

What stage is this document in the process?

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

Stage 01: Modification Proposal

SECMCP00006:

Specifying the number of digits for device display

Include a specification for the number of digits for devices' display of meter registers in SMETS2 in relation to the provision of energy measurement information.

The Proposer recommends that this Modification should be :



- progressed as a Path 2: Authority-determined Modification

This Modification Proposal should:

- be assessed by a Work Group



Medium Impact:

This change will impact SMETS2 only. It will impact Energy Suppliers and Device Manufacturers.

MODIFICATION PROPOSAL FORM V1.0

1. Proposer's Contact Details

Details of Proposer

Name	Emslie Law
Organisation:	SSE
Contact Number:	07767851549
Email Address:	emslie.law@sse.com

Representative as Point of Contact

Details of Representative's Alternate

Name:	
Organisation:	
Contact Number:	
Email Address:	

2. Modification Proposal Details

Mod Submission Date	1/03/16
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Title of Mod Proposal:	Specifying the number of digits for device display
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Description in Detail of the Proposed Modification:

Background:

SMETS2 does not currently include a specification for the number of meter register digits for smart metering devices to display. Operational data items such as the Active Import Register and Tariff TOU Register Matrix are not defined in this manner.

For example, GBCS defines for electricity, the Active Import Register as double-long-unsigned – this means unsigned 32 bit integer in DLMS (maximum value 4,294,967,296). For gas, the Consumption Register is defined as UINT48; this means 48 bit unsigned integer in ZigBee (maximum value 281,474,976,710,656). The DCC's Message Mapping Catalogue does not address this; both examples are xs:decimal which is an unconstrained number. This means that there are approximately 10 significant figures for electricity and 15 significant figures for gas.

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The lack of standardisation for these display data items in SMETS2 creates ambiguity for energy suppliers (as they will not know how many display digits to expect on a particular device on a Change of Supply / churn event) and is likely to confuse consumers as different suppliers may be using different configurations. As it currently stands:

- It will either be up to energy suppliers to define in their procurement contracts and device manufacturers to build their device displays based on that; or up to different device manufacturers to define their device displays as they see fit in the absence of definition in procurement contracts with energy suppliers.
- Consumers will see a change to what they currently see on their meter displays. For example, a single phase electricity meter has always shown its meter readings as 5 figures / digits. Without some form of consistency / standardisation, there could be many different variations for smart meters.
- Different manufacturers will implement solutions on their devices to show variable value lengths or include leading zeros (scrolling through this will cause additional confusion to consumers).

Though the way information is displayed on devices is not currently within the scope of SMETS2, and energy suppliers are responsible for their device procurement (and therefore their usability in terms of how information is displayed), it is important to ensure that displayed values are consistent across all devices and suitably defined to ensure a consistent collective approach, remove confusion, and ambiguity between different manufacturer products.

Not having this consistency / standardisation will have implications for suppliers' customer billing systems and processes as the confusion for consumers will create differences on what the consumer believe they have used on their device – this will impact suppliers' customer service / contact centre activities as an additional process that will require careful management.

These differences coupled with various manufacturer implementations will create additional system development costs for all suppliers to manage the potential variations which, if not addressed, could create customer billing errors or estimates. It is also worth noting that Change of Supply / churn events will perpetuate the issue as a supplier may gain a meter that has a different configuration to their existing procured meters.

The impacts captured above will result in a negative consumer experience; thus presenting a reputational risk to energy suppliers as well as to the SMIP as a whole – this could result in a negative impact on the overall smart metering benefits case. Existing legislation / supply licence conditions requires that consumers are not misled on the provision of energy measurement information; therefore the provision of simple to understand and consistent information will be key to ensuring that consumers understand their energy usage.

Energy suppliers recognise that further updating design functionality in SMETS2 may create a potential challenge from an EC notification perspective however the overarching benefit to consumers outweighs that and is the key aim of the smart metering rollout. It would provide certainty and a consistent approach for all device manufacturers as well as any new players entering the market. Additionally, whilst this issue is one that currently affects the existing market (i.e. pre-SMETS2), it could be argued that this issue would be more prevalent once SMETS2 devices are rolled out given the lack of specification for number of digits for devices' display in SMETS2.

