for reasons outside of Service Provider's control, additional charges will apply.	Accepted
SIA15-A-R7	The meter emulators are not representative enough of real meters, meaning defects may be found in SIT testing, which are not found in PIT.	Accepted but meter emulators will be specified and developed for the release.
SIA15-A-R8	The Environment Refresh plan (PIT-B and SIT-B) impacts the Modification timeline when test environments are upgraded.	Accepted. DCC needs to secure and refresh as appropriate.

	The Arqiva PIT-B and UIT-B Test Environments are provided to the end of June 2020. If the timing of implementation of this change means that any testing takes place after the end of June 2020 there will be no B-Stream Test environment and that testing will need to take place on the A-Stream Test Environment. This could affect defect fixes and other upgrades which are intended to be tested on the A-Stream Test Environment.	
SIA15-A-R9	The CSPs currently only have the capability to execute two sets of Comms Hub firmware PIT testing in parallel. If other PIT testing activities are already being conducted with higher priority as defined by DCC, this Modification's PIT testing may be delayed.	Accepted. Note this limit will impact any other Comms Hub changes proposed in this timeline.
SIA15-A-R10	The charges set out in this IA are based on CSP North and Central's (Arqiva) understanding of the Modification as set out in the IA. If the approved CHDS or CHTS is different, then any programme or cost risk arising from those changes rests with the DCC. Arqiva's price includes the cost of providing one draft of these documents. If further drafts are necessary, for any reason other than an oversight by Arqiva of changes known to Arqiva at time of CAN, the cost of these further changes will be paid by the DCC on a time and materials basis. The DCC are responsible for, and will run, the consultation in regard to these changes. The risk of these changes leading to programme delay or additional work to change the implementation will rest with the DCC.	Accepted
SIA15-A-R11	The Comms Hub firmware does not meet the defect mask after two cycles of PIT testing, requiring further development and testing.	Accepted
SIA15-A-R12	If the System Integrator cannot execute the SIT Test Phase per test cycle in the assumed periods, the baseline schedule may be impacted.	Accepted
SIA15-A-R13	Further defects may be found in UIT Enduring Testing, after the UIT project testing has completed, blocking the OA process.	Open
SIA15-A-R14	Should the DCC want to introduce real meters and devices into CR1197 PIT testing, the baseline delivery scheduled for CR1197 may be impacted.	Accepted
SIA15-E-R1	Firmware delivered late and delays PIT/Delivery	Reduce. Frequent reviews with firmware suppliers, Critical Software audit implementation, EDMI contracted on a fixed price basis
SIA15-E-R2	Additional Assurance Maintenance Plan (AMP) cycle(s) of Commercial Product Assurance (CPA) required due to defects	Reduce. CSPs and firmware suppliers to be involved in testing

		approach. EDMI contracted on a fixed price basis for resolution of defects within their software."
SIA15-E-R3	PIT completion is delayed by issues with (EDMI) firmware	Reduce. 2 cycles of PIT testing included in project plan
SIA15-E-R4	SIT testing is extended due to Severity 2 issues identified during SIT	Reduce. 2 cycles of SIT testing have been included in the project plan
SIA15-E-R5	UIT testing is extended due to Severity 2 issues identified during UIT	Reduce. 2 cycles of PIT and SIT have been included in the project plan
SIA15-E-R6	Following completion of UIT project testing, defects are found in Enduring UIT which block OA	Accepted. DCC to accept that these defects are managed differently so that the impact is mitigated
SIA15-E-R7	The firmware supplier (EDMI) fix duration is greater than the 4 weeks currently assumed in the plan	Reduce. Regular defect triage and reviews to track progress and minimisation of schedule impact by testing in parallel with supplier testing
SIA15-E-R8	Planned resources are unavailable	Reduce. Ensure that a robust project plan (with appropriate durations) is in place prior to the commencement of the Modification which factors in commitments on other CRs
SIA15-E-R9	Existing programmes delay delivery of this Modification.	As above. Mitigation carried out under the existing programmes"
SIA15-E-R10	SLS emulator firmware for the relevant version of GBCS required for Modification is not available for PIT or SIT testing	Accepted
SIA15-E-R11	Current programme work-off and/or prod fixes are added to scope, increasing development & test timescales	Accepted, scope will be finalised before work starts
SIA15-E-R12	DCC does not finalise scope before instruction to proceed	Accepted

SIA15-T-R1	There is a risk that incorporating new functionality, such as this Modification, as part of a firmware maintenance release will, should defects be identified related to this Modification, block the progression of maintenance fixes. Should this scenario occur and there are no Severity 1 or 2 defects related to the scope of this Change Request, CSP South (Telefonica) expect DCC-L to: • Continue to support the progression of the maintenance release through the test cycle and through OAB. As the changes do not relate to any BAU SU used functionality this is a reasonable approach • Support the introduction of defect fixes as part of a further maintenance release	Open
SIA15-T-R2	There is a risk that any specification misinterpretation that is identified during testing the firmware releases associated with this Modification result in the need to iterate the Comms Hub firmware, delaying the availability of compliant firmware in Production and resulting in additional effort to test additional firmware releases and manage the progression of that firmware.	Accepted. Design reviews and workshops will cover in detail each aspect of the change.

