RETAIL ENERGY CODE

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SOLUTION ANALYSIS: R0010 - NEW METER TYPES FOR AUXILIARY PROPORTIONAL CONTROLLERS (APCS)

DOCUMENT PURPOSE

This document has been prepared to set out the solution options for R0010 - New Meter Types For Auxiliary Proportional Controllers. It is intended to facilitate discussions on the Change Proposal.

CURRENT METER TYPES

At present in the DTN for the J item Meter Type, we have the following valid enumerations. Those shaded green are SMETS2 Meter Types, which are the only types that can have Auxiliary Proportional Controllers (APCs) associated with them.

Enumeration Value	Description
H	Half Hourly
K	Key
LAG_	Lag
LEAD_	Lead
MAIN_	Main
N	Non-Half Hourly
NCAMR	Non-remotely Configurable Automated Meter Reading
NSS	A meter that meets the definition of an ADM but is not compliant with any version of SMETS
RCAMR	Remotely Configurable Automated Meter Reading without remote enable/disable capability
RCAMY	Remotely Configurable Automated Meter Reading with remote enable/disable capability
S	Smartcard Prepayment
S1	A meter that is compliant with the Smart Metering Equipment Technical Specifications 1 (SMETS1)
S2A	A single element meter that is compliant with SMETS2
S2AD	A single element meter with one or more ALCS that is compliant with SMETS2
S2ADE	Single element meter with one or more ALCS and Boost Function that is compliant with SMETS2
S2B	A twin element meter that is compliant with SMETS2
S2BD	A twin element meter with one or more ALCS that is compliant with SMETS2
S2BDE	A twin element meter with one or more ALCS and Boost Function that is compliant with SMETS2
S2C	A polyphase meter that is compliant with SMETS2
S2CD	A polyphase meter with one or more ALCS that is compliant with SMETS2
S2CDE	A polyphase meter with one or more ALCS and Boost Function that is compliant with SMETS2
SPECL	Special
T	Token

SOLUTION OPTIONS

Option 1

The proposer of R0010's solution is that the Meter Type Data item (J0483) in the REC Data Specification be updated to add the APC Meter Types. This data would then be populated by

Suppliers/MEMs. By adding these new Meter Types, this information will become available to EES Users in the Electricity Enquiry Service, thus can be accessed via the EES during the Change of Supplier process.

The new Meter Types are as follows and would be added to the list of valid enumerations in the table above:

Enumeration Value	Description
ADF	Single Element ESME with ALCS and Auxiliary Proportional Control (APC) – SMETS 2 and above
ADEF	Single Element ESME with ALCS, Boost Function and APC – SMETS 2 and above
AEF	Single Element ESME with Boost Function and APC – SMETS 2 and above
AF	Single Element ESME with APC – SMETS 2 and above
BF	Twin Element ESME with APC – SMETS 2 and above
BDF	Twin Element ESME with ALCS and APC – SMETS 2 and above
BDEF	Twin Element ESME with ALCS, Boost Function and APC – SMETS 2 and above
BEF	Twin Element ESME with Boost Function and APC – SMETS 2 and above
CDEF	Polyphase with ALCS, Boost Function and APC – SMETS 2 and above
CF	Polyphase with APC – SMETS 2 and above
CDF	Polyphase with ALCS and APC – SMETS 2 and above CEF Polyphase with Boost Function and APC – SMETS 2 and above

Option 2

The DCC Smart Metering Inventory currently stores the meter variant information in a field called the 'Electricity Smart Metering Equipment (ESME) variant', this is equivalent to the J item Meter Type. This field is updated by Suppliers in the inventory as soon as the meters are purchased and before they are installed at a property (taken from the manufactures information).

Under this solution option, it is proposed that DCC pass this ESME variant information to MPAS via the D0350 (Notification of DCC Services at Metering Point) flow. This file would be updated to include the ESME variant information as an additional data item.

MPAS would then pass the information on to the EES to display and share via the ESS, including the API.

Option 3

Under this option, all of the existing SMETS2 Meter Types (highlighted green in the table above showing the current enumerations) would be removed and replaced with the DCC Inventory ESME Variant Codes.

The REC Code Manager is liaising with SEC to obtain a list of these codes but initial discussions with the proposer of R0010 indicate that there are similarities between the codes already. For example, DTN enumeration S2CDE (a polyphase meter with one or more ALCS and Boost Function that is compliant with SMETS2) would be replaced with an enumeration for this meter with APC functionality (e.g. CDEF) and, potentially, an enumeration for this Meter Type without APC functionality (e.g. CDEX).

