Smart Energy Code

SEC
Smart Energy Code

Stage 02: Initial Modification Report

What stage is this document in the process?

01 Modification Proposal
02 Initial Modification Report
03 Draft Modification Report
04 Final Modification Report

SECMP0013:

Smart Meter device diagnostics and triage

To provide SEC Supplier Parties with a means of performing quality assurance and diagnosing faults on SMETS2 devices returned by meter operatives.

The recommendation is that this Modification should be:

- progressed as a Path 2: Authority Determined Modification

This Modification Proposal should:

- be progressed through the Refinement Process

Medium Impact:
Suppliers, DCC and Communication Service Providers (CSP)

Gemserv
Administered by Gemserv
8 Fenchurch Place, London EC3M 4AJ

Contents

1.	Summary of Modification Proposal	3
2.	Why Change?	4
3.	Proposed Solution	6
4.	Impacts & Costs	8
5.	Implementation	11
6.	Progression	12
7.	Panel Initial Assessment	17
8.	Further Information	18
9.	Glossary	19

About this document

This document is an Initial Modification Report. It has been issued to the SEC Panel to enable the Panel to carry out its initial consideration of the Modification Proposal on how the Modification Process.

Any questions?

Contact:
Samuel Browne

secas@gemserv.com

020 7090 7755

Proposer:

Tim Newton

tim.newton@eonenergy.com

07879 802148

Representative:

David Lyons

david.lyons@eonenergy.com

07894 295 610

Administered by Gemserv
8 Fenchurch Place, London EC3M 4AJ

1. Summary of Modification Proposal

This section provides an overview of SECMP0013. For further details on the Modification Proposal, please refer to subsequent sections.

Defined terms and acronyms used in this document are listed in the Glossary (Section 9) of this document.

1.2 Proposed Solution

The Proposer seeks to provide Suppliers with a means of performing quality assurance and fault diagnostics on smart metering devices returned by meter installers. To support this, the proposed solution is to amend the SEC and DCC's systems to allow Suppliers to test whether SMETS2 devices can connect to the DCC.

1.3 Impacts

Suppliers would be impacted, through access to extra diagnostic capabilities. The Proposer suggests that Meter Manufacturers will be impacted by the increased reliability of their products gained from the increased diagnostic capabilities. Parties that own SMETS2 devices, the Meter Asset Providers (MAPs) and Parties that install and maintain gas and electricity meters, respectively Meter Asset Managers (MAMs) and Meter Operators (MOPs), may benefit from there being fewer products being shipped to them (that are in fact non-faulty) through additional quality assurance.

1.4 Targeted Implementation Date

The Modification Proposal targets implementation in a release as soon as possible after DCC Live, and proposes the Modification Proposal is considered for implementation as part of the June 2017 Release (Release 2.0), currently scheduled for June 2017.

1.5 Release Management and Testing Requirements

This Modification falls under the Panel Release Management Policy. The necessary testing requirements will be informed during the Refinement process and form part of the Working Group considerations. Any implications on Device testing or Assurance Certificates are the responsibility of the relevant SEC Party.

1.6 Proposed Progression

This Modification Proposal must go through the Refinement Process pursuant to SEC Section D3.9(c), as the modification is expected to require changes to DCC Systems, along with User Systems and/or Smart Metering Systems.

Section 6 of this document contains a detailed timetable and proposed/recommended Working Group constitution and objectives.

2. Why Change?

2.1 What is the issue?

The Proposer has stated that in the foundation stage of the Smart Meter roll-out, energy suppliers have had access to test capabilities for their Smart Metering Equipment Technical Specifications 1 (SMETS1) using proprietary head-end systems.

