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MP162 'SEC changes required to deliver MHHS'

Business requirements – version 0.2

About this document

This document contains the business requirements that support the solution(s) for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The Data Communications Company (DCC) will use this information to provide an assessment of the requirements that help shape the complete solution.

Interaction with the MHHS solution

This Modification Proposal forms part of a wider solution to deliver market-wide half-hourly settlement (MHHS). This will include other elements such as changes to Balancing and Settlement Code (BSC) systems, changes to Smart Energy Code (SEC) Parties' systems, and different ways of working. The solution delivered under MP162 will therefore need to meet the requirements of the wider solution as set out in the MHHS target operating model (TOM) to form a single, integrated solution.

1. Business requirements

This section contains the functional business requirements. Based on these requirements a full solution will be developed.

Business Requirements	
Ref.	**Requirement**
1	A new DCC User Role will be created for MDR Users
2	MDR Users will need to accede to the SEC and undergo UEPT
3	There shall be Access Control for MDR Users
4	The applicable Service Requests will have longer TRTs when used by an MDR User
5	An MDR User will only be allowed access to Devices in accordance with Industry Registration Data
6	Only Eligible Users shall have access to retrieve specified data
7	The end-to-end security arrangements for half-hourly settlement will be put in place
8	An MDR User will be subject to the SEC privacy arrangements

2. Considerations and assumptions

This section contains the considerations and assumptions for each business requirement.

2.1 General

This solution will be applied to Smart Metering Equipment Technical Specifications (SMETS) 1 and SMETS2 Devices.

The key elements of the solution are as follows:

- The DCC Systems shall be able to accept Service Requests from a new Meter Data Retrieval (MDR) User Role to retrieve Import consumption data (Half-Hourly Intervals, Daily Consumption totals and Register Reads) and, where configured, Export generation data (Half-Hourly Intervals, Daily Consumption totals and Register Reads) from specified SMETS1 and SMETS2+ Electricity Smart Metering Equipment (ESME) enrolled within the DCC Systems.
- All Service Requests received from MDR Users will use the existing DCC User Gateway and be subject to Access Control authentication against the identity of the MDR User stored and provided to the DCC within Industry Registration Data. This is to ensure that only registered MDR Users can retrieve the relevant Import consumption and/or Export generation data from each ESME.
- All authenticated data requests from MDR Users shall be retrieved from each ESME using Data Service Provider (DSP) scheduling services wherever possible, and MDR Users will set

up a schedule for all applicable Service Requests. Any on-demand requests will be carried out in line with the Target Response Times (TRTs) specified in Requirement 4.

- Where data is successfully retrieved from both SMETS1 and SMETS2+ ESME, this data shall be returned across the Smart Metering communication networks and these Service Responses shall be returned to the requesting User for use in the wider Settlements purposes.

2.2 Requirement 1: A new DCC User Role will be created for MDR Users

The DCC will create a new DCC User Role for an MDR User.

The DCC shall support the introduction of a new SEC User Role of 'MDR' for Meter Data Retrieval Agents (MDRAs) to support the introduction of MHHS.

The Identity of the new MDR Party will be added to Industry Registration Data by the registered Supplier with a Market Participant Identifier (MPID) and an associated Effective From Date (EFD) and Effective To Date (ETD)[1] for each Meter Point Administration Number (MPAN). It is assumed that a change of MDRA will take effect at 00:00 on the relevant Settlement Day and that the outgoing MDRA will no longer be valid on or after the EFD for the incoming MDRA.

This new mapping of MDR Party to MPAN Registration data is expected to be passed to the DCC to use via the new Central Switching Service (CSS) and Enduring Change of Supplier (ECoS) Interfaces. Relevant data extensions will be added to these interfaces.

2.3 Requirement 2: MDR Users will need to accede to the SEC and undergo UEPT

Any market participant operating as an MDRA will be required to accede to the SEC.

A new Party Category for 'MDR Users' will be established under the SEC. Unless otherwise specified in these requirements, the 'MDR Party' Party Category will be treated the same as the 'Other SEC Party' Party Category under the SEC. Any 'Other SEC Party' Party Category seats on the Panel and Panel Sub-Committees will be shared between 'Other SEC Parties' and 'MDR Users'.

