Conclusions on the SMETS1 MOC SIT: Proposed DMC Selection and Rationale

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1 Purpose

Consistent with the requirements in Clause 13 of Appendix AK of the SEC (SMETS1 SVTAD), DCC consulted on the SMETS MOC Migration Testing (MT) and SIT DMC Selection and Rationale in July 2019. This was done via a DCC issued consultation (available via https://www.smartdcc.co.uk/customer-hub/consultations/dcc-consultation-on-the-device-model-combination/) between 4 July 2019 to 18 July 2019. This conclusions document presents:

- an overview of the responses received;
- DCC's views on the responses received; and
- DCC's final selection decision.

The consultation process has not impacted on the choice of DMCs proposed to be selected for SIT; there was no material evidence provided which indicated that testing other DMCs would provide any tangible benefit over those previously selected. DCC has decided that the Device Model Combinations (DMCs) set out in Table 1 will be tested in MOC SIT.

Table 1 - DMCs selected for MOC SIT

PPCL V1.0	Secure	Elster
Fuel Type	DF	DF
Solution Release	-	8.0.12g
GSME Model	Liberty EG4v11	BK-G4E EI2
GSME F/W	Q4X2G0E	10.94
GSME hardware version.CPL	05	00
GSME hardware revision.CPL	01	00
ESME Model	Liberty 100 - 1 Auxiliary Relay (100mA)	AS 300P Electricity
ESME F/W	P4X9G01	ASP04.04.01-55497
ESME hardware version.CPL	01	01
ESME hardware revision.CPL	02	01
CH Model	Skyline i-510	AM110R
CH F/W	HUB3F0X	03.07.09 (49) - REV09
CH Hardware version.CPL	02	01
CH Hardware revision.CPL	01	01
PPMID Model	Pipit 500	IHD3-MS
PPMID Firmware	IHDAE05	2.08.01
PPMID Manufacturer	Secure	Chameleon

2 Background

In the initial stages of the smart meter roll-out across Great Britain, several Energy Suppliers installed first generation smart devices (known as SMETS1 devices) in consumers' homes. These meters currently operate outside of the Data Communications Company (DCC). While this approach 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 meters into a DCC Service; particularly the ability for all SMETS1 customers to maintain their smart services following a decision to switch suppliers. DCC are therefore developing SMETS1 Services to facilitate testing and the incorporation of such devices into our data and communications service to ensure these shared benefits for industry and consumers continue.

There are several hundred SMETS1 Device Model Combinations (DMCs) in use today. These range from DMCs where there are hundreds of thousands of metering systems in use, to DMCs where there are below ten.

The SMETS1 MOC (Middle Operating Capability) is split into two distinct parts featuring Secure Meters on Secure SMSO and Elster-Honeywell Meters on Morrison Data Services (MDS) SMSO. At least one DMC must be selected for each cohort in order to prove the DCC total system changes that are required. DMCs were selected based on supplier upgrade intentions and known upgrades that are required in order to migrate Smart Metering Systems to the DCC.

In addition to testing in SIT, DCC is introducing a new DMC testing service, Device Model Combination Testing (DMCT[1]). DMCT will provide an appropriate level of assurance such that devices that have not been tested in MT and SIT are interoperable, and given our understanding of the current upgrade plans, the combination of MT, SIT and DMCT will deliver extensive coverage of DMCs to be enrolled to the DCC service capability to enrol them shortly after MOC.

DCC understands the upgrade plans for the two cohorts, and it is with these plans in mind that DMCs have been selected. In parallel, Suppliers continue to have the opportunity to upgrade their firmware on their DMCs to those versions successfully taken through MOC SIT or subsequently to the versions successfully taken through DMCT and approved to the EPCL.

DCC have determined that the DMCs selected and the rationale underpinning the selection remain appropriate, and that the responses to the consultation broadly support the selection.

3 Responses Received

The July 2019 consultation asked a question regarding the agreement of the rationale and DMCs selected and DCC received input from seven respondents across the sector, including Installing Suppliers.

In summary, four of the seven respondents agreed with the rationale, with the other respondents not expressing a formal view as they were not installing suppliers and/or did not feel they had enough information to comment meaningfully. No respondents rejected the selection. Many

[1] https://www.smartdcc.co.uk/customer-hub/consultations/dcc-consultation-on-changes-to-the-sec-variation-test-approach-document-svtad-and-the-mtad-migration-test-approach-document-to-support-testing-of-device-model-combinations-dmcs/

respondents had comments or questions on the selection or general programme, which are grouped together and answered below.

