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# MP162 ‘SEC changes required to deliver MHHS’

## Business requirements – version 0.5

### About this document

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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

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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 extended TRTs when submitted to obtain MHHS data |
| 5                     | Only Eligible Users shall have access to retrieve specified data                           |
| 6                     | The end-to-end security arrangements for half-hourly settlement will be put in place       |
| 7                     | 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.

The general design principles and assumptions for the DCC's solution are listed in Section 4 below.

### 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 Suppliers and MDR Users shall be retrieved from each ESME using Data Service Provider (DSP) scheduling services wherever possible, and 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 'Meter Data Retriever' (or '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 with a Market Participant Identifier (MPID) and an associated Effective From Date (EFD) and Effective To Date (ETD)<sup>1</sup> 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 not be able to access data for Settlement Days on or after the EFD for the incoming MDRA.

It is assumed that each MPAN will always have an associated MDRA within the registration data, regardless of whether the MDRA is the Supplier itself or an external third-party agent.

It is assumed that for an MDRA registration completed prior to the relevant EFD, the current and the future MDRA and the relevant EFDs will both be included within the registration data.

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. The expectation is that changes to the registration data needed for MHHS will be delivered through the MHHS programme.

## 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 Parties' 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 Parties'.

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.

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

<sup>1</sup> The current TOM does not include a requirement for the ETD to be provided in the registration data. Including an 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.

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 if it has not already acceded under the 'Other SEC Party' 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 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        | Yes            |
| 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.

Service Request Variant (SRV) 4.1.1 shall only be available to MDR Users for SMETS1 Devices. The MDR User will not be able to request this SRV for SMETS2 Devices. Suppliers may continue to use SRV 4.1.1 for both SMETS1 and SMETS2 Devices as currently, and extend its use for MHHS purposes, if required.

SRV 4.2 shall be added to the list of available scheduled services for SMETS1 and SMETS2 Devices.

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 and is authorised to access the relevant Device.

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 MDRA for the MPAN associated with the Device ID on the corresponding Settlement Day(s) that the Service Request is targeted for.

The DCC shall validate the Identity of the MDRA 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 extended TRTs when submitted to obtain MHHS data

The relevant Service Requests will be subject to extended TRTs when submitted for the purpose of retrieving import consumption and export generation data for MHHS service purposes.

Users shall inform the DCC where the Service Requests in Section 2.4 are sent for the purposes of retrieving data for MHHS purposes. Where this is identified, extended TRTs shall be operated to enable the DCC to manage the additional Service Request volumes arising from the introduction of the MHHS service.

The TRTs for the relevant Service Requests are shown in the table below:

| TRTs for Eligible Users for MHHS data retrieval Service Requests |                                |            |           |           |                            |           |           |           |
|--|--------------------------------|------------|-----------|-----------|----------------------------|-----------|-----------|-----------|
| DCC SR ref.  | SR sent by existing User Roles |            |           |           | SR sent by 'MDR' User Role |           |           |           |
|  | SMETS2                         |            | SMETS1    |           | SMETS2                     |           | SMETS1    |           |
|  | Scheduled                      | On Demand  | Scheduled | On Demand | Scheduled                  | On Demand | Scheduled | On Demand |
| 4.1.1  | N/A                            | 30 secs    | N/A       | 16 secs   | N/A                        | 24 hrs    | N/A       | 24 hrs    |
| 4.2  | N/A                            | 30 secs    | N/A       | 16 secs   | N/A                        | 24 hrs    | N/A       | 24 hrs    |
| 4.6.1  | 24 hrs                         | 30 secs    | 24 hrs    | 16 secs   | 24 hrs                     | 24 hrs    | 24 hrs    | 24 hrs    |
| 4.6.2  | 24 hrs                         | 30 secs    | N/A       | N/A       | 24 hrs                     | 24 hrs    | N/A       | N/A       |
| 4.8.1  | 24 hrs                         | 5,600 secs | 24 hrs    | 16 secs   | 24 hrs                     | 24 hrs    | 24 hrs    | 24 hrs    |
| 4.8.3  | 24 hrs                         | 30 secs    | 24 hrs    | 16 secs   | 24 hrs                     | 24 hrs    | 24 hrs    | 24 hrs    |
| 4.17   | 24 hrs                         | 30 secs    | N/A       | N/A       | 24 hrs                     | 24 hrs    | N/A       | N/A       |
| 5.1  | N/A                            | 24 hrs     | N/A       | 24 hrs    | N/A                        | 24 hrs    | N/A       | 24 hrs    |
| 5.2  | N/A                            | 24 hrs     | N/A       | 24 hrs    | N/A                        | 24 hrs    | N/A       | 24 hrs    |
| 5.3  | N/A                            | 24 hrs     | N/A       | 24 hrs    | N/A                        | 24 hrs    | N/A       | 24 hrs    |
| 8.2  | N/A                            | 30 secs    | N/A       | 30 secs   | N/A                        | 30 secs   | N/A       | 30 secs   |

The current SMETS1 TRT of 16 seconds for SR 8.2 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.