An MDR User will be required to undergo appropriate User Entry Process Testing (UEPT) for the role. New Test Scenarios will be defined for MDR Users undertaking the User Entry Process.

Suppliers will have a choice of either appointing themselves as the MDRA, or an external third-party agent under commercial arrangements for each of their registered MPANs.

2.3.1 Requirement 2a: Suppliers operating as an MDRA

A Supplier who elects to operate as an MDRA will not need to register under the new 'MDR Party' Party Category and may continue to operate under the SEC as a 'Large Supplier' or a 'Small Supplier' as appliable.

A Supplier operating as an MDRA shall register as a DCC User in the separate new MDR User role[2].

[1] Using the ETD will align with existing registration data received by the DCC. Without this, additional processing will be required by the DCC to determine who is the active MDRA.

[2] The TOM assumes that each participant operating as an MDRA will need to register in this role so that each MPAN has an MDRA assigned to it.

A Supplier will be expected to use the extended TRTs under Requirement 4 when retrieving data for use in half-hourly settlement to ensure that the DCC can effectively manage demand and capacity on the DCC System.

2.3.2 Requirement 2b: Standalone MDRAs working on behalf of Suppliers

Any Supplier agent operating as an MDRA on behalf of a Supplier will be required to accede to the SEC under the new 'MDR Party' SEC Party Category.

It will also be required to register as a DCC User in the new MDR User role.

2.4 Requirement 3: There shall be Access Control for MDR Users

An MDR User role will only be allowed to submit the following Service Requests to support half-hourly settlement:

Valid Service Requests for an MDR User			
DCC SR ref.	**Service Request name**	**On Demand?**	**DCC Scheduled?**
4.1.1	Read Instantaneous Import Registers	Yes	No
4.2	Read Instantaneous Export Register Values	Yes	No
4.6.1	Retrieve Import Daily Read Log	Yes	Yes
4.6.2	Retrieve Export Daily Read Log	Yes	Yes
4.8.1	Read Active Import Profile Data	Yes	Yes
4.8.3	Read Export Profile Data	Yes	Yes
4.17	Retrieve Daily Consumption Log	Yes	Yes
5.1	Create Schedule	Yes	No
5.2	Read Schedule	Yes	No
5.3	Delete Schedule	Yes	No
8.2	Read Inventory	Yes	No

More information on how these Service Requests would be used for half-hourly settlement can be found in Section 3.

The DCC shall perform Access Control for any Service Requests send by any MDR User to authenticate and authorise that the Service Request is send from a valid SEC Party and that the User is an Eligible User for the Service Request being sent.

The DCC shall validate and authorise the MDR User sending each Service Request against Industry Registration Data to check that the MDR User is the registered Meter Data Retrieval Agent for the MPAN associated with the Device ID that the Service Request is targeted for.

The DCC shall validate the Identity of the MDR requesting data from an ESME using the Industry Registration Data in the same manner as the existing Registered Supplier Agent (RSA) User Role Validation Check.

2.5 Requirement 4: The applicable Service Requests will have longer TRTs when used by an MDR User

The TRTs for the relevant Service Requests when submitted using the MDR User Role will be longer than when submitted using any other DCC User Roles.

The TRTs for the relevant Service Requests are shown in the table below. These TRTs apply to Service Requests regardless of whether they were submitted on an on-demand basis or as part of a DCC scheduled service.