3.1 DMCT and Equivalence

Several respondents had questions surrounding the DMCT process. As highlighted above, DCC is consulting on an update to Appendix AK version 1.3 of the Smart Energy Code (SEC) providing details of the DMCT process and how it will be run.

Subject to the outcome of this SMETS1 SVTAD consultation, substantively equivalent DMCs may be added to the EPCL without further testing. One respondent queried what evidence may be required in order to declare something substantively equivalent. This process is being finalised, however as part of it DCC intend to engage with both meter manufacturers and installing suppliers when considering DMCs for substantive equivalence, before proposing them to Secretary of State for addition to the EPCL. DCC intend to have the substantive equivalence process for DMCs that fall within the scope of MOC finalised well in advance of MOC SIT, so that additional DMCs can be added quickly once the DCC total system is proven.

One respondent queried the effort to test “a few” devices that had been deemed substantively equivalent for assurance purposes. If a device has been deemed to be substantively equivalent, then we are satisfied that test evidence from a DMC that has been successfully tested is sufficient. However, it would provide us with confidence in the equivalence process if we were to check some of the DMCs proposed as equivalent through DMCT, particularly at the beginning of the process. Respondents queried how this process may be quicker than testing DMCs in SIT. In SIT the total system is under test from end to end and there are a large number of tests that do not specifically check the functionality of the DMC. In DMCT, only tests concerning the DMC are run which is a faster process. In addition, the total system will have been proven in SIT so there will be fewer delays from problems that are not DMC related.

One respondent queried how they could nominate DMCs that had not been tested in SIT for DMCT. In accordance with the proposals in the SMETS1 SVTAD for DMCT, we have and will continue to send out regular Requests for Information (RFIs) from suppliers every two months. The RFI has recently been streamlined so that it only requires data on what DMCs suppliers intend to enrol and in what quantity. After an analysis of the specific combinations, we will use this information to create a testing schedule for DMCT, which will then be published on the DCC website. It is our intention to work closely with Suppliers to understand their plans for enrolment so that we can achieve our objective of facilitating the enrolment of as many smart metering systems as quickly as possible. The particular question concerned another operating capability but the principle around this is the same. It is critical that DCC receives meaningful responses to the RFIs to make suitable plans or there is a risk that DMCs could be missed from the plan and their enrolment could be delayed.

3.2 Dormant meters

Some of the respondents to the consultation were not installing suppliers, and as such had questions on the handling of dormant meters. Under the Transition and Migration Approach Document (TMAD), available on the SECAS website, DCC has a responsibility to ensure that dormant DMCs are correctly configured for migration. DCC also has a responsibility to upgrade the firmware on dormant meters to get them to a version that is on the EPCL and thus eligible for migration, subject to it receiving the necessary support and assistance from installing suppliers that enables the DCC to do this and subject to an appropriate upgrade path being available.

One respondent had questions around the breakdown of the population of 3rd party consumer devices in use with Secure SMSO, or a breakdown of hardware variants of different devices on the network due to their concern of inheriting many different combinations of dormant devices. DCC are unable to publish this as it is considered commercially sensitive information and the data is being provided as part of installing supplier RFIs. Many of the major manufacturers of SMETS1 consumer devices are represented on various firmware versions. This should not be a concern as hardware and firmware variants must pass through DCC test programmes in order to be interoperable. Ideally, this would mean that the behaviour of devices to the supplier when communicating via the DCC is identical and it would not matter which device hardware or firmware was being communicated with. Any variations in performance and behaviour will be recorded in clauses of the SMETS1 Supporting Requirements and mapped to devices in the Device Model Variations to Equivalent Steps Matrix (https://smartenergycodecompany.co.uk/download/15514/).

3.3 Plan

Several respondents queried the current project plan and status of MOC SIT. Another respondent asked whether MOC testing had started yet. Other respondents wanted to know when the test plan and timetable would be shared. DCC and BEIS provided an update on the latest MOC and FOC plans at an industry workshop on the 5th September 2019 and the DCC is raising a change request to the Joint Industry Plan (JIP) via the IMF process to reflect the proposed new dates.

One respondent who was not an installing supplier queried how they would receive key MOC updates. They noted that issues in one capability release have impacts on others. Key updates are given at working groups such as TBDG E&A subgroup, IMF, SMDG, DCC led migration forums and the SEC Panel's Test Assurance Group (TAG).

