Data Communications Company

SMETS1 Consultation on Early Firmware Updates

A consultation on changes to the SMETS1 Transition and Migration Approach Document (TMAD)

Filename: Early_Firmware_Consultation_issued
Date: 24 July 2020
Respond by: 1600 on 21 August 2020
Author: consultations@smartdcc.co.uk
Classification: DCC Public

Table of Contents

1. Introduction and Context 3
2. Early Firmware Updates for Dormant Devices 3
3. Next Steps 6
4. How to Respond 6
5. Attachments 7
   Attachment 1 8

1. Introduction and Context

A number of energy suppliers have installed first generation smart devices (known as SMETS1 devices) in consumers' premises across Great Britain. The Data Communications Company (DCC) has designed a solution for the enrolment of SMETS1 devices into its network. Part of DCC's plan to deliver SMETS1 services involves a detailed approach for migrating SMETS1 Installations into DCC's systems.

The detailed technical and procedural requirements of the migration approach are set out in the SMETS1 Transition and Migration Approach Document (TMAD). The TMAD is Appendix AL of the Smart Energy Code[1] (SEC) and the latest version (AL 5.0) was included in the SEC on 15 June 2020. The current TMAD (version AL 5.0) covers requirements for the IOC and MOC (MDS) for SMETS1 Services. Further changes to support the MOC (Secure)[2] and FOC capability are in progress and there have been separate consultations on these TMAD changes.

This consultation covers a single change to the TMAD to allow DCC to instruct firmware updates on dormant Devices earlier than the existing arrangement.

2. Early Firmware Updates for Dormant Devices

The existing provisions within Clause 4.26 of the TMAD provide DCC with deemed consent (from the Responsible Supplier) to instruct the SMETS1 SMSO to upgrade firmware and/or re-configure Dormant Meters and any associated Devices to meet the requirements of S1SR and/or to upgrade such that the SMETS1 Installation matches an entry on the EPCL. In order to expedite the migration of SMETS1 Installations containing Dormant Devices and thus increase the overall benefits of enrolment of SMETS1 meters with the DCC, DCC is proposing to amend Clause 4.26 of the TMAD in order to extend this deemed consent to enable the upgrading of firmware for a SMETS1 Installation by DCC where the corresponding entry is planned to be (rather than actually) on the EPCL, provided that the entry in question is close to being proposed for the EPCL. The criteria that DCC is proposing as representing the point when the DMC is close to being proposed for entry on the EPCL is:

a) in the case of an EPCL entry that has been subject to Migration Testing (MT)and Systems Integration Testing (SIT), when test completion has been confirmed by the Testing Advisory Group (TAG) for the planned EPCL entry comprising all or part Dormant Meters; and

b) in the case of a planned EPCL entry that goes through the DMCT process, when relevant DMCT EPCL Report that proposes the entry in respect of a SMETS1 Installation comprising all or part Dormant Meters has been published.

DCC consider that following TAG approval for any planned EPCL entries that have been through MT and SIT, DCC will have sufficient confidence of the firmware working with the DCC solution. In the case of planned EPCL entries that go through the testing part of the DMCT process, the DCC does not produce the DMCT EPCL Report until it has demonstrated that any testing defects are within an acceptable defect threshold, and TAG has reviewed and not disputed (or if disputed, a

[1] https://smartenergycodecompany.co.uk/the-smart-energy-code-2/.
[2] DCC concluded on the TMAD for MOC (Secure) on 30 June 2020 - https://www.smartdcc.co.uk/customer-hub/consultations/dcc-responses/dcc-conclusion-on-the-consultation-on-tmad-for-secure.

resolution has been reached) DCC's treatment of any testing issues. Again, this testing and governance process will provide DCC with sufficient confidence of the firmware working with the DCC solution. In the case of planned EPCL entries that are not tested as part of the DMCT process, but are put through as substantively equivalent to EPCL entries that have previously been tested, DCC again relies on the assurance derived from the governance steps applying to the testing of the planned entries against which substantive equivalence is being assigned.