At present, these test capabilities will not be available for SMETS2 devices. This is because suppliers can only communicate with SMETS2 devices via DCC services following the installation and commissioning of them in the DCC systems, the test capabilities that suppliers will not be able to undertake with SMETS2 devices are summarised below:

- Install and commission devices in a test environment to ensure that devices are able to pair and communicate via the Home Area Network (HAN) effectively.
- As part of the returns triage process, energy suppliers can connect to devices in a test environment in order to execute commands to remove any data from devices which will prevent their reinstallation (e.g. security keys).
- Connection of devices in a test environment in order to un-pair any devices which have been returned in a paired state.
- When SMETS2 devices are returned by MOPs to suppliers to determine whether a fault exists, and thus whether the device can be returned to the supply chain (and installed at another site) or instead must be returned to the manufacturer.

The Proposer believes these testing activities remain essential following the commencement of the mass roll-out post DCC Live in 2016.

The Proposer believes that the impacts of being unable to do the testing activities outlined above, are as follows:

- Suppliers will be unable to identify faulty devices during their quality assurance activity.
- When devices are returned and are still paired to other devices or associated with an MPAN or similar, suppliers will be unable to un-pair them. Therefore, devices will not be reusable and will either have to be scrapped or returned to manufacturers for un-pairing to occur.
- Suppliers will also be unable to perform other forms of diagnostic checks on the assets returned to them. This means that suppliers will find it difficult to return these assets to the field in the confidence that they are fully functional.
- Suppliers will not be in a position to understand quality issues with the assets they buy. This could lead to disputes with manufacturers, and result in a delay to these issues being understood and rectified.
- Suppliers will also find it difficult to execute their responsibility to manage their metering assets if they are unable to understand the reasons for faults.
- Where suppliers wish to return an asset to a manufacturer or MAP in the belief that it is faulty, they will not have evidence from their own testing to support this view. This could lead to an increased incidence of disputes in this area where there is a disagreement.

What's the issue?

There is currently no means of testing the ability of SMETS2 devices to connect with the DCC

The Proposer has undertaken an activity to identify the impact of test activity availability through statistical analysis of asset performance from the foundation stage of the Smart Meter roll-out. This analysis is set out in the Modification Proposal form (Attachment A), and will be considered as part of the progression of this modification through the Modification Process.

3. Proposed Solution

3.1 What's the solution?

This Modification Proposal seeks to create arrangements for Supplier Parties to be able to perform SMETS2 device testing.

The Proposer is seeking to amend the Smart Energy Code so that the:

- DCC is required to provide a mechanism which allows Suppliers to perform quality assurance and returns diagnostic testing. This will require the ability for SMETS2 devices to be installed and commissioned against a communications hub, and to perform communications via the HAN in supplier test environments.
- DCC will be required to provide a mechanism by which Suppliers can execute all commands related to the DCC User roles of supplier to devices returned to them in order to:
    - Un-pair devices from others on the HAN in order that they can be recycled and reused.
    - Remove data from the device (e.g. security keys) in order that they can be recycled and reused.
    - Allow suppliers to retrieve information from a returned device which may support diagnostics (e.g. the events log) in order to prevent the return of non-faulty equipment to manufacturers and MAPs, and to identify fault reasons in the event of a dispute with manufacturers or MAPs.

What's the solution?

This Modification Proposal seeks to create arrangements by which SEC Supplier Parties will gain the ability to perform testing of SMETS2 devices ability to connect to the DCC.

3.2 Legal Text

The necessary amendments to the SEC and relevant SEC Subsidiary Documents will be prepared during the Refinement Process.

3.3 Applicable SEC Objectives

The below table presents the applicable SEC Objectives identified by the Proposer and their views on how the Modification Proposal would better facilitate the achievement of these objectives.