7.2 Assumptions

These assumptions have been used in the creation of this Full Impact Assessment. Any changes to the assumptions may require DCC to undertake further assessment, prior to the contracting and implementation of this change.

Ref	Description	Status/Mitigation
SIA15-A-A1	The costs included in this IA response are based on the assumed scope/timescales as provided by DCC in this Modification. If these change, the Service Providers reserve the right to reassess the impact of this Modification.	Accepted, but no charges will be made for this work.
SIA15-A-A2	It is assumed that no additional test devices will be required for this Modification.	Accepted
SIA15-A-A3	PIT System testing will be performed against emulators or stubbed ESME and GSME devices and the scope of PIT testing will be similar to earlier Releases.	Accepted.
SIA15-A-A4	All test activities are planned in sequence.	Accepted
SIA15-A-A5	CPA will be obtained through AMP.	Accepted
SIA15-A-A6	ZigBee full recertification will be required.	Accepted
SIA15-A-A7	This CR (CR1197), the Modification, will be the ‘change’ scope for this release.	Rejected (Ignore). A separate CR will be

		raised for Post-PIT Testing of all changes in a future release.
SIA15-A-A8	No formal OCT and DIT Test Phases are planned for this release.	Accepted
SIA15-A-A9	No weekend work is planned. If needed, prior notice will be required and additional costs may be applicable.	Accepted
SIA15-A-A10	Should test phases be delayed for reasons outside of Arqiva's control, additional charges will apply.	Accepted
SIA15-A-A11	SBCH testing is of a higher priority than DBCH testing.	Accepted
SIA15-A-A12	A full cycle of testing will be carried out in SBCH and DBCH variants and a subset will be verified in DBCH-F, SBCH-ITCH, DBCH-ITCH variants.	Accepted
SIA15-A-A13	PIT testing is executed with emulators only.	Accepted
SIA15-A-A14	Any changes to schedule and/or cost to the PIT testing approach to include testing with real meters will be covered under a separate DCC Change Request.	Accepted
SIA15-A-A15	The DCC will provide a separate CR to formally recognise the DCC Operational Acceptance process (OA).	Accepted
SIA15-A-A16	It is assumed that resource will be available to implement this Change and that no mobilisation is necessary. If this is not the case, then timescales are subject to change and will be confirmed at CAN.	Accepted
SIA15-A-A17	This IA assumes that the B-Stream Test Environments (PIT and UIT) are closed down at the end of June 2020 in line with the current Agreement. This IA does not include any costs for the replacement of, or the extension of the availability of, the B-Stream Test Environments. Ref SIA15-A-R8.	Ignore. DCC intends to extend the availability of the B-stream environments.
SIA15-A-A18	This IA has been based on completion of CR1047 (GBCS v3.2) prior to commencement of those Modification. If this is not correct, then the pricing and timescales are subject to change.	Accepted
SIA15-T-A1	During PIT the following devices combinations will be tested: • CR1197 (Modification) compliant test stub and CR1197compliant CH • Non- CR1197 compliant test stub + CR1197 compliant CH.	Accepted
SIA15-T-A2	Assume GPF implementation will be backward compatible with non-compliant GSME by filling up missing time-stamp attributes with Communications Hub's own time-stamp.	Accepted

SIA15-T-A3	Assume the environments used to prove the CH firmware delivery of this Modification will be determined at the point of availability to release into the PIT and SIT environments and will be based on: • Whether the PITB / SITB / UITB environments are expected to endure for the period of testing • whether the PITA, SITA and UITA environments are expected to be available at the times expected within the delivery plan	Rejected, not part of this FIA
SIA15-T-A4	Assume the scope of the PIT Approach uplift required to support this Modification in regard to CH firmware change is limited to: • Proving via PIT testing that the GPF is able to record a value of the ReadingSnapshotTime attribute provided by a GSME; • Proving the GPF can populate the date-time field in the responses for the GBCS use cases listed	Accepted
SIA15-T-A5	Assume there is sufficient capacity within the SIT plan to test any planned Communication Hub related releases defined within this Modification across both SBCH and DBCH.	Rejected, not part of this FIA
SIA15-T-A6	Assume there will be a single iteration of software required for this Modification from the Communication Hub vendors. The delivery plan for this release has a single iteration.	Accepted
SIA15-T-A7	Assume there is a change in the DUIS schema version used for the CSP management interface and there is additional effort to load the updated DUIS schema and to regression test this functionality in PIT.	Accepted
SIA15-T-A8	Assume that the firmware changes to support the delivery of this Modification will be managed via the incorporation of the change within a firmware maintenance release and not as part of a DCC release operating in parallel with the maintenance release process. Whilst CSP South and Central understand that the incorporation of changes and fixes within maintenance releases is something that will be discussed with DCC-L as part of release planning, it has been necessary to make this assumption from a commercial planning perspective.	Accepted
SIA15-T-A9	Creation of a version of the appropriate SEC technical specifications (including any of GBCS and CHTS) to support this Modification such that it can be deployed into Production	Accepted

7.3 Issues

None at this time.

