

Consultation

SMETS1 FOC Migration Testing and SIT: Proposed DMC Selection and Rationale





Table of Contents

1	Intr	oduction	3
2	Background and Selection Process		
	2.1	RFI to Suppliers and SMSOs for Installed Device Model Combinations (DMC)	5
		2.1.1 DCC Analysis of Installed DMCs	6
		2.1.2 SMSO-1	6
		2.1.3 SMSO-2	7
		2.1.4 SMSO-3	8
		2.1.5 Draft Pending Products Combination List (PPCL) for SIT	8
3	Ris	k Management	9
4	Cor	nsultation Question	.10
5	Hov	v to Respond	.10



1 Introduction

In the initial stages of the smart meter roll-out across Great Britain, several energy suppliers installed first generation smart meters (known as SMETS1 Devices) in consumers' homes. They are supported by a variety of systems, with each energy supplier taking a different approach. While this initial roll out has driven out early learnings and benefits, SMETS1 meters installed by one energy supplier are not always supported by another's systems. This sometimes results in consumers losing their smart functionality when they switch energy suppliers.

There are important shared benefits for industry and consumers from the enrolment of SMETS1 Devices into DCC's service; particularly the ability for such customers to maintain smart services following any decision to switch suppliers. DCC is therefore developing a regime to facilitate the migration of SMETS1 devices into its data and communications service.

Clause 13 of Appendix AK of the Smart Energy Code (SMETS1 SEC Variation Testing Approach Document (SMETS1 SVTAD)) requires DCC to discuss with stakeholders the selection of Device Model Combinations (DMCs) for use in Systems Integration Testing (SIT) and this document covers SMETS1 Device Model Combinations for SMETS1 Final Operating Capability (FOC) that include Landis+Gyr meters.. The selection of devices should meet the objective of facilitating, as soon as reasonably practicable, the enrolment of all SMETS1 Smart Metering Systems that are in scope. This consultation is seeking views on DCC's Device selection rationale for FOC SIT) and Migration Testing (MT), which is explained in further detail below.

2 Background and Selection Process

Figure 1 – DMC Selection Process



There are over 100 FOC SMETS1 DMCs in use today that could be selected for Migration Testing (MT) and System Integration Testing (SIT). These SMETS1 FOC DMCs are represented in the installations of different energy suppliers who are served by three Smart Metering Service Operators (SMSOs) referred to in this document as SMSO-1, SMSO-2 and SMSO-3 (in order to anonymise and protect commercial confidentialities).

An upgrade to the firmware on the ESME component of every DMC in FOC is required to support operation with the DCC Dual Control Organisation (DCO). The requirement for the firmware upgrade to the ESMEs means that all ESMEs will be on a new firmware image prior to Migration. The meters in this operating capability include both ESME MK1 and



MK2 models, therefore there are two distinct firmware versions required. The firmware versions are currently under development and testing, so the final versions are not yet known with certainty. In order to support plan timelines, it is likely that any test phase will start on a near final, manufacturer tested candidate version of the proposed firmware. It is possible that, through Migration Testing (MT) and System Integration Testing (SIT), issues with the candidate firmware versions will require further changes, in which case we expect to receive updated versions of the firmware throughout the test cycle. The final MT and SIT End of Cycle (EOC) and System Regression tests required to meet the MT and SIT exit criteria will be run on the final release version of ESME firmware.

