

Consultation on changes to the SMETS1 Transition and Migration Approach Document (TMAD) for FOC

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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 this approach are set out in the SMETS1 Transition and Migration Approach Document (TMAD). The current TMAD (which covers requirements for the initial operating capability (known as 'IOC') for SMETS1 Services) was designated by the Secretary of State on 28 July 2019 and included in the Smart Energy Code (SEC) from version 6.14 onwards as Appendix AL of the SEC.

Subsequently, there are a limited number of changes to the TMAD that are required for the Middle Operating Capability (MOC) and Final Operating Capability (FOC). The MOC release includes two cohorts of devices, a Honeywell Elster device set operated via Morrison Data Services (MDS) as the Smart Meter System Operator (SMSO) (henceforth referred to as MOC (MDS)), and a Secure device set operated by Secure as the SMSO (henceforth referred to as MOC (Secure)). The FOC release covers the Trilliant and Landis+Gyr (L+G) device sets, currently operated by three SMSOs. DCC has updated the TMAD to include changes for MOC (MDS) which was concluded¹ on 22 November 2019. This consultation covers changes to TMAD for the FOC cohort. DCC will be issuing a separate consultation to cover matters related to MOC (Secure) in early 2020. It is important to note that there may be further minor changes to support the Trilliant SMSO within FOC and DCC will consult on these during the course of 2020 if they are required.

The changes made to TMAD within the scope of this consultation are against the published conclusion version for MOC (MDS) and are specific to the technical requirements necessary to migrate the FOC cohort. Specific changes are listed in Section 2 of this document. Some minor administrative changes have also been made to TMAD that provide additional clarity on the drafting and apply generally to all cohorts (including IOC and MOC). Where any change does not apply to IOC or MOC (MDS) it is indicated in the changes in Section 2.

In addition to the changes for FOC, DCC is also consulting on TMAD amendments where a change of supplier event may lead to a device becoming dormant which could lead to a negative customer experience. To provide a more favourable customer experience DCC are proposing that the notification period to energy suppliers is reduced. This will not have any impact on the process as set out in TMAD for energy suppliers, but will provide devices to be migrated in a reduced timeframe. DCC is of the opinion that it will still be able to fulfil its obligations in terms of migration of installations as set out in TMAD and other SEC subsidiary documents.

This consultation document is seeking views on the detailed amendments to the TMAD.

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¹ https://www.smartdcc.co.uk/customer-hub/consultations/dcc-responses/consultation-response-to-dcc-consultation-on-tmad-for-mds/.

TMAD for FOC Q1

Do you have any general comments on the changes to the TMAD within the scope of this consultation?

2. TMAD Changes

This version of TMAD has a small number of FOC specific changes in the main body of the document when compared to the MOC (MDS) version. The majority of changes are the new Clause 15 and Appendix B which document the technical details involved in preparing and migrating this cohort.

This version of TMAD introduces a new migration schema to incorporate changes required for the L+G and Trilliant device sets.

Early Migration of Recently Dormant Meters

In support of achieving an interoperable smart meter market by the end of 2020, BEIS has set a policy ambition that all dormant SMETS1 meters should be enrolled in the DCC System by the end of 2020. It is recognised that, given the plan for capability releases for MOC and FOC, a number of suppliers will be enrolling their Active SMETS1 meter sets into 2021. Where there is a change of supplier event during this period of enrolment, there is a risk that an unenrolled meter could become dormant. DCC would seek to prioritise the enrolment of that meter in line with its existing obligations in TMAD.

To provide a more favourable consumer experience, DCC is proposing to accelerate initiation of migrating recently dormant meters where it is expected that the new absence of a smart meter service has the greatest impact on a consumer's experience. We propose to do this by:

- where an Active device is identified as becoming dormant during the migration process and meets all criteria required for migration, DCC will only remove it from the migration process where the Change of Supplier event would fall within 2 days of the migration rather than the current 7 days (as per Clause 5.10.10 of the TMAD);
- where new Change of Supplier events create SMETS1 dormancy DCC will provide 2 Working Days notification of device configuration / firmware upgrade changes prior to migration (as per Clause 4.26 of the TMAD) rather than the current 15 Working Days;
- where new Change of Supplier events create SMETS1 dormancy DCC will provide 8 Working Days notification of migration (as per Clause 4.27 of the TMAD) rather than the current 15 Working Days; and
- DCC will where possible run the notification's required by TMAD for device configuration and notice to migrate (as per Clause 4.26 and Clause 4.27 of the TMAD) in parallel.