How the Modification Proposal would better facilitate achievement of the SEC Objectives	
SEC Objective	Proposer views
(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	The modification would improve the delivery of the first General SEC Objective by making the smart metering roll-out more cost efficient. Specifically, this will be achieved through reducing the time associated with attempts to install faulty devices. A higher proportion of returned devices would be reused rather than scrapped, and the number of incorrect warranty claims and other returns to manufacturers would decrease. The Objective will further be supported by reducing time spent at customer sites attempting to install faulty devices. Suppliers will also gain understanding of meter install issues and failure modes which can occur. This would facilitate continual improvement in the performance of meter operatives and in the development of meter systems by manufacturers.
(b) the **second General SEC Objective** is to enable the DCC to comply at all times with the General Objectives of the DCC (as defined in the DCC Licence), and to efficiently discharge the other obligations imposed upon it by the DCC Licence.	The modification would improve the delivery of the second General SEC Objective by encouraging the efficient and economical roll-out of smart metering for the reasons outlined above. It shall also support competition in the market for Smart Meters.
(d) the **fourth General SEC Objective** is to facilitate effective competition between persons engaged in, or in Commercial Activities connected with, the Supply of Energy;	The modification would improve the delivery of the fourth General SEC Objective by improving competition in the market for Smart Meters and other associated devices by providing a more transparent view to energy suppliers of device performance. This will incentivise manufacturers to improve the quality of their products and to identify ways of making them more reliable to provide a competitive advantage against their rivals.

4. Impacts & Costs

The following section sets out the initial assessment of the likely impacts arising from SECMP0013. Additional impacts may be identified by the Working Group in the Refinement Phase.

4.1 Impacts

The following is provided as an indication of likely impacts as known at this time. The Refinement Process will further inform the effects of SECMP0013.

Material Impact on Greenhouse Gas Emission
The Proposer believes this Modification Proposal should have a positive impact on Greenhouse Gas Emissions from reduction in transportation of devices deemed faulty and in the reduced number of devices scrapped.

Impact on Parts of Smart Energy Code or SEC Subsidiary Documents	
SEC Sections, Schedules of Appendices (Subsidiary Documents) likely impacted	Potential Impact
SEC Section A: Definitions and Interpretations	To capture any additional terminology that may need to be introduced as a result of the Modification Proposal
SEC Section F: Smart Metering System Requirements	These sections relate to Smart Meter installation and maintenance, and would need to include an amendment which allows for the diagnostics and triage of Smart Meters.
DCC User Interface Specification (DUIS)	

Impact on other Codes and documents
No other Codes impacts have been identified.

Impact on Smart Energy Code Party Categories	
Party Category	Potential Impact
Large Supplier Parties	Large Supplier Parties and Small Supplier Parties will be impacted by having access to extra capabilities as set out above, reducing the costs associated with the smart metering roll-out.
Small Supplier parties	
Other SEC Parties:	Meter Asset Providers will be positively impacted as suppliers are able to perform additional quality assurance activity, reducing the risk of faulty stock

Are there any Impacts?

Yes. There will be an impact on the DCC and User Systems, as DUIS will need to be amended

	being shipped. They are also positively impacted as they have fewer write-downs ahead of the end of asset life as more devices can be reused, and by having access to additional information to support warranty claims with manufacturers. Meter Operators and Meter Asset Managers will be positively impacted as less faulty stock is shipped to them, and by being provided with additional information on failure of their meter operatives to follow procedure through additional diagnostics being able to take place.

Impact on Consumers
Consumers would be positively impacted from efficiencies in transportation of devices and reduction of the amount of devices that are scrapped. Further impacts on the Consumer will be considered and captured during the Refinement Process.

Impact on DCC Systems (subject to DCC assessment)	
Area of DCC impacted	Potential Impact
Data and Communication Company (DCC)	DCC Systems will be impacted by the need to provide the extra capabilities for suppliers to carry out the diagnostics testing and quality assurance described in Section 3. DCC will need to support the development of the Modification through input into the Working Group discussions
Data Service Provider (DSP)	To be informed through the Refinement Process
Communications Service Providers (CSP)	To be informed through the Refinement Process
Trusted Provider	To be informed through the Refinement Process

Impact on other Systems	
Area of impact	Potential impact
User Systems	User Systems (specifically supplier DCC User systems) will be impacted, in that they will be able to do SMETS2 device diagnostics and triage activities.
Smart Metering Systems	To be informed through the Refinement Process

Impact on other Systems	
Area of impact	Potential impact
Other (e.g. Security and PKI)	To be informed through the Refinement Process

4.2 Costs

The costs of implementing SECMP0013 will be identified as it progresses through the Refinement Process. These costs will include DCC implementation costs as provided in their impact assessment responses and any SEC Party costs (where provided during the relevant consultations).

