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Stage 02: Draft Modification Report

SECMP0023:

Correct Units of Measure for Uncontrolled Gas Flow

What stage is this document in the process?

01	Initial Assessment
02	Refinement Process
03	Modification Report
04	Decision

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Summary

The Great Britain Companion Specification (GBCS) currently limits the unit values of the Uncontrolled Gas Flow Rate (UGFR) on Gas Smart Metering Equipment (GSME) to be set in whole meters cubed per hour. This modification proposes to allow this unit to be set to an accuracy of ten-thousandths of meters cubed per hour.

Working Group View



- The Working Group (WG) unanimously believes that SECMP0023 should be approved

Impacts



- Supplier Parties
- DCC
- DCC Central Systems
- Party Interfacing Systems

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About this Document

This document is a Draft Modification Report (DMR). This document provides detailed information on the issue, solution(s), impacts, costs and Working Group (WG) discussions and conclusion on SECMP0023.

The Smart Energy Code (SEC) Panel will consider this report to ensure that due process has been followed and determine whether to issue the modification for Modification Report Consultation (MRC).

1. Summary

What is the issue?

The Great Britain Companion Specification (GBCS) requires the unit value of the Uncontrolled Gas Flow Rate (UGFR) on Gas Smart Metering Equipment (GSME) to be set in whole meters cubed per hour. This current requirement does not provide the level of granularity needed to achieve the functionality the UGFR was established for.

What is the Proposed Solution?

SECMP0023 seeks to amend GBCS to require that the UGFR can be set on a GSME in ten-thousandths of meters cubed per hour (tenths of a litre per hour).

Impacts

Party

Large Supplier Parties	X	Small Supplier Parties	X
Electricity Network Parties		Gas Network Parties	
Other SEC Parties			

System

DCC Systems	X	Party interfacing systems	X
Smart Metering Systems		Communication Hubs	
Other systems			

Modification Path

The Panel initially considered that SECMP0023 should be progressed as a Path 2: Authority-determined modification (as per SEC Section D2.6). This is because the modification requires changes to Technical Specifications. Therefore, BEIS has also indicated that SECMP0023 will require European Commission (EC) Notification.



Implementation Costs

The total estimated implementation cost to deliver SECMP0023 is approximately **£417,393**. This total cost consists of:

- **£3,000** in SEC Administration effort; and
- **£414,393** in DCC effort.

Implementation Date

The Working Group (WG) recommends an implementation date of:

- 27th June 2019, if a decision to approve is made by 27th June 2018; or
- 7th November 2019, if a decision to approve is made after 27th June 2018 but on or before 7th November 2018.

Working Group's views

The WG believes **unanimously** that SECMP0023 does facilitate the SEC Objectives. The WG therefore believes that this Modification Proposal should be **approved**.

2. What is the issue?

Background

The Smart Metering Equipment Technical Specification (SMETS) requires that GSME has an UGFR configuration data item. The UGFR function provides an additional control mechanism for gas monitoring. Specifically, when Gas Supply is Enabled, the GSME must check that the flow rate does not exceed the set UGFR. If the flow rate does exceed the value set, the Gas Supply is disabled.

Currently, GBCS requires that the UGFR is set in whole number of meters cubed per hour. Gas Supplier Users can set UGFR on GSME by sending Service Request Variant (SRV) 6.7 'Update Device Configuration (Gas Flow)'.

At the January 2016 Technical Specification Issue Resolution Sub-group (TSIRS) meeting, the Department of Business, Energy and Industrial Strategy (BEIS) asked the Energy Utilities Alliance (EUA) and Supplier Parties to confirm that the current range and granularity of UGFR set values is applicable.

At the February 2016 TSIRS meeting, EUA stated that, based on industry input, the unit of measure should be set to litres per hour. Subsequently, a BEIS Change Resolution Proposal (CRP)¹ was raised by EUA.

The CRP was initially targeted for implementation as part of Release 1.0. However, the proposed CRP was not considered urgent, given that UGFR is not a health and safety feature.

Subsequently, the CRP was withdrawn with the agreement that the following workarounds should be put in place:

- Meter Manufacturers will pre-set the UGFR rate to a suitable value at manufacture, allowing the meter to operate as desired by Suppliers; and
- Gas Supplier Users will not set UGFR by sending SRV 6.7 'Update Device Configuration (Gas Flow)' until a SEC Modification Proposal has been progressed, and implemented, to introduce the proposed changes to UGFR values.