This will only impact the process for energy suppliers in so far as, it will provide for a reduced lead time to start the migration of the devices. This could impact the speed with which any internal business processes need to be readied by the energy supplier and will reduce the timescales over which suppliers are asked to supply their certificates. The proposals do not change the time within which pre-requisite steps of config update and/or

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firmware upgrade are performed once notification to do so has been provided. It will provide the potential to accelerate the migration of newly dormant devices by 7 working days that would otherwise be the case and support those suppliers who have gained that meter in providing a smart service earlier. This could more generally help support supplier customer acquisition strategies. We intend for this fast track recently dormant migration service to be implemented when TMAD is designated to maximise the number of consumers who can benefit from this service through 2020.

TMAD for FOC Q2 Do you have any views on DCC's proposals for minimising periods of dormancy in respect of recently dormant devices? Can you identify any other transitional opportunities that could exist to reduce the dormancy period for meters on change of supplier? Please provide a rationale for your views.

Table of proposed changes

The entirety of the proposed changes to the TMAD, including those administrative changes, are set out in Figure 1 below.

Figure 1 - Overview of TMAD Changes

No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
1.	Definitions Table	Addition of section 15 to definition Shall mean the set of files specified in Clauses 12, 13, 14 and 15 for the relevant GroupID.	FOC specific section 15 need to be added to the definition.
2.	Definitions Table	Addition of section 15 to definition Shall mean the set of requirements as specified in Clauses 12, 13, 14 and 15 for the relevant GroupID.	FOC specific section 15 need to be added to the definition.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
3.	Definitions Table	New Definition: Recently Dormant SMETS1 Installation: means a SMETS1 Installation that: (a) comprises a Device Model Combination that is eligible to be Enrolled; (b) included one or more Active Meters at any point in time after it became eligible to be Enrolled; and (c) at a point in time after [date on which this version of TMAD takes effect to be inserted], became a SMETS1 Installation that comprises only Dormant Meter(s).	This identifies those dormant meters which have become dormant since the EPCL entry was made and these proposed changes have taken effect.
4.	Clause 4.29	Where the DCC plans to carry out the steps referred to in Clause 4.26 in relation to any SMETS1 Installation which includes Dormant Meters (but no Active Meters), the DCC shall take reasonable steps to notify the Responsible Supplier(s) for that SMETS1 Installation at least 15 Working Days (or 2 Working Days in the case of Recently Dormant SMETS1 Installations) before the earliest scheduled date for undertaking those steps. Where there is a change of Responsible Supplier after the DCC has issued such notification, the DCC may continue to carry out the relevant steps as planned and shall take reasonable steps to notify the new Responsible Supplier prior to carrying them out.	By reducing this timescale, more customers (approximately 7%) would pass through the migration process at least 7 Working Days faster. This will mean that their loss of Smart functionality caused by changing to a supplier who is not contracted with the SMSO will be minimised providing an improved end consumer experience. Clause 4.26 identifies all necessary steps which must be taken to configure the device for Migration.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
5.	Clause 4.30	Where the DCC plans to carry out the steps referred to in Clause 4.27 in relation to any SMETS1 Installation which includes Dormant Meters (but no Active Meters), the DCC shall take reasonable steps to notify the Responsible Supplier(s) for that SMETS1 Installation at least 15 Working Days (or 8 Working Days in the case of Recently Dormant SMETS1 Installations) before the earliest scheduled date for undertaking those steps. Where there is a change of Responsible Supplier after the DCC has issued such a notification, the DCC may continue carry out the relevant steps as planned and shall take reasonable steps to notify the new Responsible Supplier prior to carrying them out.	By reducing this timescale, more customers (approximately 7%) would pass through the migration process at least 7 Working Days faster. This will mean that their loss of Smart functionality caused by changing to a supplier who is not contracted with the SMSO will be minimised providing an improved end consumer experience. Clause 4.27 identifies authorisation for DCC to take the steps necessary to migrate the devices.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
	Clause 4.49	New Clause: 4.49 The Responsible Supplier for any Meter: (a) that forms part of an Enrolled Smart Metering System;	For any Active Meter in the FOC cohort operating in prepayment mode the responsible supplier shall verify the prepayment key of the device post commissioning of the SMETS1 Meter on the DCC system.