5. Implementation

The Proposer has requested that this Modification Proposal is implemented as part of the June 2017 Release (Release 2). It may become clearer during the Refinement Process whether June 2017 is achievable under the implementation timetable.

When would the Proposer like the modification to be implemented?

June 2017

5.1 Modification Testing Requirements

The Panel Release Management Policy notes that, as part of the Panel's considerations of a Modification Proposal and the associated implementation timetable and date, the Panel will consider what testing is required and who will be eligible to participate. SEC Section H14 requires the DCC to make provision for Modification Proposal implementation testing as part of its Testing Services.

The testing requirements under the Panel Release Management Policy are yet to be fully defined. It is anticipated that this Modification Proposal may require testing consistent with the SEC Section T arrangements for:

i. DCC testing (Systems Integration Testing (SIT)); and
ii. Interface Testing (IT) with a representative number of Users and DCC to demonstrate the capability of the DCC solution to interoperate with User Systems.

In both cases, the approach for SIT and IT will be informed during the Refinement Process, hence SECAS has added this aspect to the considerations of the Working Group (see Section 6.6 below).

It is noted that the final testing scope and arrangements will be integrated under the Panel Release Management Policy approach for "R2".

6. Progression

6.1 Modification Path

Based on the initial review of the Modification Proposal and subsequent discussion with the Proposer, SECAS recommends that the appropriate Modification Path is: Path 2 - Authority Determined.

6.2 Progression Route

The Refinement Process is required for this Modification Proposal as the Proposer has identified that it affects DCC Systems, User Systems, and may impact Smart Metering Systems, which are the SEC criteria for following the Refinement Process (SEC Section D3.9(c)).

The Refinement Process (SEC Section D6) requires that a Working Group is established by the Panel to undertake the Refinement Process. In outline, the objectives of the Working Group are to:

- Consider the effects of the Modification Proposal on participants, Emissions and Other Energy Codes;
- Evaluate, develop and refine the content of the Modification Proposal, including where the Working Group considers any Alternative Proposals may be relevant, prepare and submit this into the Refinement Process with the Proposers Modification Proposal;
- Evaluate, and amend if applicable, the proposed implementation timetable of the Modification Proposal including with regard to consistency with the Panel Release Management Policy;
- Obtain and take into account the views of other relevant Sub-Committees (Technical Sub-Committee (TSC), Security Sub-Committee (SSC), SMKI Policy Management Authority (SMKI PMA));
- Obtain assessments from the DCC as to the impact and costs;
- Consider the SEC Objectives that may be better achieved if the Modification Proposal was implemented;
- Conduct a Consultation(s);
- Consider any representations made to the WG by Parties; and
- Deliver a Modification Report to the Panel in respect of the Modification Proposal.

6.3 Working Group membership requirements

SEC Section D6.3 sets out that a Working Group must be at least 5 members with relevant expert knowledge. Therefore, we propose that the Working Group should be made up of:

- The Proposer or a person nominated by the Proposer as a duly authorised representative of the Proposer;
- Working Group members:
  - who are broadly representative of the Users likely to be affected by the Modification Proposal, so that the Refinement Process is well informed, in this case Suppliers and the DCC, although other interested Parties may come forward;

- with relevant experience and expertise in relation to the subject matter of the Modification Proposal (TSC expertise need not be duplicated as this may be achieved through co-ordination between the WG and TSC);
- A Chair (see following section);
- A Secretary (provided by SECAS); and
- A Modification Analyst (provided by SECAS).

The Working Groups can also be attended by:

- DCC representatives;
- Ofgem representatives;
- DECC representatives; and
- Any interested members from Panel Sub-Committees, e.g. the Technical Sub-Committee (or its Technical and Business Expert Community (TBEC)).