What is the issue?

The Proposer (RWE Npower) reiterates that the current unit value of the UGFR (whole meters cubed per hour) does not provide the level of granularity needed to achieve the functionality the UGFR was established for.

¹ CRP449 'Unit value for the UncontrolledGasFlowRate'



Industry has indicated that a typical value for a UGFR threshold should be litres per hour. This is well beyond the precision offered by the current unit and therefore, a typical UGFR would be undetectable with the current precision as required by the SEC.



3. Proposed Solution

Solution

SECMP0023 proposes to amend GBCS to require that the UGFR can be set on a GSME in ten-thousandths of meters cubed per hour (tenths of a litre per hour).

This will require a new GBCS Use Case with a new fixed value of the divisor parameter in the Command, which changes from 1 to 10,000.

Changes will also be required to the DCC User Interface Specification (DUIS) to modify the existing SR 6.7 'Update Device Configuration (Gas Flow)' to reflect this change of granularity.

The full detailed solution requirements can be found in the **Solution Design Specification** document attached (**Attachment B**).

Draft legal text

The above changes will be mandated through the relevant version of the SEC that is released at the time this modification is implemented.

The proposed legal text changes to the SEC are provided in **Attachment C**.

4. Impacts

The following section sets out the impacts associated with the implementation of SECMP0023.

SEC Party impacts

Large Supplier Parties	X	Small Supplier Parties	X
Electricity Network Parties		Gas Network Parties	
Other SEC Parties			

Large and Small Supplier Parties

SECMP0023 will impact Large and Small Supplier Parties, as it allows them to set the UGFR on a GSME in in ten-thousandths of meters cubed per hour.

Supplier Licences requires Supplier Parties to install GSME that comply with SMETS and SMETS requires that the GSME comply with GBCS. Therefore, the GBCS changes required in this modification would be a requirement on Supplier Parties in relation to GSME they install, which must comply with the version of GBCS in to which these changes will be implemented.

Central System impacts

DCC Systems	X	Party Interfacing Systems	X
Smart Metering Systems		Communication Hubs	
Other systems			

DCC Systems

The DCC has advised, through the full DCC Impact Assessment (IA), that SECMP0023 will primarily impact the Data Service Provider (DSP) systems. The main impacts on the DSP systems include:

- introduction of the amended SR into the DCC User Interface;
- required schema updates for the Message Mapping Catalogue (MMC);
- uplift to Parse and Correlate to support new the Command; and
- new Anomaly Detection Thresholds to be defined.

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Party Interfacing Systems

SECMP0023 requires changes to the existing DUIS SR 6.7 'Update Device Configuration (Gas Flow)' to allow Supplier Users to choose to set the UGFR with or without decimal places (to align with the relevant version of GBCS). Therefore, Large and Small Supplier Parties will be required to update their DCC User Interface.

Testing

The DCC will be required to carry out Pre-Integration Testing (PIT) and System Integration Testing (SIT) for SECMP0023.

SECMP0023 will also require Supplier Users to demonstrate that they are able to support the sending of the amended SR and the receiving of the Service Response. Therefore, the DCC shall provide Testing Services to support the implementation of SECMP0023 to prove:

- the DCC User/Test Participant can successfully execute the SRs and can use them effectively in Production; and
- that the code should be uplifted into Production.

Further details of the requirements relating to User Testing can be found in the **Solution Design Specification (Attachment B)**.

SEC and Subsidiary Document impacts

SECMP0028 requires changes to the following [SEC documentation](#):

- SEC Schedule 8 – GBCS;
- SEC Schedule 11 – Technical Specification Applicability Tables;
- SEC Appendix AD – DUIS; and
- SEC Appendix AF – Message Mapping Catalogue.

Impacts on other industry codes

There are no impacts on other industry codes.

Greenhouse Gas Emission impacts

There are no impacts on Greenhouse Gas Emissions.

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5. Costs

Estimated Implementation costs

The total estimated implementation cost to delivery SECMP0023 is approximately **£417,393**.

SEC costs

The estimated SEC implementation cost is detailed in the table below:

SECAS implementation costs		
Implementation Activity	Effort (man days)	Cost
Application of approved changes to the SEC. Publication of new version of the SEC on the SEC Website and issuance to SEC Parties. Review and updated any impacted SEC guidance materials.	Five	£3,000 ²

DCC costs

The estimated DCC implementation cost is detailed in the table below:

DCC implementation costs (excluding VAT)	
Implementation Activity	Cost
Design	£414,393
Build	
Pre-Integration Testing	
Total estimated DCC implementation cost:	£414,393

² SEC man day effort based on a blended rate of £600 per day.