Import Suppliers and Export Suppliers may continue to use the existing Service Requests and associated TRTs for data requests that are not sent for the MHHS Service and where existing non-extended TRTs for On Demand services are required.

The DCC shall be free to schedule any Scheduled requests within the relevant 24-hour period.

Please see Section 2.6.4 below for assumptions around the collection of data and the impact on capacity. The demand modelling assumptions for MHHS can be found in Section 4.3 below.

The DCC shall implement and manage effective and efficient capacity uplifts to the DCC Systems to manage the additional Service Request demand from Eligible Users associated with the retrieval of data from ESME for the purposes of supporting the MHHS process. The assumptions around non-functional requirements can be found in Section 4.4 below.

## 2.6 Requirement 5: Only Eligible Users shall have access to retrieve specified data

Suppliers and 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 from ESME.

This requirement has been based on assumptions made by the DCC against the MHHS TOM.

Import Suppliers, Export Suppliers and 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 Import Supplier, Export Supplier or MDR User.

This modification will define the data that is required from the registration system to enable this Requirement 5. The expectation is that any changes needed to the registration system for MHHS will be delivered through the MHHS programme

### 2.6.1 Half-hourly granularity

This will apply where the domestic customer has **not opted out** of half-hourly data collection to support half-hourly settlement. For this level of granularity, it is assumed a User will:

- 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.
- Each day, 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.

### 2.6.2 Daily granularity

This will apply where the domestic customer has **opted out** of half-hourly data collection to support half-hourly settlement. For this level of granularity, it is assumed a User will:

- Each day, collect the daily register read for Import consumption and, where configured, the daily register read for Export generation.

It is assumed there is no requirement for additional data collection to support reconciliation data.

### 2.6.3 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 reads over time. For this level of granularity, it is assumed a User will:

- 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.

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

#### 2.6.4 Assumptions around the collection of data

To support the DCCs demand and capacity management processes, where an Eligible User wishes to retrieve consumption data or generation data from an ESME for the purposes of supporting MHHS, the User shall ensure that all first attempts to retrieve a new data set from each target ESME device shall be made using Scheduled Services.

Where either:

- the use of Scheduled Services fails to return the required data to the requesting Eligible User; or
- Scheduled Services are not possible to retrieve the required data,

then an Eligible User may use On Demand Services to request (or re-request) the required consumption data or generation data to ensure that the required data is successfully retrieved from each target ESME.

Collecting reconciliation data monthly, evenly spread across the month for a User's portfolio of ESMEs, will allow an Import Supplier, Export Supplier or MDR User 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.

#### 2.6.5 Service Requests applicable to each scenario

The table below summarises the Service Requests that may reasonably be requested by an Import Supplier, Export Supplier or MDR User for MHHS 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 Service Request traffic demand and capacity requirements. Any changes to this over time may impact on these assumptions.

It is assumed that the 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 User.



### **2.6.6 DCC monitoring of User behaviour**

The DCC shall monitor the proportion of On-Demand Service Requests and Scheduled Service Requests submitted by each User for each of the Schedulable Service Requests listed in Section 2.4. Where the DCC identifies a disproportionate increase in the volume of On-Demand Service Requests submitted relative to the volume of Scheduled Service Requests, the DCC shall contact the relevant User to understand the reasons for this, and shall also inform the Panel and/or the Operations Group.

There is no further reporting specifically linked to the MP162 solution required.

### **2.7 Requirement 6: 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, unless they have already undergone an equivalent assessment as an Other User, 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.

MDR Users will need to declare relevant Anomaly Detection Thresholds (ADTs) in line with the existing provisions for this.