6.4 Convening the Working Group

It is noted that SEC Section D6.3 makes provision for the Panel, with the cooperation of the Parties to establish a standing list of persons with potentially relevant experience who may be willing to serve on Working Groups. As Modification Paths have only recently been enabled, such a standing list is not available to the Panel.

Therefore, it is recommended that an open invitation is issued at this time, with a view to using this exercise as a means of identifying the constitution of any future standing membership that can be called upon as a Modifications Working Group.

Modification Working Group members are required to meet the SEC requirements to confirm in writing to SECCo that they agree to serve on that Working Group and to do so in accordance with this Code.

6.5 Working Group Chair

SEC Section D6.4 enables the Panel (or the Working Group) to request that SECAS provides the Chair for the Working Group. It is proposed that, to facilitate convening the Working Group that SECAS provides the Chair. This is also in line with the outcomes of Ofgem's Code Governance Review (CGR) Phase 3, an outcome of which, is that Working Groups should be chaired by the Code Administrator, unless there is a conflict of interest.

6.6 Working Group Terms of Reference

To meet the requirements of the Refinement Process set out in SEC Sections D6.8 - D6.14, draft standard Terms of Reference are provided in Appendix B. The following questions have been identified for the Working Group to consider in order to fully assess the Modification Proposal.

Working Group Terms of Reference – supplementary matters to consider
What is the materiality of the issue?
Are there other deficiencies in the current solution that are addressed by SECMP0013?
What are the detailed changes to the SEC to support this SECMP0013?
What are the systems impacts for DCC, Users and/or smart metering?

Working Group Terms of Reference – supplementary matters to consider
What are the costs and lead times to introduce the solution in this SECMP0013 or any Alternative(s)?
Is the implementation timetable appropriate?
Are Consumers positively or negatively impacted by the Proposed (or any Alternative) solution(s) and to what extent?
What Modification Implementation Testing is required to implement the Proposed Modification, or any Alternative(s)?
What are the implementation steps and activities required to implement the Proposed (or any Alternative) Solution(s)?
Have the views of the relevant Panel Sub-Committee been taken into account?
Has the Refinement Process identified any potential reason that this Modification (or its Alternatives) may require EC Notification (noting that the Authority will determine if any such Notification is pursued)?

The above is not intended as an exhaustive list and it is expected that the Working Group will identify and address any other considerations that arise during the Refinement Process.

6.6 Timetable

As the Modifications Process has only recently been activated, the timetable set out below was put together in discussion with the Proposer and SECAS as a good faith estimate. A number of assumptions underpin this timetable:

- The Proposer has requested that the Modification Proposal is implemented as part of the June 2017 Release (Release 2).
- The proposed timetable below has been built around a June 2017 implementation date, noting that the implementation date may need be flexible to accommodate the necessary implementation (and testing) lead times, if the Modification Proposal is approved.
- The proposed timetable includes some assumed timescales for the turnaround of DCC's Impact Assessments and the Authority determination based on the indicative timescales provided by these entities.
- If the changes associated with this modification require EC Notification, the proposed timetable does not currently capture the three month 'stand-still' during EC Notification. This is on the basis that any representations received during the stand-still need not necessarily result in any material change to the notifiable document or agreed solution in any way.
- The timetable has been drawn up based on this Modification Proposal progressing without cancellation or suspension under the *Smart Metering Implementation Programme Guidance on Secretary of State involvement with industry-led*

modifications to the Smart Energy Code during the transition to enduring governance[1] document issued by DECC.

- The timetable assumes that any Panel Sub-Committee inputs can be fed into the "Refinement process" at the appropriate time, and this may be subject to alteration.