Conversely there is an argument that the lack of specification is not currently a massive issue in pre-SMETS2 world, however the SMIP and industry should take the opportunity to address this issue as energy suppliers roll out a whole new generation of SMETS2 assets.

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Energy UK's SDAF (Supplier Design Assurance Forum) members have identified a number of options and undertaken analysis to assess these options to deliver the necessary standardisation – these options are covered further in the Options Summary sub-section and the Recommended Option sub-section below.

Options Summary:

The following options are identified:

1. Amend SMETS2 to include a specification for the number of digits for devices' display.
2. Keep the status quo (do nothing).
3. Address via energy suppliers' device procurement activities.
4. Amend SMETS2 similar to option 1 but for IHDs only.
5. Amend GBCS to include the specification there instead of SMETS2.
6. Update MID requirements.
7. Change existing industry dataflows.

Recommended Option:

This proposal recommends option 1 (amend SMETS2 to include a specification for the number of digits for devices' display); and it is proposed for implementation post DCC Live in time for DCC Release 2.

The rationale for not recommending the remaining options is as follows:

Option	Rationale for not recommending option
Option 2 (keep the status quo)	See reasons identified in the Background sub-section above.
Option 3 (address via energy suppliers' device procurement activities)	This is unlikely to deliver the required outcome as suppliers will be procuring to differing standards and thus will not succeed in all suppliers adopting a common standard. It does not allow for a consistent approach or for effective enforcement.
Option 4 (amend SMETS2 similar to option 1 but for IHDs only)	This is likely to cause confusion where meters are displaying differently to IHDs and may disengage consumers from these devices – it also does not resolve the issue for meters.
Option 5 (amend GBCS to include the specification there instead of SMETS2)	The GBCS is not an appropriate document to specify asset related functionality; especially display related requirements.
Option 6 (update MID requirements)	The MID is not a meter specification document; it is a guidance document to gain initial high level meter type approval (relating to measurement accuracy) and therefore it is not appropriate. There is also an expectation that European utilities will lobby against any such change to it.
Option 7 (change existing industry dataflows)	This does not relate to display requirements and therefore is not appropriate.

For the avoidance of doubt, the required changes are for display purposes only (i.e. for how the information is displayed on the user/consumer interface of the ESME, GSME and IHD). The requirement does not cover how a meter measures or stores information on its electricity or gas meter registers.

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3. Path Type and Urgency Recommendation

Proposer's recommendation on Path Type (delete as appropriate)::	Path 2
Statement for recommended Path Type::	
The proposal satisfies one or more of the criteria for a Path 2 Modification and a Path 2 is therefore recommended.	
Statement of whether Proposal is intended to be Fast-Track Modification (only raise this type of Modification):	
N/A – Not a Fast-Track Modification.	
Is the Proposal Urgent? (delete as appropriate):	No
Statement of whether Proposal should be treated as an Urgent Proposal:	
N/A – Not an urgent Modification	

4. Modification Impact Assessment

4.1 SEC Objectives

Facilitation of SEC Objectives	Tick
General SEC Objectives (C1.1)	
(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;	☒
(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;	☐
(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;	☒
(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;	☒
(e) the fifth General SEC Objective is to facilitate such innovation in the design and operation of Energy Networks (as defined in the DCC Licence) as will best contribute to the delivery of a secure and sustainable Supply of Energy;	☐
(f) the sixth General SEC Objective is to ensure the protection of Data and the security of Data and Systems in the operation of this Code;	☐
(g) the seventh General SEC Objective is to facilitate the efficient and transparent administration and implementation of this Code.	☐
Transition Objective (X1.2)	
X1.2 The objective to be achieved pursuant to Section X: Transition is the efficient, economical, co-ordinated, timely, and secure process of transition to the Completion of Implementation.	☐
Charging Objectives (C1.3) (in respect of the Charging Methodology)	
C1.4 The First Relevant Policy Objective:	☐
(a) applies in relation to Smart Metering Systems installed (or to be installed) at Domestic Premises; and (b) requires the Charging Methodology to ensure that Charges (other than Charges for Elective Communication Services) in respect of such Smart Metering Systems do not distinguish (whether directly or indirectly) between Energy Consumers at Domestic Premises in different parts of Great Britain.	