As a consequence, DCC is not able to specify all details of the ESME firmware that it will be taking through MT and SIT for FOC. DCC will have no choice but to select the EMSE firmware versions that are intended to work with the DCO. Consulting on the EMSE component of the DMCs that the DCC will use in testing is therefore not sensible or necessary. The DCC issued a consultation on the SMETS1 SVTAD v1.4 on 9 August 2019 which included a new Clause 13.11 intended to address this matter. However DCC is now proposing an alternative set of changes to Clause 13 (presented in Attachment 1) instead of the suggested Clause 13.11. DCC communicated its intention to issue this alternative set of changes in the industry stakeholder workshop to support the SMETS1 SVTAD v1.4 consultation¹ and also published its intention to do this on the DCC Website². This alternative proposed set of changes to Clause 13 of this SMETS1 SVTAD state that the device selection and de-selection rules in Clause 13 of the SVTAD are not applicable to the ESME component of FOC DMCs and that instead DCC shall notify stakeholders of the relevant ESME Device Model (which might change over time). DCC is seeking stakeholder views on this new SVTAD drafting as part of this consultation on FOC DMC selection.

In relation to this change to the SMETS1 SVTAD, DCC will take into account respondents' views, and submit an amended SMETS1 SVTAD covering solely this change for redesignation in the SEC by the Secretary of State. DCC will conclude on this consultation, providing a report to BEIS no later than 28 October 2019. DCC has discussed the next steps with BEIS and it is proposed that, subject to timely receipt of the DCC's report and copies of relevant stakeholder responses to this consultation, BEIS will re-designate the SMETS1 SVTAD on 1 November 2019 or, if necessary, as soon as reasonably practicable within one month thereafter. In order to expedite the re-designation of the SVTAD, DCC is also seeking views on behalf of BEIS on the above proposed date for approval / re-designation of these documents as well as the draft designation direction which is presented in Attachment 2 for stakeholder consideration.

On this basis, the selection process described in this paper has been applied in relation to the Communications Hub, GSME and PPMID components of the DMC only.

DCC has issued a number of Requests For Information (RFI) to Suppliers and SMSOs for FOC. The purpose of these RFIs, which are issued every two months, is to provide a snapshot of the DMCs that make up the Smart Metering Systems that Suppliers intend to enrol when the DCC SMETS1 service in respect of them becomes available. The RFI's

¹ The industry briefing took place on 29 August 2019 and slide pack is available on DCC's website via <u>https://www.smartdcc.co.uk/media/3333/2019_08_29_smets1_mt_sit_alignment_consultation_briefing-v10-for-website2.pdf</u>

² See <u>https://www.smartdcc.co.uk/customer-hub/consultations/smets1-consultation-alignment-of-migration-testing-and-system-integration-testing/</u>



cover all SMETS1 Operating Capabilities (i.e. Initial Operating Capability (IOC), Middle Operating Capability (MOC), and FOC) and DMCs. The RFI data provided by Suppliers and information provided by the SMSOs has enabled DCC to select the optimum DMCs for Migration Testing and SIT to achieve the SMETS1 SVTAD overarching "objective of facilitating the enrolment of all SMETS1 Smart Metering Systems that are in scope for enrolment as soon as reasonably practicable."³. This selection is based on reported intention to enrol, and the planned upgrade paths for those DMCs.

In order to meet the SMETS1 SVTAD objective, the DMCs selected for MT and SIT represent the highest installed numbers of smart metering systems across the FOC capability release. As a result of our analysis of the RFI's and the Suppliers stated intention to enrol, DCC have selected 5 DMCs which are currently operated by two SMSOs (4 by one SMSO and 1 by another); this analysis is presented in Sections 2.1.2, 2.1.3 and 2.1.4 of this document.

All DMCs not selected for FOC SIT will be eligible to be considered for testing under Device Model Combination Testing (DMCT) following SIT completion as set out in Section 2. DCC considers that a balance of 5 DMCs in MT and SIT for FOC, combined with DMCT, is the best way to meet the SVTAD objective. By selecting 5 DMCs DCC additionally allows coverage of all the hardware variants for Communications Hub, Electricity and Gas Meters within MT and SIT. Additionally, Migration Testing under the MTAD will need to be performed for the third SMSO not covered by the DMCs in this paper, prior to the DCC operating capability to support migration of Smart Metering Systems from that SMSO going live.