Modification Timetable	
Activity	Date
Modification Proposal raised	4th May 2016
IMR considered by Panel	13th May 2016
Working Group meetings Indicative activities: • Initial considerations • Legal drafting • Sub-Committee feedback • Alternative(s) identified • Impact Assessments • Detailed evaluation	May – November 2016
Working Group Consultation	September 2016
Final Working Group meeting Indicative Activities: • Considering consultation responses • Preparing Working Group Consultation Summary	November 2016
Panel reviews Modification Report	November 2016
Modification Report phase consultation	November 2016
Change Board vote	December 2016
Modification Decision by the Authority	December 2016
Implementation	June 2017

6.7 Grouping this Modification Proposal with others

There are a number of Modification Proposals that are currently entering the SEC process that have implications for a similar set of Parties and/or SEC Subsidiary Documents. It may be possible to bring efficiencies into their Refinement under one Working Group. For

[1]Available at: https://smartenergycodecompany.co.uk/docs/default-source/modifications/decc-sec-modification-guidance-v1-0.pdf?sfvrsn=3

example, whilst the underlying content may not be directly related, each solution entails opening the Technical Specifications. There may be merit in grouping these under the Terms of Reference for a single Working Group so that the implications of changes to the Technical Specifications are consistently understood for the future.

SECAS is of the view that this is entirely consistent with the aim in the SEC of establishing standing Members to serve on Working Groups. This will offer both value for money for the Panel budget as well as a reduction in commitment by Working Group Members who might otherwise have to attend several meetings to progress each modification discretely.

SECAS considers that there is benefit in grouping this SECMP0013 with others for consideration. SECAS recommends that it should be added to the responsibility of Working Group 4, which is already considering SECMP0010 'Introduction of triage arrangements for Communications Hubs'. The discussion of SECMP0010 by Working Group 4, prompted the raising of SECMP0013.

Working Group 4 could then be supplemented by any additional members that are interested in SECMP0013 specifically. This should mean an increase in efficiency due to similar SEC documentation and DCC processes being impacted by these two Modification Proposals.

7. Panel Initial Assessment

The Panel is requested to **NOTE** the contents of this paper for SECMP0013 and, pursuant to SEC Section D3.6, **AGREE**:

- Whether to accept the Modification Proposal;
- That SECMP0013 is a Path 2 Modification (taking into account the view expressed by the Proposer);
- That it is necessary for the Modification Proposal to go through the Refinement Process as set out in Section 6.2;
- To establish a Working Group with the membership set out in Section 6.3;
- That SECAS should chair discussion on SECMP0013;
- The supplementary considerations for SECMP0013 in addition to the standard Working Group Terms of Reference set out in Section 6.6;
- The Modification progression timetable set out in Section 6.7;
- Whether SECMP0013 should be considered alongside any other current Modification Proposal(s) (e.g. SECMP0010); and
- That SECMP0013 should be considered by Working Group 4, supplemented by any other interested attendees in SECMP0013, to gain efficiencies in the Refinement Process across a number of potential changes to the Technical Specifications.

8. Further Information

More Information is available in:

- Attachment **A**: Modification Proposal
- Attachment **B**: Standard Working Group Terms of Reference

For further information, please see the Modification Register page of the SEC website.

Or contact the SECAS at secas@gemserv.com.

9. Glossary

Glossary	
Term	Acronym
Communications Service Providers	CSP
Data Communications Company	DCC
Department of Environment and Climate Change	DECC
Data Service Provider	DSP
DCC User Interface Specification	DUIS
European Commission	EC
Home Area Network	HAN
Impact Assessment	IA
Initial Modification Report	IMR
Meter Asset Managers	MAMs
Meter Asset Providers	MAPs
Meter Operators	MOPs
Public- Key Infrastructure	PKI
Policy Management Authority	PMA
SEC Modification Proposal	SECMP
Security Subcommittee	SSC
Smart Energy Code	SEC
Smart Energy Code Administrator and Secretariat	SECAS
Smart Energy Code Company	SECCo
Smart Meter Wide Area Network	SM WAN
Smart Metering Key Infrastructure	SMKI
Technical Sub-Committee	TSC