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C1.5 The Second Relevant Policy Objective is that, subject to compliance with the First Relevant Policy Objective, the Charging Methodology must result in Charges that:

- (c) facilitate effective competition in the Supply of Energy (or its use) under the Electricity Act and the Gas Act;
- (d) do not restrict, distort, or prevent competition in Commercial Activities that are connected with the Supply of Energy under the Electricity Act and the Gas Act;
- (e) do not deter the full and timely installation by Energy Suppliers of Smart Metering Systems at Energy Consumers' premises in accordance with their obligations under the Energy Supply Licence; and
- (f) do not unduly discriminate in their application and are reflective of the costs incurred by the DCC, as far as is reasonably practicable in all of the circumstances of the case, having regard to the costs of implementing the Charging Methodology.



Statement of how the proposed variation would better facilitate the achievement of the SEC Objectives:

Please outline your reason for raising this Modification and how implementation of the variation would better facilitate the achievement of one or more of the SEC Objectives, than if the variation were not made.

This Modification Proposal will better facilitate SEC Objective:

(a) because it will increase standardisation and result in efficiency gains by avoiding unnecessary costs relating to Energy Suppliers' system development and customer service issues as a result of different manufacturer implementations.

(c) because it will improve the consumer experience by having a clear and consistent provision of energy measurement information.

(d) because it will support the Change of Supply process by alleviating the risk of different manufacturer implementations that would have resulted in system development costs and customer billing errors / estimates for Energy Suppliers (given that a customer gained during a CoS event may have a different meter configuration to the gaining supplier's existing procured meters).

4.2 Impacts

Statement of impact on Greenhouse Gas Emission:

There is no material impact on Greenhouse Gas Emissions.

Statement of impact on which parts of the SEC would need amending (e.g. proposed legal drafting):

In line with the recommended option, the changes required to SMETS2 are noted below. (Please note that all the acronyms referred to are defined in SMETS2 – they are not written out in full here to aid the reader):

Document impacted	Description of change	Indication of support
GSME	<u>Section 4.4.5 (Display of Information)</u> : add a requirement to specify that where the data items to be displayed on the GSME User Interface are the Consumption Register and Tariff TOU Register Matrix, then the display shall be in the form of 5 whole number digits followed by 3 decimals (i.e. xxxxx.xxx).	This requirement is supported by all Energy UK SDAF members.
ESME Part A	<u>Part A Section 5.5.4 (Display of Information)</u> : add a requirement to specify that where the data items to be displayed on the ESME User Interface are the Active Import Register, Active Export Register, Tariff TOU Block Register Matrix, and Tariff TOU Register Matrix, then the display shall be in the form of 5 whole number digits (i.e. xxxxx).	This requirement is supported by the majority of Energy UK SDAF members
ESME Part B	<u>Part B Section 5.11.1 (Display of Information)</u> : add a requirement to specify that where the data items to be displayed on the ESME User Interface are the Active Import Register, Secondary Active Import Register, Tariff TOU Block Register Matrix, Tariff TOU Register Matrix and Secondary Tariff TOU Register Matrix, then the display shall be in the form of 5 whole number digits (i.e. xxxxx).	This requirement is supported by the majority of Energy UK SDAF members.
ESME Part C	<u>Part C Section 5.17 (Functional Requirements)</u> : add a new “Display of Information” section to this section; the requirements for this should either replicate the requirements set out in SMETS2 Part A for the display or refer to them. Additionally, include a requirement to	This requirement is supported by all Energy UK SDAF members.