Target Response Times for MDR Users			
DCC SR ref.	**Service Request name**	**Standard TRT [SMETS2 / SMETS1]**	**TRT for MDR Users[3] [SMETS2 / SMETS1]**
4.1.1	Read Instantaneous Import Registers	30 secs / 16 secs	24 hrs / 24 hrs
4.2	Read Instantaneous Export Register Values	30 secs / 16 secs	24 hrs / 24 hrs
4.6.1	Retrieve Import Daily Read Log	30 secs / 16 secs	24 hrs / 24 hrs
4.6.2	Retrieve Export Daily Read Log	30 secs / N/A	24 hrs / N/A
4.8.1	Read Active Import Profile Data	5,600 secs / 16 secs	24 hrs / 24 hrs
4.8.3	Read Export Profile Data	30 secs / 16 secs	24 hrs / 24 hrs
4.17	Retrieve Daily Consumption Log	30 secs / N/A	24 hrs / N/A
5.1	Create Schedule	24 hrs / 24 hrs	24 hrs / 24 hrs
5.2	Read Schedule	24 hrs / 24 hrs	24 hrs / 24 hrs
5.3	Delete Schedule	24 hrs / 24 hrs	24 hrs / 24 hrs
8.2	Read Inventory	30 secs / 16 secs*	30 secs / 30 secs

* The current SMETS1 TRT for SR8.2 is an anomaly. The process for reading Device details from the Smart Metering Inventory (SMI) is the same for both SMETS2 and SMETS1 Devices with processing of such requests limited to the DSP systems. This TRT will be amended to 30 seconds for all Users as part of this modification for alignment with other DCC-Only Service Requests.

The DCC's demand modelling assumptions underpinning these TRTs can be found in Section 4 below.

2.6 Requirement 5: An MDR User will only be allowed access to Devices in accordance with Industry Registration Data

An MDR User will only be allowed to access Devices for which permission has been recorded within the Industry Registration Data.

The DCC will check each request made to access a Device to validate whether the MDR User making the request is permitted to access the Device according to the Industry Registration Data. Where the MDR User is not permitted to access the Device, the DCC will reject the request and inform the User of the reason for rejection.

[3] This includes Suppliers when submitting Service Requests using the MDR User Role.

2.7 Requirement 6: Only Eligible Users shall have access to retrieve specified data

MDR Users will be required to be Eligible Users for each of the Service Requests that allow existing Users to retrieve Interval or Register Read Consumption and Generation data sets form Smart Meters.

This requirement has been based on assumptions made by the DCC against the MHHS TOM; these will need to be validated through Working Group discussions.

MDR Users will need to use the DCC Scheduling Service to schedule the standard set of data retrieval activities to support the MHHS service. This will depend on the level of granularity the customer has consented to. It is assumed the level of granularity specified by the customer is the lowest level of granularity that can then be collected by the MDR User.

2.7.1 Half-hourly granularity

This will apply where the domestic customer has **not opted out** of half-hourly data collection to support half-hourly settlement.

- Each day, collect a set of 48 half-hourly intervals of Import consumption data and, where configured, an additional set of 48 half-hourly intervals of Export generation data.
- Once a calendar month, collect a set of register read data for the Import consumption and where configured an additional set of register read data for the Export generation for reconciliation to the half-hourly interval data to act as a check process. *Please see section 2.7.4 below for assumptions on the collection of this data.*

2.7.2 Daily granularity

This will apply where the domestic customer has **opted out** of half-hourly data collection to support half-hourly settlement.

- Each day, collect the daily register read for Import consumption and, where configured, the daily register read for Export generation.
- Once a calendar month, collect a set of register read data for the Import consumption and where configured an additional set of register read data for the Export generation for reconciliation to the daily set of register reads to act as a check process. *Please see section 2.7.4 below for assumptions on the collection of this data.*

2.7.3 Monthly granularity

This will apply where the domestic customer has **opted out** of half-hourly data collection to support half-hourly settlement. The monthly option has been included to allow enduring customer-Supplier contracts to complete without changing the consent arrangements. It is anticipated that monthly read sites will convert to daily read over time.

- Once a calendar month, collect a monthly register read for the Import consumption data and where configured a monthly register read for the Export generation data. *Please see section 2.7.4 below for assumptions on the collection of this data.*

There is no requirement for addition data collection to support reconciliation data.

2.7.4 Assumptions around the collection of monthly data

Collecting (validation) data monthly will allow an MDRA to fulfil its wider obligations while allowing the DCC to effectively manage capacity on the DCC Systems. More frequent collections would require additional capacity on the DCC Systems, which will increase the cost of the solution.