7.4 Dependencies

Reference	Dependency	Implication if dependency not met	Status
SIA15-T-D1	There is a dependency on the Technical Specifications to include the changes in this Modification	If the specifications are not updated, then this Modification cannot be promoted into Production and DCC shall be liable for any wasted costs	Accepted
SIA15-T-D2	There is a dependency on CPA security characteristics to be updated to align with the Technical Specifications mentioned in SIA15-T-D1	If CPA is not updated to align with the new Technical Specifications, then the change can't be delivered	Accepted
SIA15-T-D3	Telefónica has a dependency on DCC-L raising purchase order cover upon acceptance of this Impact Assessment such that Telefónica can progress with the delivery of this Change Request beyond any previously agreed commercial cover.	Telefónica will be unable to meet the delivery timeframes included in this Impact Assessment.	Rejected. PO Cover will be raised when the Modification is approved by SECAS, and the release plan is completed.
SIA15-T-D4	Any defect fixes that may prevent OAB for the Comms Hub firmware releases delivered under this Modification should be included in the firmware scope at least twenty (20) days prior to the release of that firmware into PIT. Defects must have been confirmed and triaged by the respective CSP and associated Communication Hub manufacturer.	Telefónica will be unable to incorporate the defect fixes into the specified release	Accepted
SIA15-T-D5	Telefónica is dependent on DCC-L organising a workshop with CH vendors, BEIS and DCC to walkthrough the changes to the specification to identify and resolve any areas of specification misinterpretation that may delay this release	Telefónica will revise the pricing associated with SIA15-T-R2 if there are any specification interpretation issues that result in additional or wasted costs for Telefónica.	Partially accepted. Design reviews and workshops will cover in detail each aspect of the change.

Appendix A – GBCS Changes

This SEC Modification is designed to allow Remote Parties and Devices reading the instantaneous values from the GPF to know what the time was on the GSME's Clock to which those values relate.

The solution requires the GPF to create Responses to Use Cases GCS13a, GCS13b, GCS13c, GCS14 and GCS60 and use its copy of the GSME date-time stamp to populate the date-time field in the Response.

The date-time stamp is part of the Grouping Header defined in GBCS Section 7.2.7 'Message construction – Grouping Header'. GBCS Table 7.2.7 details: 'Where date-time is required for a Message, it shall be a 12 octet string as per the DLMS specification. See 'date-timestamp in response' column, 'Use Case reference' tab in Mapping Table'.

Figure 1 below illustrates the date-time stamp in the Grouping Header.

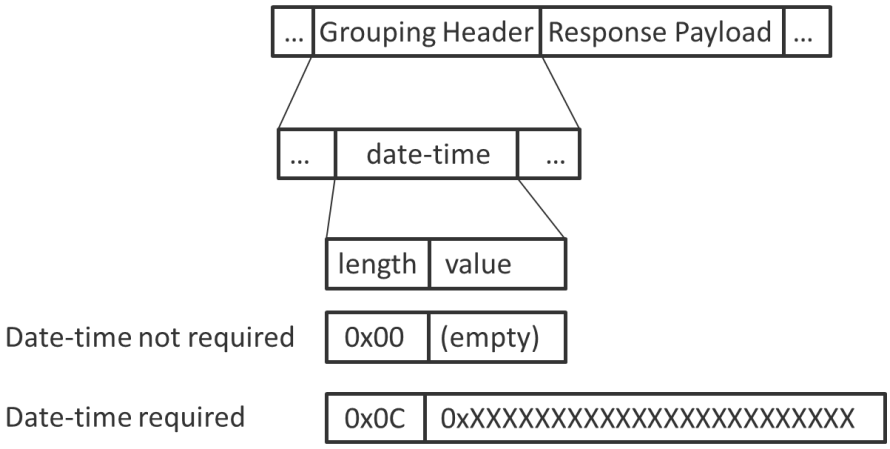


Figure 1:Date-time stamp in Grouping Header

The settings in the Mapping Table 20 mandate Use Cases GCS13a, GCS13b, GCS13c, GCS14 to include the date-time stamp in the Response; however for the Response to Use Case GCS60 the date-time stamp is currently not mandated.