6. Implementation

Recommended implementation date

The WG is recommending an implementation date for SECMP0023 of:

- 27th June 2019, if a decision to approve is made by 27th June 2018; or
- 7th November 2019, if a decision to approve is made after 27th May 2018 but on or before 7th November 2018.

The DCC has advised that it requires **12 months** lead time, from the date of approval, to implement the proposed changes.

SEC Parties have advised that they require a maximum of **12 months** lead time, from the date of approval, to implement the changes required to Party Interfacing Systems and processes.

7. Working Group Discussions

Terms of Reference

The WG has considered and answered the questions put forward in the SECMP0023 Terms of Reference (ToR). A summary of its discussions and conclusions are detailed below.

Is UGFR a health and safety feature?

During WG discussions of the issue SECMP0023 is seeking to solve, it was noted that the UGFR may be a safety feature which provides the control mechanism for disabling Gas Supply.

It was highlighted that this matter had been addressed and closed through the BEIS CRP process.

BEIS confirmed that SMETS does not specify the UGFR as a safety feature. At TSIRS, EUA and a number of Supplier Parties also confirmed that UGFR is only an indicator of gas flow, and is therefore not a safety feature. It was highlighted that UGFR only operates on enablement of supply and once supply has been enabled, providing the UGFR has not disabled supply, the UGFR is not active.

UGFR value granularity

The original proposed solution was to require that the UGFR can be set on a GSME in thousandth of meters cubed per hour. It was questioned whether this level of granularity is sufficient, noting that another modification would be required to amend it in the future, if SECMP0023 were to be approved.

The WG agreed to amend the solution to specify a greater level of granularity (ten-thousandths of meters cubed per hour) in order to avoid a future modification, in case this value of UGFR is required in the future.

DCC Demand Spike

The DCC questioned, through the DCC Preliminary Assessment, whether Supplier Users would update all of their GSME Device Configurations as soon as this modification is implemented (if it were to be approved). This is because there were concerns that there could be a risk of a demand spike in DCC Systems if this was to occur.

The WG agreed that, as UGFR is being set at manufacture of GSME, SECMP0023 will not create any additional demand in business as usual cases. This is because the UGFR on

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GSME that have already been installed will be set at an appropriate value. Therefore, Supplier Users will not have to reset the UGFR value on mass GSMEs as soon as this modification is implemented (if approved).

It was highlighted that the new UGFR Command will be needed to set greater granularity in the future in order to support innovation. It was also noted that there is not an obligation on Meter Manufacturers to set the value at an appropriate value.

8. Working Group's Conclusions

The WG's **unanimous** view is that SECMP0023 better facilitates General SEC Objective (a) and should be **approved**.

Benefits and drawbacks of SECMP0023

The Proposer and the WG have identified the following benefits and drawbacks related to SECMP0023:

Benefits

SECMP0023 allows Gas Supplier Parties to set the UGFR at a more appropriate value, thus making the UGFR functionality fit for the purpose it was established for. Without this modification, the mechanism to set the UGFR via a DCC Service Request will not be used by Suppliers. Therefore, Device Manufacturers will have to continue to set the UGFR at manufacture, which cannot be monitored through the SEC.

Drawbacks

The WG has not identified any drawbacks related to this modification.

Views against the General SEC Objectives

Objective (a)³

The **unanimous** of the WG Members believe that SECMP0023 better facilitates General SEC Objective (a) because Gas Suppliers will be able to set the UGFR value to an appropriate level of granularity. This will facilitate the efficient provision and operation of GSME as the modification allows the UGFR functionality to be utilised in the capacity it was originally established for.

For the avoidance of doubt, the WG believes that SECMP0023 is neutral against all other SEC Objectives.

³ 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

Appendix 1: Glossary

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

Acronym	Term
DCC	Data Communications Company
DSP	Data Service Provider
DUIS	DCC User Interface Specification
EC	European Commission
GBCS	Great Britain Companion Specification
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
MMC	Message Mapping Catalogue
MRC	Modification report Consultation
SEC	Smart Energy Code
SMETS	Smart Metering Equipment Technical Specification
SRV	Service Request Variant
UGFR	Uncontrolled Gas Flow Rate
WG	Working Group
WGC	Working Group Consultation

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