Having all MDR Users scheduling this data collection for the same day each month will create a substantial spike in demand within the same TRT. This will increase capacity requirements which would increase the cost of the solution. MDR Users will be required to spread these monthly requests across the month and at times of day specified by the DCC to even out demand.

2.7.5 Service Requests applicable to each scenario

The table below summarises the Service Requests that may be requested by an MDR User depending on the level of data granularity the customer has consented to.

Service Requests applicable to each level of data granularity				
DCC SR ref.	**Service Request name**	**Half-hourly**	**Daily**	**Monthly**
4.1.1	Read Instantaneous Import Registers	Yes	Yes	Yes
4.2	Read Instantaneous Export Register Values	Yes	Yes	Yes
4.6.1	Retrieve Import Daily Read Log	Yes	Yes	No
4.6.2	Retrieve Export Daily Read Log	Yes	Yes	No
4.8.1	Read Active Import Profile Data	Yes	No	No
4.8.3	Read Export Profile Data	Yes	No	No
4.17	Retrieve Daily Consumption Log	Yes	Yes	No

This information has been used by the DCC to inform its assumptions around expected traffic and capacity requirements. Any changes to this over time may impact on these assumptions.

It is assumed that the MDR User will be responsible for ensuring that the Service Requests that it sends to the DCC are in line with the level of granularity the customer has consented to. The DCC will not be required to perform any additional validation on this. The DCC will act in accordance with the Service Requests sent by the MDR User.

2.8 Requirement 7: The end-to-end security arrangements for half-hourly settlement will be put in place

The existing User Security Assessment for a Supplier will be used for any Supplier operating as its own MDRA.

MDRAs who are not Suppliers will need to undergo an initial Full User Security Assessment which will form part of the User Entry criteria in SEC Section H1.10(c). The MDRA will then be required to adhere to the same SEC Section G ‘Security’ obligations as an Other User and will need to have annual User Security Assessments as defined in SEC Section G8.40.

2.9 Requirement 8: An MDR User will be subject to the SEC privacy arrangements

MDR Users will be subject to Privacy Assessments. These will be based on a gap analysis carried out between the Panel's requirements and what will be implemented under the BSC. This approach will need to ensure that any outstanding requirements not met under the BSC are fully contained in the SEC.

Any Supplier operating as its own MDRA will, as now, not need to undergo a Privacy Assessment.

MDRAs who are not Suppliers will need to undergo an initial Full Privacy Assessment which will form part of the User Entry criteria in SEC Section H1.10(c). The MDRA will then be required to adhere to the same SEC Section I 'Privacy' obligations as an Other User and will need to have annual Privacy Assessments as defined in SEC Section I2.

3. Service Requests to support half-hourly settlement

The table below sets out more information around the Service Requests that will be used in support of half-hourly settlement:

Service Requests to support MHHS						
Meter type	**Measurement quantity**	**Data type (settlement)**	**Data required (settlement & validation)**	**No. of readings**	**Data availability**	**DCC SR ref.**
SMETS2	Active Import	Settlement Period level data	Active Import Profile data	48 per Settlement Day	13 months	SRV4.8.1
			And			
			Daily Consumption Log	1 per Settlement Day	731 days	SRV4.17
			OR			
			Import Daily Read Log	1 per Settlement Day	31 days	SRV4.6.1
SMETS2	Active Export	Settlement Period level data	Active Export Profile data	48 per Settlement Day	3 months	SRV4.8.3
			And			
			Export Daily Read Log	1 per Settlement Day	31 days	SRV4.6.2

