What stage is this document in the process?

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

tage 01: Modification Proposal

SECMP0038:

Sending Commands via PPMIDs

This Modification seeks to offer the option for PPMIDs to be able to pass fully formed GBCS Remote Party Commands onto the Home Area Network. It is expected that the Commands would usually be routed from the Supplier to the PPMID via wifi connectivity.

The Proposer recommends that this Modification Proposal should be *(delete as appropriate)*:

- Path 3

Potential Impact on:
DCC Users, DCC

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

MODIFICATION PROPOSAL FORM V1.0

1. Proposer's Contact Details

Details of Proposer		Representative as Point of Contact
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2. Modification Proposal Details

Mod Submission Date:	
Title of Mod Proposal:	Sending commands via PPMIDs

Description in Detail of the Proposed Modification:

This Modification is a replacement for SECMP0031 to better support customers when faced with intermittent or no WAN situations.

This Modification is a more refined version of expanding the functionality of UTRNs which moves away from the concept of expanding UTRN functionality but achieves a similar outcome by providing DCC Users with a mechanism of delivering critical commands to a meter where WAN is unreliable.

Local delivery of Commands

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Context

SMETS1 Meters have been deployed in their millions over several years. They use the GB mobile telephone networks for their Wide Area Network (WAN) connections. SMETS2 Meters are not yet deployed in significant numbers but those in two out of three CSP regions will also use the GB mobile telephone networks for WAN connections. Thus, WAN performance in SMETS1 deployments gives the best current indication of the likely SMETS2 WAN performance in two of the three CSP regions.

Utilita has been installing SMETS1 meters since 2013, and while we have over 90% success with WAN, we have found somewhere of the order of 9% of our SMETS1 meters continue to have an unpredictable quality of WAN coverage following install, even using roaming sim technology which will link into the strongest mobile phone network signal. This means that the meter has WAN intermittently and the WAN connection, to material numbers of Premises, is not sufficiently reliable to deliver configuration Commands in a sufficiently timely manner. As a mainly PPM supplier, our customer base has tended to be mainly in populous areas which usually have good signals, the risk of unpredictable or poor WAN must be considered higher in less populous areas.

This is especially critical for prepayment customers, since configuration Commands affect supply of energy to their homes. It is not viable to wait for an uncertain period for WAN quality to increase sufficiently, before their supply issues are addressed. SMETS1 solutions to address this problem have been developed and refined over 15 years, but there is no current SMETS2 solutions, other than sending an engineer with a Hand Held Terminal (HHT) to the Consumer's Premises.

The purpose of this modification is to allow for alternative ways to deliver Commands to SMETS2 Devices, to cater for situation where the WAN connection is not of sufficient quality to deliver them in a timely manner. Thus, reducing the possible consumer detriment to SMETS2 customers.

Proposed solution

The DCC has already implemented a technical solution to the problem of GBCS Command delivery other than via the WAN. It has the following component parts:

1. When a DCC User submits a non-critical Service Request or a Signed Pre-Command to the DCC, the DCC User can request that a copy of the resulting GBCS Command is returned to it[1]. For non-critical Service Requests, these are DUIS Command Variants 2 and 3; for Signed Pre-Commands, they are Command Variants 6 and 7.
2. The DCC User transmits this GBCS Command (which is a number) to a Hand-Held Terminal (HHT) that has been connected to the CH to which the target Device is attached. This transmission can take place in any way the DCC User chooses (e.g. wifi, combinations of Bluetooth and 3G).
3. The HHT is required by GBCS to establish a ZigBee 'tunnel' to the CH (and so be a ZigBee tunnelling client), and the CH is required to accept such 'tunnels' (and so be a ZigBee tunnelling server).
4. The HHT can send GBCS Commands down this tunnel and the CH is required to forward such GBCS Commands to the target Device.
5. When the target Device receives the GBCS Commands, it will process them in exactly the same way as it would if they had been delivered in any other way. This is because the GBCS Command is simply a number – the technology used to transmit the number does not change that number.