3.4 Risks

Some respondents suggested that taking one DMC through SIT constituted a risk. DCC understands the risk but there was no other suitable candidate to select if an issue was found in the new Secure Meters device firmware. While this is acknowledged, the firmware selected, once deployed, will be the same for 95% of ESMEs, 95% of CHs and 95% of GSMEs in the field. This represents the only firmware available to test and as a result DCC has no viable way to mitigate against this.

The regulatory drafting in this SMETS1 SVTAD was written assuming that firmware versions established at the start of testing would be those that exited SIT. If a device firmware had to be deselected another would be selected in its place after further consultation. A process for such de-selection, and selection of replacement firmware versions, is set out in the SMETS1 SVTAD. However, as the selected firmware version has been developed to interoperate with the DCC security controls DCC has no real alternative to the electricity/gas meter and communications hub firmware versions that it selects.

Should such firmware require further changes due to issues arising when testing interoperability with the DCC solution, DCC will have no choice but to de-select it and use a replacement firmware version. DCC intends to consult on changes to the SMETS1 SVTAD to better accommodate the approach whereby the device selection and de-selection rules in Clause 13 of the SMETS1 SVTAD are not applicable to the firmware element for Secure CH, ESME and GSME. This would allow for device firmware to be changed to accommodate defect fixes without having to go through the device selection consultation process again.

One respondent suggested that the MOC cohorts will place a considerable load on DMCT and that this would have to be managed carefully to ensure that overall enrolment and adoption deadlines

were met. DCC considers utilising DMCT to be a more efficient approach than SIT and this in turn will facilitate enabling smart metering systems to be enrolled as soon as practicable and meeting programme targets and deadlines. This is due to the test pack that is required to be executed against each DMC in SIT being much larger than DMCT as there are tests that involve the devices but are system level tests.

3.5 Coverage

Coverage for the MDS Elster-Honeywell population is well understood and is due to 2 main families of the 8.0.12g solution release and a variety of PPMID firmware versions deployed with these. DCC has identified 14 initial DMCs for test or proposing as equivalent to increase coverage to over 90% based around these two families and the PPMIDs that are attached.

Several respondents queried the coverage achieved in SIT for the Secure meters cohort.

As noted in the consultation, the Secure meters population features a variety of hardware variants resulting in many combinations of devices possible, and therefore many DMCs. By selecting a single combination of hardware variants, the direct coverage is around 5%. However, the key point about these hardware variants is that:

- 95% ESMEs;
- 95% Communications Hubs; and
- 95% GSMEs;

will be on the same firmware version and that the hardware differences are not functionally impacting. These devices will be assessed for equivalence at the DMCT entry gate and if found to be functionally equivalent may become eligible for enrolment, else they will be tested and proposed for addition to the EPCL on a successful completion of DMCT. This will allow them to be added quickly after MOC.

In an ideal scenario, we will be able to add all of these hardware variants combined with the Secure IHD to the EPCL. This would cover 54% of the estate, with the remainder being made up of DMCs with a variety of different IHD / PPMIDs. These additional DMCs with different IHD / PPMIDs can be added quickly to the EPCL with DMCT.

3.6 Technical

There were a number of technical issues raised by various respondents.

- **Secure meters gas hardware / models** – Following the consultation the manufacturer has aggregated the EG4v10 and 11 into a single Central Products List (CPL) entry as the only difference is caused by a different mechanical design that does not affect functionality. EG4v15 will now form a different CPL entry as there are electronic component differences. This model uses the same firmware so DCC will examine whether this meets the criteria to be considered substantively equivalent.
- **Aux load** – One respondent queried whether devices that could support an auxiliary load schedule would be available for enrolment and adoption. They will be eligible to be enrolled. Aux load control as on some versions of the Liberty 100 is currently not supported as part of the core SMETS1 service. DCC is currently looking to provide a solution to this for the Liberty 100 and the Elster Honeywell AS300P for MOC.

- **Elster Honeywell Hardware Versions –** Hardware versions in the PPCL have been updated to reflect the latest data from Elster Honeywell. The CPL hardware versions are shown in the table, and for the ESME this hardware version corresponds to the Rev 09 hardware. There is also another population of Rev 07 devices that use similar, but not identical, firmware and it is proposed that these will be assessed for equivalence or tested as part of DMCT.

4 Next Steps

As per Clause 13.41 of Appendix AK of the SEC, there is a 10 Working Day period within which a Supplier Party may disagree with the DCC's decision on which DMCs are selected to use for testing in SIT, and may refer the matter to the Secretary of State.

Appeals should be sent to: Smets1_appeals@beis.gov.uk

If you have any questions about this conclusion document please contact Consultations@smartdcc.co.uk