6.		(b) that formsformsforms part of a SMETS1 Installation where GroupID = "EA" or "EB" or "EC"; (c) that was operating in Prepayment Mode (with its SMETS1 meaning) at the time that the SMETS1 Installation of which it formed part was Migrated; (d) which has continued to operate in Prepayment Mode (with its SMETS1 meaning) since that time; (e) in relation to which a "Top Up" Service Request has not been successfully processed since the Meter was Commissioned; (f) that has not been the subject of a change of supplier event since the Meter was Commissioned; and (g) in relation to which a change of supplier event is pending, shall ensure that the Payment Mode (with its SMETS1 meaning) of the Meter is set to Credit Mode (with its SMETS1 meaning) by the time that the change of supplier event occurs.	This ensures that prepayment functionality for these customers is unaffected by the migration and maintained if the device is inherited by other suppliers in the case of a change of supplier event. If this obligation is not in place there is the potential that any errors in the prepayment keys may be passed to suppliers gaining these meters when in prepayment mode.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
7.	Clause 5.1	New Clause: (c) and where GroupID = "EA" or "EB" or "EC", get from the relevant SMETS1 SMSO, any certificates required to restore communication in the event of a rollback along with: (i) the inclusive start and end dates of the period during which the certificates may be used; and (ii) any constraints as to the use of the certificates;	DCC is required to provide all certificates that are required to restore communication to the SMSO in the event of a rollback.
8.	Table 5.10 5.10.10	Unless the value of the CriticalSupplierCertificateID is the Null Certificate ID for the ESME, confirm, that, according to Registration Data, there is no change within the next 2 days to the Import Supplier in relation to the MPxN specified in the ESME element.	TMAD currently provides that DCC will reject any migrations (dormant or active) where there is a change of supplier event within seven days of the planned migration date. DCC propose to reduce this timescale to two days. At present consumers would be removed from their planned migration and added to the standard dormant pot. By reducing this timescale, approximately 3% of customers would pass through the migration process without needing to be reprocessed. As a result of this change, the loss of Smart functionality caused by changing to a supplier who is not contracted with the SMSO will be minimised providing an improved consumer experience.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
9.	Table 5.10 5.10.15	Unless the value of the CriticalSupplierCertificateID is the Null Certificate ID for the ESME, confirm, that, according to Registration Data, there is no change within the next 2 days to the Import Supplier in relation to the MPxN specified in the ESME element.	TMAD currently provides that DCC will reject any migrations (dormant or active) where there is a change of supplier event within seven days of the planned migration date. DCC propose to reduce this timescale to two days. At present consumers would be removed from their planned migration and added to the standard dormant pot. By reducing this timescale, approximately 3% of customers would pass through the migration process without needing to be reprocessed. As a result of this change, the loss of Smart functionality caused by changing to a supplier who is not contracted with the SMSO will be minimised providing an improved consumer experience.
10.	Clause 5.23	Addition to existing Clause: "For a Migration Group Encrypted File, the S1SP shall then: (b) confirm that the plaintext output from decrypting EncryptedS1SPGroupInformation is well formed and valid against the SMETS1 Migration Schema for a DecryptedS1SPGroupInformation or DecryptedS1SPDPGroupInformat ion structure as in Table 11.2.1."	Introduces a new item in the Migration schema for FOC Migration Group Encrypted Files to be validated against. The DP in the DecryptedS1SPDPGroupInformati on stands for Dual Protocol. This schema matches information required for FOC encryption methods.
11.	Clause 10.1	New SMETS1 Migration Schema v1.2	New schema introducing new data items for FOC devices.
12.	Table 10.1	New XML element in the schema: "DecryptedS1SPDPGroupInformation"	New data item in the Migration Schema for FOC.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
13.	Table 10.1	New XML element in the schema: "DeviceCertificate"	The certificate for the FOC Comms Hub Function device. This certificate is used to secure communications to the DCC Systems from the CHF
14.	Clause 11.1	Addition at start of existing Clause: "Except where GroupID = "EB" or "EC", a Requesting Party shall only have access to populated EncryptedS1SPGroupInformation and EncryptedMasterKey provided by the relevant SMETS1 SMSO, and shall not have access to either the Plaintext or symmetric keys which were used as input to the population of those elements."	GroupID "EA" has Prepayment Key information that needs to be passed between the Requesting Party and the SMSO that needs to be encrypted, whereas "EB" and "EC" do not have the same requirements hence the exclusion.
15.	Table 11.2.1	Additional text in Values of table for the following Attribute: "Plaintext = A string containing fully populated DecryptedS1SPGroupInformation where GroupID = "AA", "BA", "CA" or "CB", or DecryptedS1SPDPGroupInformat ion as required where GroupID = "EA", "EB" or "EC"."	Includes DecryptedS1SPDPGroupInformati on needed for FOC highlighting the split by GroupID's
16.	Clause 12.1	Replacement of Section with Clause so now reads: This Clause 12 specifies the requirements which are specific to processing in relation to SMETS1Installations where GroupID = "AA".	Consistent usage of Clause rather than Section throughout document.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
17.	Clause 14.1	Replacement of Section with Clause so now reads: This Clause 14 specifies the requirements which are specific to processing in relation to SMETS1Installations where GroupID ="CA" or "CB".	Consistent usage of Clause rather than Section throughout document.
18.	Section 15	New section titled: Requirements specific to GroupID = "EA", "EB" and "EC"	New section detailing requirements for FOC device sets.