The documentation in GBCS Mapping Table 20 is consistent across different version of GBCS; Table 1 below shows an extract of Mapping Table 20 with Use Case GCS60 being highlighted:

Use Case Name	*DLMS/ASN.1 message Location (1= in html)*	*Use Case (DLMS/ASN.1)*	*Message Code*	*GBZ message Location (1= in html)*	*Use Case (GBZ)*	*Message Code (gas)*	Date-timestamp in response
Read Import Energy / Consumption Registers	1	ECS17b Read ESME Energy Registers (Import Energy)	0x0027	1	GCS13a Read GSME Consumption Register	0x0074	Y
Read Energy / Consumption Register (TOU)	1	ECS17d Read ESME Energy Register (TOU)	0x0029	1	GCS13c Read GSME Register (TOU)	0x00B6	Y
Read GSME Energy Register (Block Counters)				1	GCS13b Read GSME Block Counters	0x00B8	Y
Read Prepayment Registers	1	ECS19 Read ESME Prepayment Registers	0x002D	1	GCS14 Read GSME Prepayment Register(s)	0x0075	Y
Read Meter Balance for Smart Meter	1	ECS82 Read Meter Balance for ESME	0x0069	1	GCS60 Read Meter Balance for GSME	0x008D	

Table 1: Existing requirements for the inclusion of the Date-time stamp in the Grouping Header for Use Cases GCS13a, GCS13b, GCS13c, GCS14, GCS60

As a consequence the implementation of SECMP0015 is possible for GCS13a, GCS13b, GCS13c, GCS14 as per the original solution design document; it is not possible for GCS60 due to the date-time stamp being not populated in the Grouping Header.

An alternative implementation is needed to support the desired functionality for GCS60.

Amended Solution

In order to include the functionality provided by Use Case GCS60 in the solution the following approach shall be taken:

1. Use Case GCS60 shall be deprecated;

2. a new Use Case GCS60a with a new GBCS Message Code shall be introduced;
3. the parameters of Use Case GCS60a shall be those of Use Case GCS60;
4. in addition Use Case GCS60a shall contain a 'Y' in the column 'date-timestamp in response', 'Use Case reference' tab in Mapping Table 20; and
5. Use Case GCS60a shall be added as a new line in Mapping Table 20.

These changes shall be documented in a new version of GBCS.

Implementation Impact

The sending of the Use Case GCS60a Command is similar to the sending of the existing GCS60 Command; minor changes are required to support Use Case GCS60a on the Supplier and DCC systems.

With regards to Responses from devices to the Command containing the Use Case GCS60a, the changes listed above will impact devices and processes due to the inclusion of the date-time stamp in the Grouping Header of the message:

- The GPF must support the new Use Case GSC60a.
- The GSME must support the new Use Case GCS60a.
- A new version of DUIS is required to include Use Case GCS60a.
- A new version of MMC is required to include Use Case GCS60a.
- Parse and Correlate must support Use Case GCS60a.

This implementation approach preserves the Use Case ECS82 in its current format without the date-timestamp and therefore doesn't impact either the ESME or the DCC and Suppliers Systems.

Appendix B – Glossary

.Acronym	Definition
AMP	Assurance Maintenance Plan
BSS	Business Support System
CAN	Contract Amendment Note
CH, Comms Hub	Communications Hub
CHDS	Communications Hub Detailed Specification
CHM	Communications Hub Manager
CHTS	Communications Hub Technical Specification
CPA	Commercial Product Assurance
CR	DCC Change Request
CSP	Communications Services Provider(s)
DBCH	Dual Band Communications Hub
DCC	Data Communications Company
DSP	Data Service Provider
DUGIDS	DCC User Gateway Interface Design Specification
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
FIA	Full Impact Assessment
GFI	GBCS Integration Testing For Industry
GPF	Gas Proxy Function
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
SBCH	Single Band Communications Hub
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SP	Service Provider
SR	Service Request
SRV	Service Request Variant
SUS	Service User Simulator
UIT	User Integration Testing

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SECMP0015 'GPF timestamp for reading instantaneous Gas values'

Annex D

Working Group Consultation responses

About this document

This document contains the full non-confidential collated responses received to the SECMP0015 Working Group Consultation.

Question 1: Do you agree with the solution put forward?

Question 1			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party	Yes	The quality of information provided by the display to the consumer will be improved, giving a better experience to the end user.
E.ON	Large Supplier	Yes	EON supports the proposal for the following reasons: • It will enable EON to age the GSME balance more accurately • It will support identification of communications issues between the GSME and GPF devices i.e. if the source of the instantaneous values is the GSME and the date/time stamp is greater than 30 minutes old, then this could indicate that there has been a loss of comms between the devices • It will support more accurate and timely balance information for PAYG customers
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters. This means all processes are unfamiliar and would not make a fair response.
Scottish Power	Large Supplier	Yes	This solution is necessary to mitigate the use of misleading read values in various consumer interactions.

Question 2: Will there be any impact on your organisation to implement SECMP0015?

Question 2			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party	No	Existing implementations work (with limitations on the temporal accuracy of the information) and the change will not break this solution. Implementation of SECMP0015 will allow future products to seamlessly use this extra information as we choose to introduce them.
E.ON	Large Supplier	Yes	EON will be required to schedule the integration of the new Message Mapping Catalogue schema, which will be delivered as part of normal service delivery/support activity. No development effort will be required
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	Changes to Parse & Correlate software and changes to meter specifications will have some impacts.