2.1 RFI to Suppliers and SMSOs for Installed Device Model Combinations (DMC)

DCC issued the initial RFI to Suppliers and SMSOs on 3 May 2018, requesting information relating to the SMETS1 DMCs that, at that time, formed their installed base.

The template requested the following information for each Device reported:

Each Device Type – Manufacturer & Model Name, hardware version and revision, firmware version and provider, factory installed configuration. Also information on the SMSO ID and WAN provider for Communications Hubs was requested.

Further RFIs have been issued on a quarterly basis and DCC has sought to continuously update the DMC plans. In some instances, data has not been provided or is not complete, so the conclusions of this paper are based on the information submitted.

DCC will continue to analyse the RFI data based on the assumptions in Section 2.1.1 and has factored both Active and Dormant installations into their analysis, which is reflected in the selected DMCs.

The RFI analysis carried out by DCC shall be used to update the SMETS1 Pending Product Combination List (PPCL) with FOC DMCs.

³ SEC Appendix AK Clause 13.2 - https://smartenergycodecompany.co.uk/document-download-centre/download-info/sec-appendix-ak-sec-variation-testing-approach-document-smets1-services/

2.1.1 DCC Analysis of Installed DMCs

DCC analysed Supplier submissions to ascertain unique DMCs, applying the following assumptions:

- 1. Landis+Gyr meters managed by SMSO-1, SMSO-2 and SMSO-3 are eligible for enrolment.
- 2. Where an IHD is capable of having its firmware upgraded, it will be treated as a SMETS1 PPMID.
- 3. At present, EDMI devices are under assessment, and therefore are outside of the current scope for FOC, and therefore are not considered. Should a decision be taken to include EDMI devices in scope, a separate DMC selection consultation will be issued in respect of EDMI.

2.1.2 SMSO-1

DCC has selected the 5 most prevalent DMCs for MT and SIT, which includes 4 DMCs from this SMSO. The selected DMCs include all hardware variants of the L+G ESME and GSME Meters.

The remaining DMCs related to SMSO1 will be assessed under the DMCT process. The SMSO has confirmed that there are 2 different SMETS1 PPMID models in use in the field, the selected DMCs include the most prevalent type and the remaining combinations that include the alternate SMETS1 PPMID will be assessed under the DMCT process.

The selected DMCs account for 42% of the FOC total deployed estate across all 3 SMSOs. Following the successful completion of MT and SIT, additional DMCs can be added using the shorter device-focused DMCT process.

Although the selection of the ESME device model is outside the scope of this consultation, for completeness the details of that ESME device model that are known are included in the table below, and the ESME firmware version 'TBC' is included in the ESME version number in Table 1.

PPCL V2.10	Landis+Gyr	Landis+Gyr	Landis+Gyr	Landis+Gyr
PPC ID	DMC-1	DMC-2	DMC-3	DMC-4
Fuel Type	DF	DF	DF	DF
GSME Model	G370	G470 (MK1)	G370	G470 (MK2)
GSME Firmware	03.00.01.61	03.02.01.63	03.00.01.61	03.03.01.61
ESME Model	E470 (MK1)	E470 (MK1)	E470 (MK1)	E470 (MK2)

Table 1 – Proposed SMSO-1 DMCs for SIT



PPCL V2.10	Landis+Gyr	Landis+Gyr	Landis+Gyr	Landis+Gyr
ESME Firmware	TBC ⁴	TBC	TBC	TBC
CH Model	SEAP-2000-V	SEAP-2000-V	SEAP-2001-V	SEAP-2001-V
CH Firmware	2.1.12	2.1.12	2.2.7	2.2.8
SMETS1 PPMID Model	PCK-BB-001	PCK-BB-001	PCK-BB-001	PCK-BB-001
SMETS1 PPMID Firmware	2.2.1.9.0	2.2.1.9.0	2.2.1.9.0	2.7.1.9.0
SMETS1 PPMID Manufacturer	GEO	GEO	GEO	GEO
% of Total FOC Deployed Estate	42%			

2.1.3 SMSO-2

DCC has selected the 5 most prevalent DMCs for MT and SIT, which includes 1 DMC from this SMSO, with the remaining combinations eligible to be assessed under the DMCT process. The selected DMC accounts for 10% of the FOC total deployed estate across all 3 SMSOs. Following the successful completion of MT and SIT, additional DMCs can be added using the shorter device-focused DMCT process.