In terms of points 3, 4 and 5, the existing requirements in relation to a PPMID are almost identical to that for an HHT – the underlined point is the current difference:

3. The PPMID is required by GBCS to establish a ZigBee 'tunnel' to the CH (and so be a ZigBee tunnelling client), and the CH is required to accept such 'tunnels' (and so be a ZigBee tunnelling server).
4. The PPMID can send a subset of GBCS Commands down this tunnel and the CH is required to forward such GBCS Commands to the target Device.

[1] Like all Messages, a GBCS Command is simply a binary number. Strictly what is returned is an encoded version of that number, which is safe to send in XML documents.

5. When the target Device receives the GBCS Command, it will process it in exactly the same way as it would if it had been delivered in any other way. This is because the GBCS Command is simply a number – the technology used to transmit the number does not change that number.

Thus, the proposed change is to require that a CH accepts any GBCS Command sent down a tunnel from a PPMID, rather than only a subset of Commands.

This functionality, to accept any GBCS Command, has already been built in to CH for HHT connections, so would only need extending to PPMID connections.

This would give DCC Users the option to use the existing mechanisms to get a GBCS Command for local delivery from the DCC, and provide that GBCS Command to their PPMID in a way of their choosing (e.g. wifi, Bluetooth from a mobile app etc). DCC Users taking up this option would need to ensure their customers have a PPMID with the requisite communications capability.

There would be no requirement on any DCC User to use this mechanism, nor to provide PPMID capable of receiving such Commands for local delivery. This aligns to the current HHT mechanism, where there is no obligation on any DCC User to have or use HHTs.

Thus, the only change proposed is a change to CH requirements, as specified by the bullet in the next section. It is proposed that this change be incorporated in to the next TSG version which requires other changes in CH functionality which is to be deployed across all CH, so to minimise costs.

Wider requirements for CH changes are that they are applied to both new CH and, by way of firmware upgrade to all installed CH. Thus, given this change would be bundled with wider CH changes, it would be applied to all existing and future CH.

Note that this does not change any of the security protections for GBCS Commands or their processing. GBCS Command delivery via this route would have the same security protections and requirements as those delivered via the WAN or HHT.

Technical Specification changes required.

To the version of GBCS in which this change is to be implemented[2], add the underlined bullet to specify the additional CH requirement:

10.8.2 CH Routing of Remote Party Commands and SME.C.PPMID-GSME and Alerts

Whenever a CH receives either:

- a Remote Party Message via its WAN interface; or
- a Remote Party Message in the Data parameter payload of a Transfer Data command which is from an HHT;
- a Remote Party Command in the Data parameter payload of a Transfer Data command which is from a PPMID; or
- an SME.C.PPMID-GSME Message in the Data parameter payload of a Transfer Data command from a Device, which is in its CHF Device Log,

the CH shall:

- process the Message Header Structure(s) in that Message sufficiently to identify the target Device's Entity Identifier; and

[2] This section of GBCS is introduced by BEIS IRP521

- where the identified Device is in the CHF Device log and is not an HHT, GPF or CHF, attempt to deliver that Message to the identified Device.

3. Path Type and Urgency Recommendation

Proposer's recommendations on Path Type (delete as appropriate)	Path 3

Statement for recommended Path Type:
This Modification is not material to the SEC.

Statement of whether Proposal is intended to be Fast-Track Modification (only Panel may raise this type of modification):
No

Is the Proposal Urgent? (delete as appropriate)	No

Statement of whether Proposal should be treated as an Urgent Proposal:

No

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.	☐
(h) the eighth General SEC Objective is to facilitate the establishment and operation of the Alt HAN Arrangements.	
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.	☐