Question 3: Will your organisation incur any costs in implementing SECMP0015?

Question 3			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party		
E.ON	Large Supplier	No	As above, the internal changes required to deliver the change will form part of normal service delivery/support activity
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	As indicated in our response to Q2, implementing changes to Parse & Correlate software and the pass through costs of manufacturers' changes to meter specifications will have some impacts. However, as both are externally sourced, we cannot currently quantify the specific costs associated with these.

Question 4: Do you believe that SECMP0015 would better facilitate the General SEC Objectives?

Question 4			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party		
E.ON	Large Supplier	Yes	Delivery of this change will better facilitate general SEC objective 3 – To facilitate Energy Consumers' use of electricity and gas by providing information through Smart Metering Systems
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	We consider the test for Objectives (a) and (c) to have been met as highlighted: (a) the first General SEC Objective is to facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain; and (c) the third General SEC Objective is to facilitate Energy Consumers' management of their use of electricity and gas through the provision to them of appropriate information by means of Smart Metering Systems.

Question 5: Noting the costs and benefits of this modification, do you believe SECMP0015 should be approved?

Question 5			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party	Yes	The end user can be misled by information on the display if this is not approved – availability of the extra information is a necessary part of making the display more trustworthy.
E.ON	Large Supplier	Yes	The costs appear to be consistent with the changes being delivered and testing required to assure them
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	Customers should know whether the data they have is contemporary.

Question 6: How long from the point of approval would your organisation need to implement SECMP0015?

Question 6			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party		
E.ON	Large Supplier	1 month	Lead time of at least one month required to schedule the MMC Schema/P&C upgrade/changes with EON's service providers
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	c. 12 months	

Question 7: Do you agree with the proposed implementation approach?

Question 7			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party	Yes	
E.ON	Large Supplier	No	The implementation timescale is longer than EON would like. A significant proportion of our customer base will have Smart Metering by Q3/4 of 2020, many of which will be in PAYG mode, before this change is delivered. The risks, customer impacts and costs associated with managing them will have to be borne by EON during that period.
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	

Question 8: Do you agree that the legal text will deliver SECMP0015?

Question 8			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party		
E.ON	Large Supplier	Yes	The legal text clearly describes the required behaviour of GSME device and GPF when handling instantaneous values in future
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	

Question 9: Do you believe that this modification should be progressed as a Self-Governance Modification?

Question 9			
Respondent	**Category**	**Response**	**Rationale**
Chameleon Technology	Other SEC Party		
E.ON	Large Supplier	Yes	The modification fits within the SEC definition of a Self-Governance Modification as defined in the SEC Section D
Smartest Energy	Small Supplier	N/A	Smartest currently will not be operating/supplying GSME meters
Scottish Power	Large Supplier	Yes	

Question 10: What long term impacts (if any) would you incur if SECMP0015 is not implemented?

Question 10		
Respondent	**Category**	**Response and rationale**
Chameleon Technology	Other SEC Party	
E.ON	Large Supplier	Failure to implement the modification would have long term impacts on our ability to provide accurate information to energy consumers, which could adversely affect a proportion of our PAYG customer base. In addition, EON anticipates a need to send unnecessary service requests to both the GPF and GSME devices to validate the accuracy of data held on the GPF whilst the GSME timestamp is not available
Smartest Energy	Small Supplier	N/A
Scottish Power	Large Supplier	Meter reading values may be misleading.

Question 11: Please provide any further comments you may have

Question 11		
Respondent	**Category**	**Comments**
Chameleon Technology	Other SEC Party	
E.ON	Large Supplier	
Smartest Energy	Small Supplier	N/A
Scottish Power	Large Supplier	N/A

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SECMP0015 'GPF timestamp for reading instantaneous Gas values'