Note, the field length of data item J0483 is 5 characters, thus the S2 that is currently at the start of all SMETS2 meters in the DTN enumerations would need to be removed to enable full alignment with the DCC Inventory codes.

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OPTION ANALYSIS

The Code Manager has reviewed the solution options and notes the following points with respect to each. Note, option 3 has only recently been put forward and, as such, the final column is subject to further refinement as additional information on the EMSE Variants is obtained by the Code Manager.

Consideration Point	Option 1: New Meter Types added to the Meter Type Data item (J0483)	Option 2: DDC passing the ESME variant data to MPAS/ESS	Option 3: Replace DTN Flow Enumerations with DCC ESME Variant
REC Impacts	• An update would be required to the J0483 data item to include the new Meter Types • Supporting legal text may also be required to ensure the new requirements to provide this information are clearly documented, including how Suppliers/MEMs will ensure the accuracy of the data item is maintained and what are the impacts/consequences if they don't. • It is not anticipated that the EES Service Definition will impacted	• An update may be required to the EES Service Definition to define the requirement to display the ESME variant data • An update would be required to the D0350 to add the ESME variant data field • The Data Access Matrix may need to be updated to define access rights to the ESME variant data within the EES • The MPAS daily file that is sent to the EES would need to be updated	• An update would be required to the J0483 data item to replace the S2 Meter Types with the ESME enumerations • Supporting legal text may also be required to ensure the new requirements to provide this information are clearly documented, including how Suppliers/MEMs will ensure the accuracy of the data item is maintained and what are the impacts/consequences if they don't. • It is not anticipated that the EES Service Definition will impacted
Other Code Impacts	• None	• A SEC Modification will be required to mandate the passing of the EMSE variant data from the DCC Smart Metering Inventory to MPAS.	• None

Central System Impacts	• As Meter Type information is already displayed in the EES, there are no anticipated system impacts (to be confirmed by the EES Service Provider as part of the impact assessment phase).	• DCC systems would need to be updated to share the ESME variant information in the D0350 • MPAS systems would need to be updated to pass the ESME variant into EES • EES would need to be updated to display the ESME variant data, including via the API	• As Meter Type information is already displayed in the EES, there are no anticipated system impacts (to be confirmed by the EES Service Provider as part of the impact assessment phase).
Industry Party Impacts	• Parties would need to update their systems to reflect the change to the valid data set for the J0483 data item • Parties would need to ensure that they have processes in place to ensure that the EMSE variant information is correctly included against the J0483 data item • Parties may need to have processes in place to address any discrepancies that arise between the J0483 ESME variant data and that held in the DCC inventory.	• As the data would be available via the EES, it is not anticipated that there would be additional processes or system changes required by Parties (to be confirmed).	• Parties would need to update their systems to reflect the change to the valid data set for the J0483 data item • Parties would need to ensure that they have processes in place to ensure that the EMSE variant information is correctly included against the J0483 data item • Parties may need to have processes in place to address any discrepancies that arise between the J0483 ESME variant data and that held in the DCC inventory.
Pros	• Simpler to implement from a central systems perspective, than option 2.	• This solution would ensure that there is only a single master version of the ESME data, which is	• This option would fully align the DTN Meter Type enumerations with the DCC Inventory. Removing this mis-match in enumerations will reduce the risk of validation

	• Subject to impact assessment by service providers, this solution is anticipated to have the lowest implementation cost from a central body perspective than option 2. • Subject to impact assessment by service providers, this solution is anticipated to have lower implementation timescales, than option 2. • It is the lowest cost option for the proposer of R0010 and, subject to confirmation by impact assessment, potentially for other Market Participants too.	available to Suppliers at the start of the sales journey via the EES.	issues which could result in incorrect meter data giving rise to billing and settlement problems. • As the old Meter Type enumerations would be removed, there would not be a risk of these incorrectly continuing to be utilised by parties (as would be a risk under option 1). • Simpler to implement from a central systems perspective than option 2. • Subject to impact assessment by service providers, this solution is anticipated to have the lowest implementation cost from a central body perspective, than option 2. • Subject to impact assessment by service providers, this solution is anticipated to have lower implementation timescales, than option 2.
Cons	• The same industry information will be flowing through two differing routes, creating a risk of	• The implementation cost from a central body perspective is anticipated to be higher than that	• The same industry information will be flowing through two differing routes, creating a risk of