C1.5 The Second Relevant Policy Objective applies in relation to SMETS1 Meters. The Second Relevant Policy Objective is that, subject to compliance with the First Relevant Policy Objective, the Charging Methodology must (other than in respect of Elective Communication Services) (in each of the following cases, as far as is reasonably practicable in all of the circumstances of the case, having regard to the costs of implementing the Charging Methodology): (a) result in Charges that are the same for SMETS1 Meters as they are for Smart Metering Systems, save that no Charges for Communications Hub Services will apply to SMETS1 Meters; (b) notwithstanding (a) above (where the Costs of Communications for a SMETS1 Meter exceeds the Costs of Communications for a Smart Metering System, and where an Original Supplier for the Energy Supplier Contract relating to that SMETS1 Meter is (and has at all times since the adoption of the Energy Supplier Contract been) a supplier of electricity and/or gas to the premises at which that SMETS1 Meter is installed), result in Charges that ensure that the excess Costs of Communications are recovered from the Original Supplier from time to time (in addition to the Charges referred to in (a) above), (c) **and, for the purposes of this Section C1.5, the terms "**SMETS1 Meters**", "**Costs of Communications**", "**Original Supplier**" and "**Energy Supplier Contract**" shall have the meaning given to those terms in the DCC Licence.**	☐

C1.6 The Third Relevant Policy Objective is that, subject to the Compliance with the First and Second Relevant Policy Objectives, the Charging Methodology must result in Charges that: a) facilitate effective competition in the Supply of Energy (or its use) under the Electricity Act and the Gas Act; b) 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; c) 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 d) (d) 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:

This Modification is designed to enable more customers to experience the services available through smart meters more of the time. Prepayment Customers with SMETS2 meters are currently at risk of being disadvantaged when compared to the previous SMETS1 generation prepayment customer. Therefore, this better facilitates the customer's ability to manage their energy usage.

This Mod supports the management of SMETS2 meters, enabling a customer's meter to be set to the correct price, correct credit, correct debt and mode where there is no SM WAN (either temporarily or permanently unavailable).

This mod will enable SMETS2 customers with no SM WAN to be aligned with the prepayment price cap, unless customers wish to pay more. This mod would also enable universal innovation to be applied to all customers especially those in poor service regions.

4.2 Impacts

Statement of impact on Greenhouse Gas Emission:

No

Statement of impact on which parts of the SEC would need amending (e.g. proposed legal drafting):
GBCS: 10.8.2

Statement of impact on likely changes to other Energy Codes:
None

Statement of impact on likely Party Categories:			
Large Supplier Parties	☐	Small Supplier Parties	☐
Electricity Network Parties	☐	Gas Network Parties	☐
Other SEC Parties	☒		

Statement of impact on Consumers:
None, however, suppliers will have the functionality available to be able to provide a better service to customers with SMETS2 meters.

Statement of impact on Central Systems:			
DCC Systems	☐	User Systems	☐

Smart Metering Systems and/or Communications Hubs	☒	Other (i.e. on Smart Metering Key Infrastructure, or security)	☐

The change to Communications Hubs is as described previously.

Only Users who chose to use the additional functionality would need to supply their Consumers with PPMIDs with suitable additional communications ability, so as to receive the GBCS Remote Party Commands.

No other Devices would be affected.

5. Testing

Proposed Testing Requirements
Please state whether the Modification Proposal's implementation will require the DCC to undertake testing of the DCC Total System and/or provide testing services. *We understand it can prove difficult to identify testing requirements at this stage. SECAS are able to provide support if you so require.*

6. Proposed Timetable

Proposed Timetable for Modification Proposal:
In the next release where a Comms Hub firmware upgrade is included.

7. Additional Information

Additional information:

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: ***1. Path 1 Modifications: Authority-led*** (Section D2.4/D2.5, SEC Stage 3.0) ***2. Path 2 Modifications: Authority Determination*** (Section D2.6, SEC Stage 3.0) ***3. Path 3 Modifications: Self-Governance*** (Section D2.7, SEC Stage 3.0) ***4. Path 4 Modifications: Fast-Track Modifications*** (Section D2.8, SEC Stage 3.0)

Party Category	Means one of the following categories: the Large Supplier Parties collectively; the Small Supplier Parties collectively; the Electricity Network Parties collectively; the Gas Network Parties collectively; or 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; 1. consists of the apparatus identified in; 2. has the functional capability specified by; and 3. 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: 4. Gas Smart Metering Equipment; 5. Electricity Smart Metering Equipment; 6. In Home Display; 7. Prepayment Interface Device; and 8. 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.