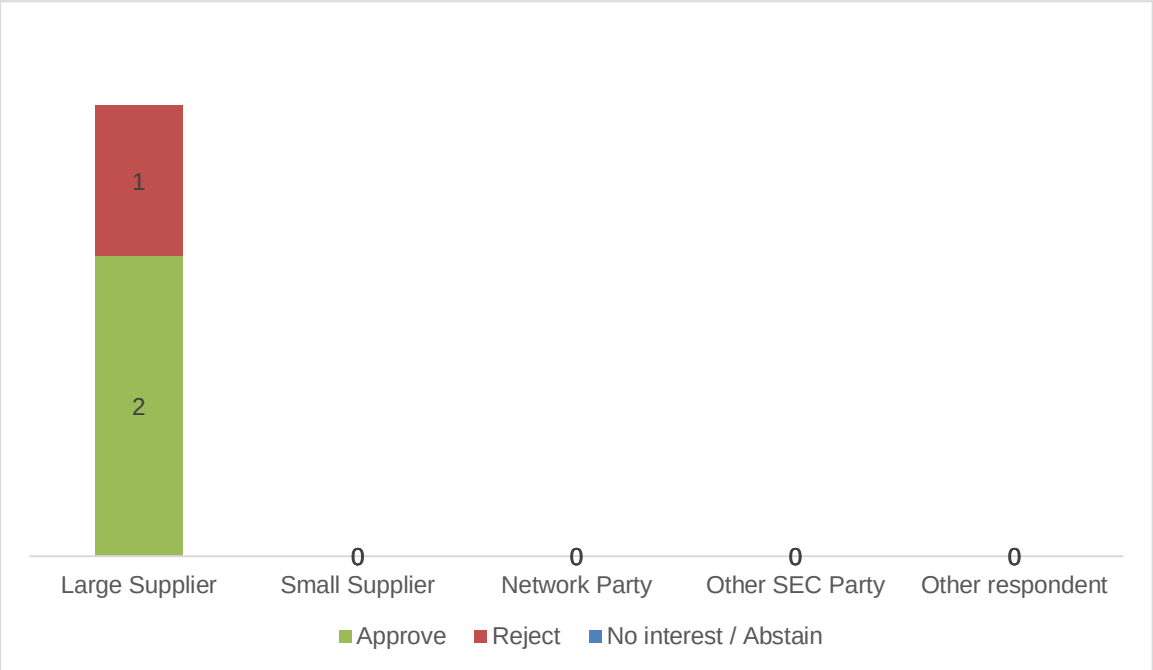
Annex E

Modification Report Consultation responses

About this document

This document contains the full collated responses received to the SECMP0015 Modification Report Consultation.

Summary of responses



Question 1: Do you believe that SECMP0015 should be approved?

Question 1			
Respondent	**Category**	**Response**	**Rationale**
E.ON	Large Supplier	Approve	E.ON is supportive of this change to support meter triage and improve billing and customer data accuracy.
OVO	Large Supplier	Approve	The impact on the customer journey and issues relating to Prepayment require this to continue although the costs for doing so may mean this will not happen and getting the best outcome for the customer may not be possible due to exorbitant costs the DCC seem to charge Users. We agree these align to SEC Objectives (a) and (c).
Scottish Power	Large Supplier	Reject	We were broadly supportive of this modification in light of the positive cost benefit ratio suggested from its preliminary assessment 2 years ago, which was around £600k. However, the full impact assessment suggests costs nearer £4.6m for PROD delivery. In our view this completely undermines the case for implementation.

Question 2: Please provide any further comments you may have

Question 2		
Respondent	**Category**	**Comments**
E.ON	Large Supplier	Can the DCC give an indication of the cost savings associated with testing using real devices instead of emulators, as referred to in Section 5. The section suggests that additional detail is available in Annex C, but there isn't a clear statement of the cost saving.
OVO	Large Supplier	The costs are not finalised and this needs to be challenged and drawn out. DCC need to clarify the costing to use actual devices and not emulators. It must also be flagged the cost for this change is huge and far outside the acceptable tolerances. This needs to be discussed and go through before this is cleared to be progressed. It is a shame this is no longer an Authority Driven change as it would be interesting to see their view of the costs and how much changing the Solution, especially for Prepayment customers, will be charged to Users.
Scottish Power	Large Supplier	N/A

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SECMP0015 'GPF timestamp for reading instantaneous Gas values'

Second Refinement Consultation responses (White)

About this document

This document contains the full collated responses received to the second SECMP0015 Refinement Consultation.

Question 1: Do you agree with the solution put forward?

Question 1				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
EdF	Large Supplier	No	We do not believe that the solution is complete. The Modification Report refers to one of the benefits of SECMP0015 being that IHDs and PPMIDs will also be able to determine and **display** the time of the last update. There are, however no changes the display requirements for IHDs or PPMIDs included in the legal text changes in Annex B. Without this some of the benefits of making the change will not be able to be achieved as consumers will not be able to determine whether any data is out of date or not.	To clarify, displaying the exact time on the IHD/PPMID will be possible in future iterations of IHDs/PPMIDs but not existing ones. Whilst you are correct that consumers will not be able to see the time displayed on the IHD or PPMID they will be able to see the data displayed being updated on a regular basis as the IHD/PPMID will know the exact time and the accuracy of the data will be increased. We will amend the Modification Report to ensure this is clear. You are correct that that the legal text does not require the time to be displayed the proposed legal text is consistent with the way GBCS is written, including the flexibility for IHD/PPMID manufacturers to gather all required information in their preferred way (and therefore not specifically described in the technical specifications)
Citizens Advice	Consumer Representative	Yes	This solution will address an issue with the current smart metering systems where gas smart meter gas readings become out of date and inaccurate if a smart meter fails to	