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	specify that where the data items to be displayed on the ESME User Interface are the Active Import Register, Active Export Register, Tariff TOU Block Register Matrix, and Tariff TOU Register Matrix, then the display shall be in the form of 6 whole number digits (i.e. xxxxxx).	
IHD	<u>Section 6.4.3 (Information pertaining to the Supply of gas to the Premises):</u> add a requirement to specify that where the data items to be displayed on the IHD User Interface are the Cumulative Consumption and Historic Consumption, then the display shall be in the form of 5 whole number digits followed by 3 decimals (i.e. xxxxx.xxx). This requirement is aligned to the base GSME requirement above. <u>Section 6.4.4 (Information pertaining to the Supply of electricity to the Premises):</u> add a requirement to specify that where the data items to be displayed on the IHD User Interface are the Cumulative Consumption, Historic Consumption and Instantaneous Active Power Import, then the display shall be in the form of 5 whole number digits (i.e. xxxxx) for ESME single phase (SMETS2 Part A or B) or 6 whole number digits (i.e. xxxxxx) for ESME polyphase (SMETS2 Part C). The requirement is aligned to the base ESME single and polyphase requirements above.	This requirement is supported by all Energy UK SDAF members aligned to the base requirements above

Statement of impact on likely changes to other Energy Codes:

If this Mod is progressed there should be no impacts to other Codes. However, if it is not, there may be implications for other Codes as per Section 2 of this form, where we note that Option 7 is to amend existing industry dataflows.

Statement of impact on likely Party Categories:

Large Supplier Parties	☒	Small Supplier Parties	☒
Electricity Network Parties	☐	Gas Network Parties	☐
Other SEC Parties	☐		
Energy Suppliers are responsible for the procurement and installation of SMETS2 devices in customers' premises. Therefore Energy Suppliers need to make informed decisions in procuring devices, system(s) and business process solutions to deliver consistent consumer experiences that are interoperable and economically efficient.			

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Statement of impact on Central Systems:			
DCC Systems	☐	User Systems	☒
Smart Metering Systems	☒	Other (i.e. on Smart Metering Key Infrastructure, or security)	☐
The proposed change directly impacts SMETS2 devices only. That said, there are indirect impacts on Energy Suppliers' systems and processes as the proposal will negate the need to develop different approaches for SMETS2 devices based on different manufacturer implementations and therefore supporting more efficient Energy Supplier customer billing / service processes for the customers' benefit.			

5. Proposed Timetable

Proposed Timetable for Modification Proposal:

Implementation would be desired as soon as possible in time for Release 2 (post DCC Live). The proposed change to SMETS2 is relatively straightforward in nature and may not require a Working Group assessment – it can be consulted on as soon as possible if that is the case.

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 is approved.

The proposed timetable includes some assumed timescales for Authority (SoS) determination (25 Working Days),

The proposed timetable does not currently capture the three month EC notification if the changes associated with this Modification require EC Notification as part of the approval process.

Stage	Start	Finish
Stage 1 - Modification Proposal Raised	Thu 18/02/16	Fri 04/03/16
Stage 2 - Panel reviews IMR	Mon 07/03/16	Fri 11/03/16
Stage 3 - Refinement process*	Mon 21/03/16	Fri 03/06/16
Working Group 1	March 2016	
Working Group 2	April 2016	
WG Consultation	May 2016	
Working Group 3	May 2016	
Stage 4 - Modification Report stage**	Mon 06/06/16	Wed 13/07/16
Stage 5 - Change Board vote	Thu 14/07/16	Wed 20/07/16
Stage 6 - Authority Decision	Thu 21/07/16	Fri 29/08/16
Implementation	June 2017	

*The Refinement Process includes several additional steps, which will be outlined in more detail in the Initial Modification Report.

** Includes second consultation on the Modification Proposal, followed by Panel's review of the Draft Modification Report, and Panel's decision on whether to proceed to a Change Board vote on the Modification Proposal.

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6. Additional Information

Additional information:

We believe that implementing this proposal will have these likely impacts on industry:

- Cost and benefits:
 - There will be costs associated with hardware development of ESMEs, GSMEs and IHDs.
 - The benefits to the consumer will be in having a clear and consistent provision of energy measurement information. Suppliers will be able to avoid unnecessary costs relating to system development and customer service issues around as a result of different manufacturer implementations. These combined benefits will support the benefit realisation in the Government's Impact Assessment for the SMIP.
- Time: it is intended that the change is progressed on the basis of post DCC Live implementation (in time for DCC Release 2) so that there is no impact on the current DCC Live delivery timescales.
- Regulatory / legal: the implementation of this proposed change will allow Suppliers to better deliver their consumer experience by having a consistent / standard approach for the display of energy measurement information on devices, ensuring that consumers are clear on the information provide by devices in their premises. This will also help any new players entering the market.
- Risks / issues: these will relate to the impact of change on manufacturers of ESMEs, GSMEs and IHDs for their devices' User Interface.
- Testing: any new functionality on devices will need to undergo the relevant testing, certification or assurance where appropriate.
- Environmental: the proposed change will have a positive impact as there will be no need for customer site visits to replace devices if an energy supplier decides it wants to provide one of its own procured devices following a Change of Supply / churn event.

APPENDIX 1: Glossary of Terms

The table below illustrates useful definitions of the terms used in this form. If you require any further information please contact the [SECAS Helpdesk](#).

Term	Definition
DCC Systems	Means the Systems used by the DCC and/or the DCC Service Providers in relation to the Services and/or this Code (Section A1, SEC Stage 3.0). The Proposer may wish to consider anticipated impacts on the DCC Licensee's enterprise systems (e.g. billing) or the Data Service Provider or Communications Service Providers.
Fast-Track Modifications	Means Modification Proposals (Path 4 Modifications) to correct typographical or other minor errors or inconsistencies to the Code (Section D2.8, SEC Stage 3.0).
General SEC Objectives	Has the meaning given to that expression in Section C1 (SEC Objectives) (Section C1, SEC Stage 3.0). The SEC Objectives are those objectives that the SEC has been designed to achieve.
Greenhouse Gas Emission	Means emissions of Greenhouse Gases, as defined in section 92 of the Climate Change Act 2008 (Section A1, SEC Stage 3.0).
Other Systems	Other systems identified in the section Statement of Impact on Central Systems. The Proposer may wish to consider Prepayment vendors, Electricity Central Online Enquire Service (ECOES), Single Centralised Online Gas Enquiry Service (SCOGES), BSC Settlement Systems, etc.
Path Type	Means the Modification Path to be followed in respect of a Modification Proposal. The type of Path will depend upon the nature of the variation proposed in the Modification Proposal (D2.1, SEC Stage 3.0). The four Modification Paths under the SEC are: • Path 1 Modifications: Authority-led (Section D2.4/D2.5, SEC Stage 3.0) • Path 2 Modifications: Authority Determination (Section D2.6, SEC Stage 3.0) • Path 3 Modifications: Self-Governance (Section D2.7, SEC Stage 3.0) • Path 4 Modifications: Fast-Track Modifications (Section D2.8, SEC Stage 3.0)

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Party Category	Means one of the following categories: (a) the Large Supplier Parties collectively; (b) the Small Supplier Parties collectively; (c) the Electricity Network Parties collectively; (d) the Gas Network Parties collectively; or (e) the Other Sec Parties collectively. (Section A1, SEC Stage 3.0).
Smart Metering Systems	Means a system installed at premises for the purposes of the Supply of Energy to the premises that, on the date it is installed, as a minimum; (a) consists of the apparatus identified in; (b) has the functional capability specified by; and (c) compiles with the other requirements of, the Smart Metering Equipment Technical Specification that is applicable at the date (Section A1, SEC Stage 3.0). In summary, this includes: • Gas Smart Metering Equipment; • Electricity Smart Metering Equipment; • In Home Display; • Prepayment Interface Device; and • HAN Connected Auxiliary Load Control Switch.
Urgent Proposal	Means a Modification Proposal deemed an Urgent Proposal where the Authority directs the Panel to treat the Modification Proposal as an urgent Proposal (whether following a referral by the Panel pursuant to Section D4.5, or at the Authority's own initiation) (Section D4.5/D4.6, SEC Stage 3.0).
User Systems	Means, in respect of each User (DCC User), the Systems of that User (including, where relevant, those of its Supplier Nominated Agent) used in relation to the Services and/or Smart Metering Systems (Section A1, SEC Stage 3.0). The Proposer may wish to consider Suppliers; Network Operators; Registration Data Providers; Other DCC Users (e.g. Authorised Third Parties / Switching Sites); Supplier Nominated Agents.