	divergence, with the J item having no link to what would be considered to be the data item master in the DCC inventory. If the information gets lost and the meter operator changes the Meter Type, then it could result in the customer's meter being incorrectly configured. • The existing S2 Meter Type enumerations would not be removed from the valid set, creating a risk that these could continue to be used by parties, rather than the new APC enumerations. • Subject to impact assessment, this proposal is potentially a higher cost option for industry parties to implement than Option 2.	of options 1 and 3 (subject to confirmation during the impact assessment phase). • The misalignment between DCC ESME variant and Meter Type will still exist under this option. Meter Type is a mandatory data item for flows and so must be populated but none of current values would provide exact match with data on DCC inventory. This mis-match could create validation issues, resulting in incorrect meter data giving rise to billing and settlement problems. • It is anticipated that this option would have the longest implementation timescales (subject to impact assessment)	divergence, with the J item having no link to what would be considered to be the data item master in the DCC inventory. If the information gets lost and the meter operator changes the Meter Type, then it could result in the customer's meter being incorrectly configured. • Subject to impact assessment, this proposal is potentially a higher cost option for industry parties to implement than Options 1 and 2.
Costs (impact assessment would be required to validate)	• The REC Data Specification is maintained by the REC Code Manager and there would be no additional cost to add new Meter Types.	• The REC Data Specification is maintained by the REC Code Manager and there would be no additional cost to apply the data	• The REC Data Specification is maintained by the REC Code Manager and there would be no additional cost to add new Meter Types.

	• It is anticipated that as Meter Type information is already displayed in the EES, there will be no system costs to update the EES. • The costs of implementation for Suppliers will need to be confirmed via impact assessment. It is anticipated that this solution would impact Supplier systems and processes.	specification updates required for this option. • It is anticipated that there will costs to update the DCC systems to share the ESME variant information in the D0350. • It is anticipated that there will be costs to MPAS systems to enable them to pass the ESME variant into EES • It is anticipated that there will be costs to update the EES to display the ESME variant data and API update costs too.	• It is anticipated that as Meter Type information is already displayed in the EES, there will be no system costs to update the EES. • The costs of implementation for Suppliers will need to be confirmed via impact assessment. It is anticipated that this solution would impact Supplier systems and processes. For the proposer this option is a more expensive option than option 1. It may be so for other market participants too (subject to confirmation via impact assessment).
Risks	• There is a risk of divergence between the two different sets that contain the same data • If the Meter Type field is not correctly maintained, Suppliers could be at risk of making decisions based on incorrect information (e.g. they could configure the customer's meter based on incorrect information about the Meter Type).		• There is a risk of divergence between the two different sets that contain the same data • If the Meter Type field is not correctly maintained, Suppliers could be at risk of making decisions based on incorrect information (e.g. they could configure the customer's meter based on incorrect information about the Meter Type).

	• If new APC Meter Types are added in the future, further REC CPs will be needed to add these to the list of Meter Types. • There is potential for DCC's roadmap to look at how accessible its data is to the people who need it and whether they can they access it in the right way (eg. via API). If there were an API introduced, then the changes that this CP introduces would become redundant.		• If new APC Meter Types are added in the future, further REC CPs will be needed to add these to the list of Meter Types. • There is potential for DCC's roadmap to look at how accessible its data is to the people who need it and whether they can they access it in the right way (eg. via API). If there were an API introduced, then the changes that this CP introduces would become redundant.
Dependencies		• There is a known gap, where at present if there is a data error and a Change of Supplier has occurred since the Device Pre-Notification was sent, the new Supplier cannot correct it. SEC Mod 125 is looking to correct this so we may want to align our timing to this. Also, does this modification include a retrospective data cleanse element? • CSS may impact on delivery timescales.	

Consideration points (including future proofing)	• Under SEC Modification 176, part b an API is proposed. Could this offer an alternative approach that would enable access to the master data set (i.e. the DCC Inventory)?	• Should a direct interface between the DCC and EES (via the ERDS) be considered to future proof this solution, rather than just considering the ESME data alone? • If we don't have a retrospective cleanse, will that create issues? • Under SEC Modification 176, part b an API is proposed. Could this offer an alternative approach that would enable access to the master data set (i.e. the DCC Inventory)?	• Under SEC Modification 176, part b an API is proposed. Could this offer an alternative approach that would enable access to the master data set (i.e. the DCC Inventory)?