Question 1				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			update an IHD. The proposed firmware update will make it clear that the reading was correct as of an earlier time and that there might be a communication issue between the IHD and the gas meter. The issue as it stands creates problems for gas consumers with prepayment and credit meters who depend on accurate metering information to closely budget and manage their energy needs. When a meter reading via the IHD fails to reflect the energy used, a consumer needs to be made aware of this issue. Without accurate usage information, consumers cannot anticipate effectively their meter running out of credit or running up an unexpectedly high bill. This is a failure in operation and a restriction on consumers' capacity for energy management. As a result, we think that SEC objectives A and C are better realised through this modification. The costings of this modification have been reassessed and the massively reduced cost that is feasible when combined with other modifications (£1.77m vs the isolated implementation of £4.6m) presents a compelling value proposition. Given the delays to SMETS2 prepayment metering, particularly in the north, it is vital to consumer trust that technical issues, which risk consumers going without energy supply or experiencing surprise bills are anticipated and addressed as promptly as possible.	

Question 1				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Utilita	Large Supplier	Yes	Utilita supports the proposed solution which will deliver the following benefits: - Displaying of the timestamp date to the PPMID will allow the consumers to identify when the PPMID was last updated from the GPF. This timestamp will allow consumers to identify discrepancies between balance displayed on the PPMID, and the actual balance on the Gas meter if the PPMID has not been updated for a period of time. - Enhanced monitoring of PPM balances that will subsequently allow energy suppliers to identify and assist consumers that require support. - Allow suppliers to identify where there has been a potential loss of comms from a gas meter.	To clarify, displaying the exact time on the IHD/PPMID will be possible in future iterations of IHDs/PPMIDs but not existing ones. Existing IHDs/PPMIDs will show the consumption data with increased accuracy and customers should see less issues associated with the mis-matched consumption data. This will be clarified in the Modification Report.
EON	Large Supplier	Yes	The solution meets the requirement raised in E.ON modification proposal.	

Question 2: Will there be any impact on your organisation to implement SECMP0015?

Question 2				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	Yes	-	

Question 2				
Respondent	**Category**	**Response**	**Rationale**	
Citizens Advice	Consumer Representative	No	-	
Utilita	Large Supplier		Implementation will require minor changes to be made but the benefits make these changes worthwhile.	
EON	Large Supplier	Yes	Limited impact from implementation, but the change will facilitate earlier identification of GPF to gas meter communication failures and improved servicing to customers.	

Question 3: Will your organisation incur any costs in implementing SECMP0015?

Question 3				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	Yes	We have not identified any cost savings that would be made as a result of this change. Including the timestamp will potentially make it easier to identify where the data on the GPF has not been updated and is therefore out of date. These issues are likely to be identified anyway if they are causing an impact on the consumer, for example where the information relating to prepayment values is out of date.	

Question 3				
Respondent	**Category**	**Response**	**Rationale**	
			This change will not, however, do anything to resolve that issue and update the data on the GPF, which will still require an investigation and potentially a site visit to be undertaken. We do not have any evidence that shows that this is a widespread problem that is creating an issue for us or for our customers. As this change would result in changes to multiple Technical Specifications the costs of implementing this change are likely to be significant – especially if these changes were to be made as part of a standalone release. As noted in previous Refinement Consultation responses it is not possible to identify the costs of a single change which forms part of a wider SEC release, as the costs of making any single change are incremental to the significant cost of implementing a new version. – whatever changes might be included in it. Costing this as a standalone change, in the way that the DCC has been asked to do, is effectively pointless as changes would never be implemented in that way. It would be a waste of time and cost engaging with our service providers and device manufacturers to attempt to estimate costs on that basis as it would never actually be implemented in that manner.	There are no plans to make this modification a standalone release.

Question 3				
Respondent	**Category**	**Response**	**Rationale**	
Citizens Advice	Consumer Representative	No	-	
Utilita	Large Supplier	No	Other than the share of the modification costs, implementation of SECMP0015 will not incur any additional cost to Utilita.	
EON	Large Supplier	Yes	The implementation costs of this specific change should be minimal as the change should be delivered as part of a new DCC release containing a number of other amendments/new capabilities. Further confidential information provided.	

Question 4: Do you believe that SECMP0015 would better facilitate the General SEC Objectives?

Question 4				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	No	We do not believe that this change would better facilitate any of the SEC Objectives. As noted above, this change will not improve the data made available by the GPF, it will only make it easier to identify that an issue has occurred – which would be likely to have become aware of anyway.	

Question 4				
Respondent	**Category**	**Response**	**Rationale**	
			The costs of this change will be very significant and are not justified by the marginal benefit that would seem to be gained by implementing it.	
Citizens Advice	Consumer Representative	Yes	See question 1	
Utilita	Large Supplier	Yes	SECMP0015 will better facilitate SEC Objectives (a) & (c). (a) – Timestamped gas readings will allow suppliers to accurately monitor customers gas readings and PPM balances, facilitating efficient provision and operation of Smart Metering Systems. (c) – Timestamp will allow customers to identify discrepancies between the PPMID and the actual Gas meter balance, thus better facilitating consumers management of their use of gas and electricity through provision of appropriate information.	
EON	Large Supplier	Yes	Delivery of this change will support SEC Objective 3 – To facilitate Energy customers use of electricity and gas by providing information through Smart metering systems.	