DCC considers that taking steps to upgrade firmware early will expedite the migration of dormant installations; accelerating their migrations by at least four weeks, particularly where the majority of dormant devices require a firmware upgrade due to new firmware being mandatory for SMETS1 migration. Earlier migration of dormant installations will result in the delivery of greater benefits to the programme and consumers.

DCC recognises that it might be considered that there may be some risks associated with upgrading firmware on dormant installations prior to EPCL entries being approved and sets out its analysis here.

- There is a risk that a defect may arise in user testing or another aspect of assurance prior to an approval decision such that the EPCL entry does not gain approval from the Secretary of State in the timescale originally envisaged. In such circumstances, it may be that a further firmware version will need to be developed / re-tested and clearly DCC would cease further firmware updates pending any final decision on what would happen in this circumstance.

- There is a risk that Dormant installations churn and become active in the following scenarios:

    1. Post a DCC firmware upgrade and prior to the approval of the corresponding entry on the EPCL. Questions might arise as to whether the gaining energy supplier can successfully operate on the unapproved EPCL version whilst the SMETS1 Installation is still with the SMSO, pending Migration. DCC consider this risk to be low as DCC will be upgrading dormant SMETS1 Installations in alignment with upgrade paths which have been provided by the Installing Suppliers. DCC considers that the upgraded SMETS1 Installation should be capable of being successfully operated whilst on the SMSO, with no solution changes required to support the unapproved EPCL version.

    2. Post a DCC firmware upgrade and the corresponding entry does not get approved for the EPCL. In this scenario, where the SMETS1 Installation is at the what would have been the approved EPCL version, for the reasons set out above, it should be capable of being operated on the SMSO. However, it could be that the SMETS1 Installation is at an interim version (should 'hops' have been required to move it to the unapproved EPCL version) and there is a risk that this interim version is not operable on the SMSO. In order to gain confidence that all interim versions are operable, DCC will engage with Installing Suppliers, as part of the process outlined in Clause 4.33 of the TMAD and confirm that all interim versions are operable ahead of early firmware upgrades commencing.

    3. Post a DCC firmware upgrade and prior to approval of the EPCL entry, a defect is discovered in the planned EPCL entry version. DCC consider this risk to be low for IOC and MOC devices as the discovery of a defect post completion of DMCT is

highly unlikely. In the case of FOC, all SMETS1 Installations require a firmware upgrade prior to migration and this firmware version will have been extensively tested by both the Active Suppliers for FOC and the DCC prior to Migration Testing and SIT completing.

- There is a risk that SMETS1 Installations could be stranded at the unapproved EPCL version if EPCL entries are not approved and a later firmware version is required for the EPCL. In this circumstance DCC would not commence any new SMETS1 Installation upgrade activities that would take SMETS1 Installations to the unapproved EPCL version. For any SMETS1 Installations that have already been upgraded or partially upgraded, DCC consider the risk of being unable to upgrade the assets to what will become the EPCL version to be extremely low as:

    - it will have been proven through SIT that the target firmware version can accept an OTA upgrade, as this is a condition of reaching SIT exit and this criterion will have needed to be met to commence the early firmware upgrades;

    - where DCC has paused upgrade activity and as a result only part of the SMETS1 Installation has been upgraded, in order to ensure operability, DCC will complete the upgrade to the unapproved EPCL version and then upgrade the entire installation to the new firmware version; and

    - if a later firmware version is required the meter manufacturer will be required to support upgrade paths from the unapproved EPCL version in order to support their customers.

    DCC considers the risk of a firmware upgrade causing a SMETS1 Installation to be stranded in low as in all cases a further OTA upgrade will be an option to recover the installation, if the proposed firmware applied early is found to be unsuitable for enrolment and adoption.