PPCL V2.10	Landis+Gyr		
PPC ID	DMC-5		
Fuel Type	DF		
GSME Model	G470 (MK1)		
GSME F/W	03.02.01.68		
ESME Model	E470 (MK1)		
ESME F/W	TBC⁵		
CH Model	SEAP-2001-V		
CH F/W	2.2.8		
SMETS1 PPMID Model	DUET II		
SMETS1 PPMID Firmware	2.0.1.9.61		
SMETS1 PPMID Manufacturer	GEO		
% of Total FOC Deployed Estate	10%		

Table 2 – Proposed SMSO-2 DMC for SIT

⁴ To Be Confirmed, as described in Section 2

 $^{\scriptscriptstyle 5}$ To Be Confirmed, as described in Section 2



2.1.4 SMSO-3

Following the assessment of all FOC RFI's, the quantity of installed smart metering systems for SMSO-3 are not sufficiently large for any of this SMSOs eligible DMCs to be considered for selection for SIT in line with Clause 13.2 of the SMETS1 SVTAD.

In order to ensure the migration capability for this SMSO, DCC intends that the first DMC for SMSO-3 is subject to Migration Testing within the SIT environment and in line with MTAD, with the SRV testing for this DMC be undertaken via DMCT. All remaining DMCs for SMSO-3 will be assessed for inclusion under DMCT.

2.1.5 Draft Pending Products Combination List (PPCL) for SIT

Coverage figures have been derived by examining the active and dormant population based on the proposed DMCs for enrolment and includes the upgrade to the ESME FW. The MT / SIT coverage, based on the table below, takes the DMCs which represent the highest quantity of installations across the wider estate. All other FOC DMCs may become eligible for enrolment via the DMCT process (noting that the first DMC for SMSO 3 will also go through Migration Testing), and the substantive equivalence evaluation as part of the process may permit addition to the EPCL with no further testing required.

The requirement for the FW upgrade to the ESME means that all ESMEs will be on a new FW image. As the actual version of the ESME FW that will exit SIT cannot be predicted at this stage, the current PPCL therefore shows a TBC ESME FW version and will be updated with the final version of the ESME FW following the final MT and SIT End of Cycle and system regression tests required to meet the MT and SIT Exit Criteria being executed on the final version of the ESME FW.

The PPCL will be updated and released with the candidate ESME FW prior to the beginning of MT and SIT. The PPCL will reflect the final release of the ESME FW prior to the start of the final MT and SIT EOC and System Regression tests.



Table 3 – Proposed PPC for FOC SITPPCL V2.10	Landis+Gyr	Landis+Gyr	Landis+Gyr	Landis+Gyr	Landis+Gyr
PPC ID	DMC-1	DMC-2	DMC-3	DMC-4	DMC-5
Fuel Type	DF	DF	DF	DF	DF
GSME Model	G370	G470 (MK1)	G370	G470 (MK2)	G470 (MK1)
GSME F/W	03.00.01.61	03.02.01.63	03.00.01.61	03.03.01.61	03.02.01.68
ESME Model	E470 (MK1)	E470 (MK1)	E470 (MK1)	E470 (MK2)	E470 (MK1)
ESME F/W	TBC ⁶	TBC	TBC	TBC	TBC
CH Model	SEAP-2000-V	SEAP-2000-V	SEAP-2001-V	SEAP-2001-V	SEAP-2001-V
CH F/W	2.1.12	2.1.12	2.2.7	2.2.8	2.2.8
SMETS1 PPMID Model	PCK-BB-001	PCK-BB-001	PCK-BB-001	PCK-BB-001	DUET II
SMETS1 PPMID Firmware	2.2.1.9.0	2.2.1.9.0	2.2.1.9.0	2.7.1.9.0	2.0.1.9.61
SMETS1 PPMID Manufacturer	GEO	GEO	GEO	GEO	GEO
% of Total FOC Deployed Estate			52%		