Question 5: Noting the costs and benefits of this modification, do you believe SECMP0015 should be approved?

Question 5				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	No	As noted above we do not believe that there is a clear justification for the costs associated with this change – any benefit is likely to be marginal at best.	
Citizens Advice	Consumer Representative	Yes	See question 1	
Utilita	Large Supplier	Yes	Based on the provided costs Utilita believe the modification should be approved.	
EON	Large Supplier	Yes	Given the customer benefits outlined in our response to Question 3	

Question 6: How long from the point of approval would your organisation need to implement SECMP0015?

Question 6				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	6 months	We would require a lead time of at least 6 months for any change to the Technical Specifications, including the DUIS.	
Citizens Advice	Consumer Representative	n/a	-	
Utilita	Large Supplier	-	We note the modification report has a lead time of 13 months from implementation date, this will provide Utilita with enough time to take any relevant action.	
EON	Large Supplier	Yes	Up to 6 months but will be planned in as part of a formal DCC release.	

Question 7: Do you agree with the proposed implementation approach?

Question 7				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	Yes	This document refers to both a June 2022 and November 2022 SEC Release; it was out understanding that there	At the moment the DCC are planning that the technical specification uplift will be in June

Question 7				
Respondent	**Category**	**Response**	**Rationale**	
			would only be one 'technical' SEC release each year. Is this still the case and it is just the date of that single technical' SEC release that is uncertain, or is the plan to have two technical' SEC releases in 2022?	2022, however, in the interests of making the fewest number of technical specification updates and making each Release economically efficient the DCC and SECAS constantly monitor the modifications targeted for each Release. The June 2022 Release currently includes SECMP0015, SECMP0056 and MP078, however, none of these Modification Proposals is currently approved for implementation. Should any of these be rejected or delayed to the point they miss the June 2022 Release the DCC and SECAS would review the schedule and the technical specification uplift may move to November 2022 to include other modifications if that would be more economical..
Citizens Advice	Consumer Representative	Yes	See question 1	
Utilita	Large Supplier	Yes	Utilita agree with the targeted June 2022 release.	
EON	Large Supplier	Yes	Yes, but the lead time to expected implementation in the June 2022 release is a concern given the level of potential customer benefit.	

Question 8: Do you agree that the legal text will deliver SECMP0015?

Question 8				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	No	As noted above there are no proposed changes the display requirements for IHDs or PPMIDs included in the legal text changes in Annex B. Without this some of the benefits of making the change will not be able to be achieved as consumers will not be able to determine whether any data is out of date or not.	See the response to Question 1
Citizens Advice	Consumer Representative	-	-	
Utilita	Large Supplier	Yes	-	
EON	Large Supplier	Yes	-	

Question 9: Do you believe there will be any impacts on or benefits to consumers if SECMP0015 is implemented?

Question 9				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	No	As noted above, this change will not improve the data made available by the GPF, it will only make it easier to identify	

Question 9				
Respondent	**Category**	**Response**	**Rationale**	
			that an issue has occurred – which would be likely to have become aware of anyway. The costs of this change will be very significant and are not justified by the marginal benefit that would seem to be gained by implementing it.	
Citizens Advice	Consumer Representative	Yes	See question 1	
Utilita	Large Supplier	Yes	If SECMP0015 is implemented there will be benefits to consumers. The main benefits are: • ○ Aiding consumers with ability to recognise when the PPMID was last updated by the GPF and take necessary action if there is a breakdown in comms – e.g. customer could check the actual Gas meter balance to gain true representation of actual balance. • ○ Enables suppliers with ability to further enhance the monitoring of PPM balances and to provide support for consumers who require it.	
EON	Large Supplier	Yes	Please see response to Question 3	

Question 10: Do you agree that these changes require a new principal version of GBCS, SMETS and MMC and sub-versions of CHTS? Please give your rationale?

Question 10				
Respondent	**Category**	**Response**	**Rationale**	
EdF	Large Supplier	No	On their own these changes would not justify the creation of a new principal versions of the Technical Specifications, it would only make sense to implement these changes as part of a wider SEC release including multiple changes. If a new principal version was created and this was the only change, it is unlikely we would ever deploy devices compliant with that version.	
Citizens Advice	Consumer Representative	n/a	-	
Utilita	Large Supplier	Yes	-	
EON	Large Supplier	Yes	The changes need to be reflected in the related impacted Industry specifications.	

Question 11: Please provide any further comments you may have

Question 11		
Respondent	**Category**	**Comments**
EdF	Large Supplier	-
Citizens Advice	Consumer Representative	n/a
Utilita	Large Supplier	-
EON	Large Supplier	None