19.	Clause 15.1	New Clause: This Clause 15 specifies the requirements which are specific to processing in relation to SMETS1 Installations where GroupID = "EA", "EB" or "EC".	Introduction to the new section for FOC.
20.	Clause 15.2	Pre-enrolment Configuration Requirements Prior to Migration of a SMETS1 Installation where GroupID = "EA", "EB" or "EC" the DCC shall ensure that configuration by each SMETS1 SMSO takes place to enable communication between the SMETS1 Installation and relevant S1SP	This is to ensure that the comms hubs and their SIMs are configured in a way that allows the S1SP to communicate with them.
21.	Clause 15.3	New Clause: Migration Group Encrypted File A Migration Group Encrypted File is required for these GroupIDs, each file must include EncryptedS1SPGroupInformation and EncryptedMasterKey elements.	This requirement is the same as for IOC and MOC.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
	Clause 15.4	New Clause:	Same text as 12.4, 13.6 and 14.5.
	15.4	S1SP Required File Set	This is in line with all other GroupIDs.
22.		The S1SP Required File Set consists of one Migration Common File, one Migration Common Validation File, Migration Group File and one Migration Group Encrypted File, all with the same Migration Header, and so the same GroupID.	Οιουρίου. - Επιστρικό το Επιστ
	Clause 15.5	New Clause:	Same text as 12.5, 13.7 and 14.6.
	15.5	DCO Required File Set	No change from IOC or MOC.
23.		The DCO Required File Set consists of one Migration Common File, one Migration Common Validation File and one Migration Group Encrypted File, all with the same Migration Header, and so the same GroupID.	
24.	Clause 15.6	New Clause: S1SP Migration Group File data validation The checks at Table 15.6 shall be the 'S1SP Migration Group File data validation' for these	The information within the table states that the IMSI and PreviousAPN will be checked for the CHFDetails associated with the CHFIdentifier at a SMETS1 Installation. No significant change from IOC or
		GroupIDs.	MOC.
25.	Clause 15.7	New Clause: DCO Migration Group Encrypted File data validation The checks at Table 15.7 shall be	The information within the table states that the EncryptedKey element within the EncryptedMasterKey for the ESME will be checked as valid for the entry with the CHFIdentifier for the
		the 'DCO Migration Group Encrypted File data validation' for these GroupIDs.	SMETS1 installation. Change to reflect the FOC meter sets, over the IOC / MOC meter sets.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
26.	Clause 15.8	New Clause: S1SP Migration Group Encrypted File data validation The checks at Table 15.8 shall be the 'S1SP Migration Group Encrypted File data validation for these GroupIDs. Table indicates that the following are checked: For HighLevelAssociaton within the ESMEDetail: • AuthenticationKey • EncryptionKey • PrepaymentKey For GSMEDetail/PrePayDetails within the CHFIdentifier entry: • PrepaymentKey	HighLevelAssociation is new for FOC, reflecting the requirements of the FOC device set.
27.	Clause 15.9	New Clause: S1SP / DCO Commissioning of SMETS1 Installation The checks at Table 15.9 shall be the 'S1SP / DCO Commissioning of SMETS1 Installation' for these GroupIDs. The checks detailed within the Table refer to the processes described in Appendix B.	No significant change from IOC / MOC.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
	Clause 15.10	New Clause: Installation Rollback	The additional step over IOC and MOC is due to the S1SP and SMSO being different parties
28.		The processing at Table 15.10 shall be the 'Installation Rollback' for these GroupIDs.	within FOC.
		The steps within the table are the same as those detailed in Clause 12.10 except for 15.10.3 which is new:	
		The S1SP shall take reasonable steps to re-instate SMSO certificates on Devices	
	Table 15.10	New Clause	Additional detail to ensure that roaming of the SIM will continue
29.	15.10.4	The S1SP shall take reasonable steps to restore WAN communication between the SMETS1 Installation and the relevant SMETS1 SMSO.	during the migration of devices and post migration.
	Clause 15.11	New Clause CHF Whitelist	Additional detail for FOC devices appearing on whitelist
30.		15.11 The CHF Whitelist shall never include Device IDs for a CHF or a GPF and shall always include the Device ID for an ESME and a GSME where that GSME communicates with the GPF using a ZigBee network.	
31.	Clause 15.12	New Clause Post Migration Configuration 15.12 NOT USED	Additional detail for FOC post migration Configuration
32.	Appendix B	New Appendix: Device Installation – For Group ID EA, EB, EC	We have included a new Appendix B specifically for the FOC Group IDs rather than add to the existing Appendix A due to the different technical requirements presented by the FOC device set.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
33.	B1	New text: The Application Association labels: (a) Application Association G shall be the names allocated by the manufacturer of SMETS1 ESME in this group to the Application Associations accessible to the DCC.	This reflects the current situation with the ESME in FOC.
34.	B2	New text: Installing a SMETS1 Electricity Meter The checks and processing at Table B2 shall be that required of the S1SP and DCO for 'Installing a SMETS1 Electricity Meter' and shall take place in the order specified in that Table. The S1SP checks and processing detailed in Table B2 are all specific to FOC and differ from the steps in Table A2.	Different S1SP checks and processing compared to IOC / MOC to reflect the differences in the FOC ESME.
35.	B3	New text: Installing a SMETS1 GSME The processing at Table B3 shall be that required of the S1SP for 'Installing a SMETS1 GSME' and shall take place in the order specified in that Table. The S1SP checks and processing detailed in Table B3 are all specific to FOC and differ from the steps in Table A3.	New steps for FOC due to the different requirements needed for L+G GSMEs.