3 Risk Management

Due to the requirement for new ESME firmware to support DCO operation, all FOC DMCs will include new ESME FW versions, that have been developed and tested within the SMSO environment only by the Meter Manufacturer at the point of release to DCC to support MT and SIT. At the conclusion of MT and SIT, any new ESME firmware will have gone through testing by two of the three SMSOs and DCC.

There are two versions of the ESME firmware required across the selected DMCs due to the inclusion of two hardware models. Current delivery plans for the two firmware versions show that the firmware required for the ESME MK2 will be at a later date than that for the ESME MK1 therefore DMC-4 will be subject to a later entry into MT and SIT.

⁶To Be Confirmed, as described in Section 2



4 Consultation Question

DCC is seeking views on the following three consultation question:

Q.1 Do you agree with rationale used and therefore the FOC DMCs selected for MT and SIT?

Q.2 Do you have any details comments on the proposed changes to the legal drafting in Clause 13 of SMETS1 SVTAD? Please provide a rationale for your views.

Q3. Do you agree with the proposed re-designation date of 1 November 2019 (or, if necessary, as soon as reasonably practicable within one month thereafter) for the SMETS1 SVTAD using the draft direction?

The closing date for responses to this consultation is 4 October 2019.

5 How to Respond

Please provide responses by 17:00 4 October 2019 to DCC at <u>consultations@smartdcc.co.uk</u>. If you have any questions about the consultation documents, please contact Samantha Durham at <u>samantha.durham@smartdcc.co.uk</u>.

Consultation responses may be published on our website <u>www.smartdcc.co.uk</u>. Please state whether all, or any part, of your consultation response is confidential. Please note that responses in their entirety (including any text marked confidential) may be made available to the Department of Business, Energy and Industrial Strategy (BEIS) and the Gas and Electricity Markets Authority (the Authority). Information provided to BEIS or the Authority, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998, and the Environmental Information Regulations 2004). If BEIS or the Authority receive a request for disclosure of the information they will take full account of your explanation (to the extent provided to them), but [we/they] cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.



Attachment 1

This attachment contained the proposed amendments to Clause 13 of the SMETS1 SVTAD.



Attachment 2

This attachment contains the draft direction and designation text that BEIS intend to utilise for re-designation of the revised SVTAD.

Draft Direction and Designation Text

This direction is made for the purposes of the smart meter communication licences granted under the Electricity Act 1989 and the Gas Act 1986 (such licences being the "DCC Licence") and the Smart Energy Code designated by the Secretary of State pursuant to the DCC Licence (such code being the "SEC").

Words and expressions used in this direction shall be interpreted in accordance with Section A (Definitions and Interpretation) of the SEC.

Pursuant to Condition 22 of the DCC Licence and Section X5 (Incorporation of Certain Documents into this Code) of the SEC, the Secretary of State directs that, with effect from [DD MMM YYYY] the SEC Variation Testing Approach Document for SMETS1 Services previously designated and incorporated into the SEC as Appendix AK is hereby re-designated and incorporated in the form set out in Annex [XX] to this direction.

For the avoidance of doubt such re-designation of the SEC Variation Testing Approach Document for SMETS1 Services shall be without prejudice to anything done under the DCC Licence or the SEC on or after this document first being designated, or to the continuing effectiveness of anything done under this document prior to its re-designation (which shall have effect as if done under the re-designated document).

This direction is also being notified to the SEC Administrator.