In cases where a different EPCL version and thus a further firmware upgrade is required, DCC would have incurred some costs for those SMETS1 Installations that have already been upgraded to the interim firmware version. However, DCC consider that this potential cost is outweighed by the benefit of being able to increase the speed of enrolment of dormant SMETS1 Installations through ensuring the maximum numbers of SMETS1 Installations are available for migration at the point of EPCL approval.

The result of the change being proposed in this consultation is that DCC would be able to implement firmware upgrades for dormant SMETS1 Installations, for any planned EPCL entries that have completed steps a) or b) detailed above, as soon as the TMAD is re-designated. Therefore, this could benefit any IOC or MOC (MDS) DMCs that have not yet been added to the EPCL, and more importantly MOC (Secure) and FOC DMCs, where a considerable number of Dormant Installations require an upgrade.

DCC is also proposing a minor drafting to change to improve comprehension regarding the existing Clause 4.26 of the TMAD.

Firmware Q1	Do you agree with the proposal for firmware updates post completion of MT/SIT or issuing of a DMCT EPCL Report and prior to an entry being made on the EPCL? Do you have any detailed comments on the relevant changes to the legal drafting? Please provide a rationale for your views.

3. Next Steps

Following the closure of this consultation, DCC will take into account respondents' views, and, subject to the consultation responses received, submit to the Department for Business, Energy and Industrial Strategy (BEIS) an amended version of the TMAD that it considers suitable for re-designation into the SEC by the Secretary of State.

DCC is aiming to provide a conclusions report to BEIS no later than Friday 28 August 2020. DCC has discussed the re-designation of the TMAD with BEIS and it is proposed that, subject to timely receipt of DCC's report, copies of relevant stakeholder responses to this consultation, and the outcome of the consultation exercise, BEIS will re-designate the TMAD on Friday 4 September 2020 or as soon as reasonably practicable within one month.

In order to expedite the re-designation of the TMAD, DCC is also seeking views on behalf of BEIS on the proposed date for re-designation of the TMAD as well as the draft direction which is presented in Attachment 1 of this consultation document for stakeholder consideration.

Firmware Q2	Do you agree with the proposed re-designation date for early firmware updates of Friday 4 September 2020 (or, if necessary, as soon as reasonably practicable within one month thereafter) using draft notification at Attachment 1?

4. How to Respond

Please provide responses in the attached template by 1600 on Friday 21 August 2020 to DCC at consultations@smartdcc.co.uk. This template may be submitted in PDF or similar format rather than Microsoft Word format if preferred.

DCC will also be holding a consultation briefing session on Tuesday 11 August July 2020. Stakeholders should email enrolment.adoption@smartdcc.co.uk if they wish to be invited.

Consultation responses may be published on our website www.smartdcc.co.uk. Please state clearly in writing whether you want all or any part, of your consultation to be treated as confidential. It would be helpful if you could explain to us why you regard the information you have provided as 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 2018 and the Environmental Information Regulations 2004). If BEIS or the Authority receive a request for disclosure of the information we/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.

If you have any questions about the consultation documents, please contact DCC via consultations@smartdcc.co.uk.

5. Attachments

Attachment	Title
1	Draft Notification Text on early firmware updates
2	Response Template
3	TMAD V5.2 - delta against V5.1 - MOC (Secure) conclusion[1]

Table 1 - Attachments

[1] See www.smartdcc.co.uk/customer-hub/consultations/dcc-responses/dcc-conclusion-on-the-consultation-on-tmad-for-secure.

Attachment 1

This attachment contains the text that BEIS plans to use should it decide, having considered the outcome of the DCC consultation exercise, to direct changes to the TMAD for early firmware updates.

TMAD Draft Direction 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 SMETS1 Transition and Migration Approach Document previously designated and incorporated into the SEC as Appendix AL 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 SMETS1 Transition and Migration Approach Document 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.