Service Requests to support MHHS						
Meter type	**Measurement quantity**	**Data type (settlement)**	**Data required (settlement & validation)**	**No. of readings**	**Data availability**	**DCC SR ref.**
SMETS1	Active Import	Settlement Period level data	Active Import Profile data **And** Daily Consumption log **OR** Import Daily Read Log	48 per Settlement Day 1 per Settlement Day 1 per Settlement Day	13 months 731 days 14 days	SRV4.8.1 SRV4.17 SRV4.6.1
SMETS1	Active Export	Settlement Period level data	Active Export Profile **And** Total Active Export Register	48 per Settlement Day Snapshot readings	3 months Continuous	SRV4.8.3 SRV4.2
SMETS2	Active Import	Register readings	Daily Consumption Log **OR** Import Daily Read Log **OR** Active Import Register	1 per Settlement Day 1 per Settlement Day Snapshot readings	731 days 31 days Continuous	SRV4.17 SRV4.6.1 SRV4.1.1
SMETS2	Active Export	Register readings	Export Daily Read Log **OR** Active Export Register	1 per Settlement Day Snapshot readings	31 days Continuous	SRV4.6.2 SRV4.2
SMETS1	Active Import	Register readings	Import Daily Read Log **And** Daily Consumption Log **OR** Total Active Import Register	1 per Settlement Day 1 per Settlement Day Snapshot readings	14 days 731 days Continuous	SRV4.6.1 SRV4.17 SRV4.1.1

Service Requests to support MHHS						
Meter type	**Measurement quantity**	**Data type (settlement)**	**Data required (settlement & validation)**	**No. of readings**	**Data availability**	**DCC SR ref.**
SMETS1	Active Export	Register readings	Total Active Export Register	Snapshot readings	Continuous	SRV4.2

4. Demand modelling assumptions

The DCC has made the following assumptions regarding capacity as part of its high-level solution discussions with Ofgem under the Significant Code Review (SCR):

- Re-use existing User Interfaces (such as the DCC User Interface Specification (DUIS)) to limit impacts on existing SEC Parties.
- Re-use existing Service Requests for MHHS data retrieval rather than duplicating existing SRVs to reduce ongoing maintenance and testing costs.
- Wherever possible, offer the same service for both SMETS1 and SMETS2 Devices.
- Consumption and generation data sets remain available to multiple different authorised Users.
- Manage demand and capacity using 'value for money' principle for Users, seeking to reduce the overall cost of the solution.

The diagram below summarises the DCC's key volumetric assumption for DCC demand and capacity consideration at a high level. **These assumptions have been provided as a guide and will be validated through discussion and consultation with the industry to inform the relevant requirements**. Changing any of these working assumptions will have an impact on the forecasted design.

The DCC will need to agree the non-functional requirements for each of the following and have a process to manage changes to these over times, to continue to operate and efficient and effective MHHS service.

DCC - Key Volumetric Assumptions for Demand / Capacity consideration

MHHS Service – Start Q1 2024

How many Devices?

30m - Total ESMEs enrollable into DCC Services

20m – SMETS2 ESMEs

10m – SMETS1 ESMEs

70% – SMETS2 Installed & DCC Enrolled

100% – SMETS1 Installed & DCC Enrolled

Data Collection Schedule Volumes per ESME (influenced by)

100% Level of MHHS data collected by new MDR SEC User Role

95% Installed ESMEs are DOMESTIC ('Opt Out' applicable)

10% Opt Out from Domestic Customers for MHHS Data Collection

10%, 30%, 50% Additional EXPORT MHHS Data Collection Schedules (Low / Medium / High Scenarios)

2.5% ESME Variant (Single / Twin Element)

Appendix 1: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	**Full term**
BSC	Balancing and Settlement Code
CSS	Central Switching Service
DCC	Data Communications Company
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ECoS	Enduring Change of Supplier
EFD	Effective From Date
ESME	Electricity Smart Metering Equipment
ETD	Effective To Date
MDR	Meter Data Retrieval
MDRA	Meter Data Retrieval Agent
MHHS	market-wide half-hourly settlement
MPAN	Meter Point Administration Number
MPID	Market Participant Identifier
RSA	Registered Supplier Agent
SCR	Significant Code Review
SDS	Smart Data Service

Glossary	
Acronym	**Full term**
SEC	Smart Energy Code
SMETS	Smart Metering Equipment Technical Specifications
SMI	Smart Metering Inventory
TOM	target operating model
TRT	Target Response Time
UEPT	User Entry Process Testing