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No.	TMAD Ref	Description of Change (new TMAD text is coloured blue)	Rationale for Change
36.	B4	New text: Installing a SMETS1 PPMID No additional checks or processing is required.	No change from IOC or MOC
37.	B5	New text: Commission Device (CHF) The processing at Table B5 shall be that required of the S1SP for 'Commission Device (CHF)'. The step in the table is for the S1SP to instruct DCC to add the relevant CHF details to the Smart Metering Inventory with an error code of DP01 if it fails.	Identical to appendix A5, no change from IOC or MOC.
38.	B6	New text: Securing a SMETS1 ESME The checks and processing at Table B6 shall be that required of the S1SP and DCO for 'Securing a SMETS1 ESME' for relevant GroupIDs and shall take place in the order specified in that Table. The S1SP checks and processing detailed in Table B6 are specific to FOC and differ from the equivalent Table A6	Process is specific to FOC due to the L+G ESME.

for FOC Q3

Do you have any detailed comments on the changes to the legal drafting in TMAD? Please provide a rationale for your views.

3. Next Steps

Following the closure of this consultation, DCC will consider respondents' views, and, subject to the consultation responses received, submit to the Department of 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.

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4. How to respond

Please provide responses in the attached template by 16:00 on Wednesday 22 January 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.

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 1 SMETS1 Transition and Migration Approach Document V1.5 (clean)
- Attachment 2 SMETS1 Transition and Migration Approach Document V1.5 (change marked against V1.4)
- Attachment 3 SMETS1 Migration Schema v1.2_MOC_FOC.xsd (XML scheme)
- Attachment 4 Response Template

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