### **2.8 Requirement 7: 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, unless they have already undergone an equivalent assessment as an Other User, 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         | 4.8.1       |
|                                  |                      |                              | <b>And</b><br>Daily Consumption Log        | 1 per Settlement Day  | 731 days          | 4.17        |
|                                  |                      |                              | <b>OR</b><br>Import Daily Read Log         | 1 per Settlement Day  | 31 days           | 4.6.1       |
| SMETS2                           | Active Export        | Settlement Period level data | Active Export Profile data                 | 48 per Settlement Day | 3 months          | 4.8.3       |
|                                  |                      |                              | <b>And</b><br>Export Daily Read Log        | 1 per Settlement Day  | 31 days           | 4.6.2       |
| SMETS1                           | Active Import        | Settlement Period level data | Active Import Profile data                 | 48 per Settlement Day | 13 months         | 4.8.1       |
|                                  |                      |                              | <b>OR</b><br>Import Daily Read Log         | 1 per Settlement Day  | 14 days           | 4.6.1       |
| SMETS1                           | Active Export        | Settlement Period level data | Active Export Profile data                 | 48 per Settlement Day | 3 months          | 4.8.3       |
|                                  |                      |                              | <b>And</b><br>Total Active Export Register | Snapshot readings     | Continuous        | 4.2         |

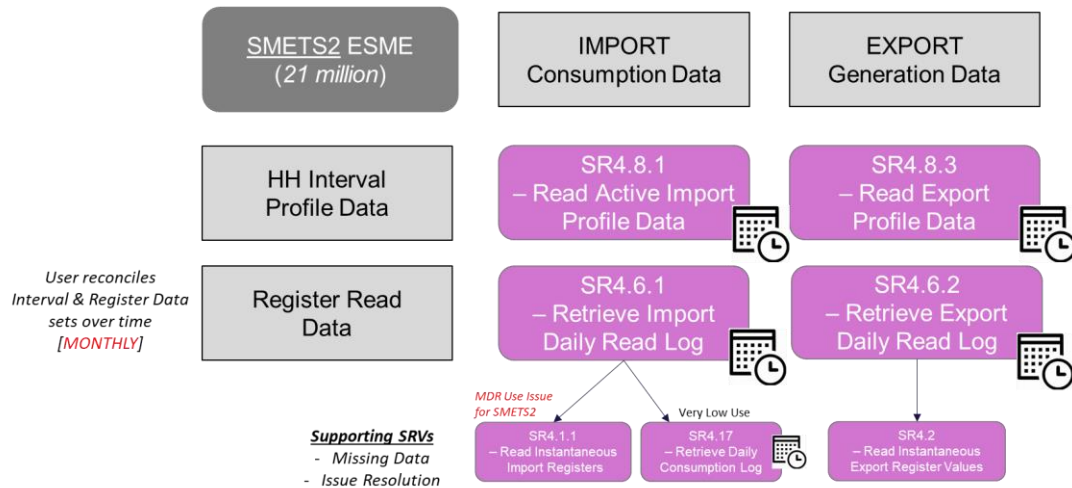
| Service Requests to support MHHS |                      |                        |   |                      |                   |             |
|----------------------------------|----------------------|------------------------|---|----------------------|-------------------|-------------|
| Meter type                       | Measurement quantity | Data type (settlement) | Data required (settlement & validation)   | No. of readings      | Data availability | DCC SR ref. |
| SMETS2                           | Active Import        | Register readings      | Daily Consumption Log                     | 1 per Settlement Day | 731 days          | 4.17        |
|                                  |                      |                        | <b>OR</b><br>Import Daily Read Log        | 1 per Settlement Day | 31 days           | 4.6.1       |
|                                  |                      |                        | <b>OR</b><br>Active Import Register       | Snapshot readings    | Continuous        | 4.1.1       |
| SMETS2                           | Active Export        | Register readings      | Export Daily Read Log                     | 1 per Settlement Day | 31 days           | 4.6.2       |
|                                  |                      |                        | <b>OR</b><br>Active Export Register       | Snapshot readings    | Continuous        | 4.2         |
| SMETS1                           | Active Import        | Register readings      | Import Daily Read Log                     | 1 per Settlement Day | 14 days           | 4.6.1       |
|                                  |                      |                        | <b>OR</b><br>Total Active Import Register | Snapshot readings    | Continuous        | 4.1.1       |
| SMETS1                           | Active Export        | Register readings      | Total Active Export Register              | Snapshot readings    | Continuous        | 4.2         |

The DCC has set out the following expected use cases for SMETS2 and SMETS1 ESME:

## MHHS SRVs – anticipated SMETS2 usage


**DAILY** Data Retrieval from SEC party User Roles (IS, ES or MDR)

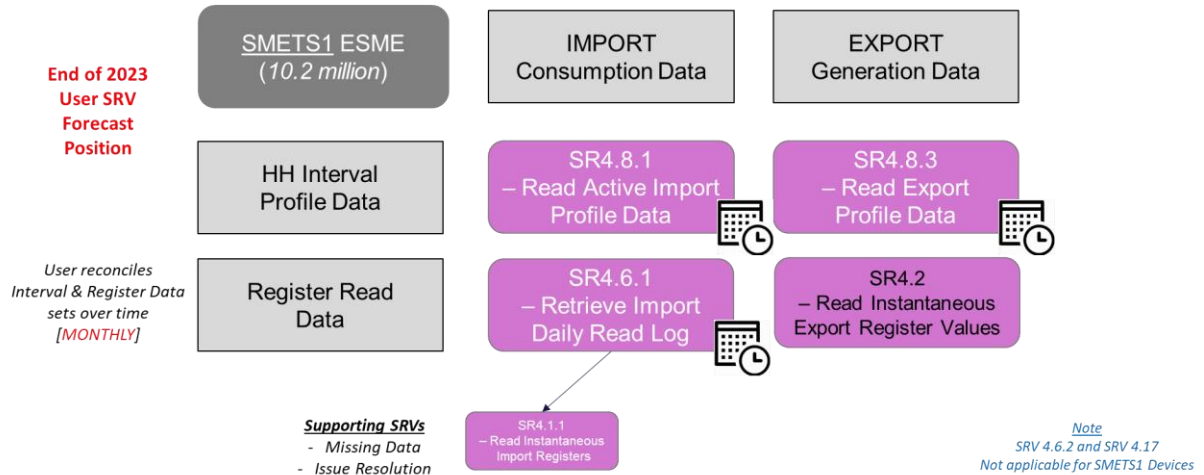
 SRV = DCC Scheduled



## MHHS SRVs – anticipated SMETS1 usage

**DAILY** Data Retrieval from SEC party User Roles (IS, ES or MDR)

 SRV = DCC Scheduled



## 4. Design principles and assumptions

### 4.1 Design principles

The DCC has used the following design principle regarding capacity as part of its high-level solution discussions with Ofgem under the Significant Code Review (SCR) and will use these when developing and assessing the MP162 solution.

| DCC design principles for MHHS |  |
|--------------------------------|--|
| Ref.                           | Design principle   |
| DP-1                           | The implementation of the MHHS solution should not negatively impact the wider existing smart metering arrangements.   |
| DP-2                           | The DCC solution for MHHS will be applied to both SMETS1 and SMETS2 Devices and supporting systems, and wherever possible, offer the same service irrespective of SMETS1 or SMETS2 meters.   |
| DP-3                           | Re-use existing DCC User Interface Specification (DUI) Service Requests to limit impacts on SEC Parties. No new DUI SRVs will be added to support the introduction of the new MHHS service. The MHHS service will re-use or make updates (as required) to existing SRVs. |
| DP-4                           | Consumption and generation data sets will remain available to multiple different authorised Users, but these data sets are not stored long-term on the DCC Total System.   |
| DP-5                           | Wherever possible, futureproof the data retrieval service for consumption and generation data sets for any other authorised Users to create operational efficiencies and minimise any future impacts for demand or capacity issues.                                      |

### 4.2 General scope and service assumptions

This section lists the general scope and service assumptions that will be used by the DCC when developing and assessing the MP162 solution.

| General scope and service assumptions |  |
|---------------------------------------|--|
| Ref.                                  | Assumption description   |
| A1                                    | <p>The DCC Total System changes associated with the introduction of the new MHHS Service is targeted for implementation as part of the November 2023 SEC Release, with the MHHS service currently expected to start operating from early 2024.</p> <ul style="list-style-type: none"> <li>For volumetrics calculations, the DCC has further assumed that the MHHS service use begins for all Smart Meters from the implementation date.</li> </ul>   |
| A2                                    | <p>The data collected by Users to support the new MHHS service needs to be presented wherever possible/available to the (Elexon) Central Service for use in the Initial Settlement (SF) run, which is proposed to take place five working days after the settlement date. The Final Reconciliation (RF) run for <b>all</b> data is proposed to take place four months after the settlement date.</p> <ul style="list-style-type: none"> <li>This provides indicative timescales for how long Users and the DCC must collect import consumption and export generation data, including retries and re-requests.</li> </ul> |

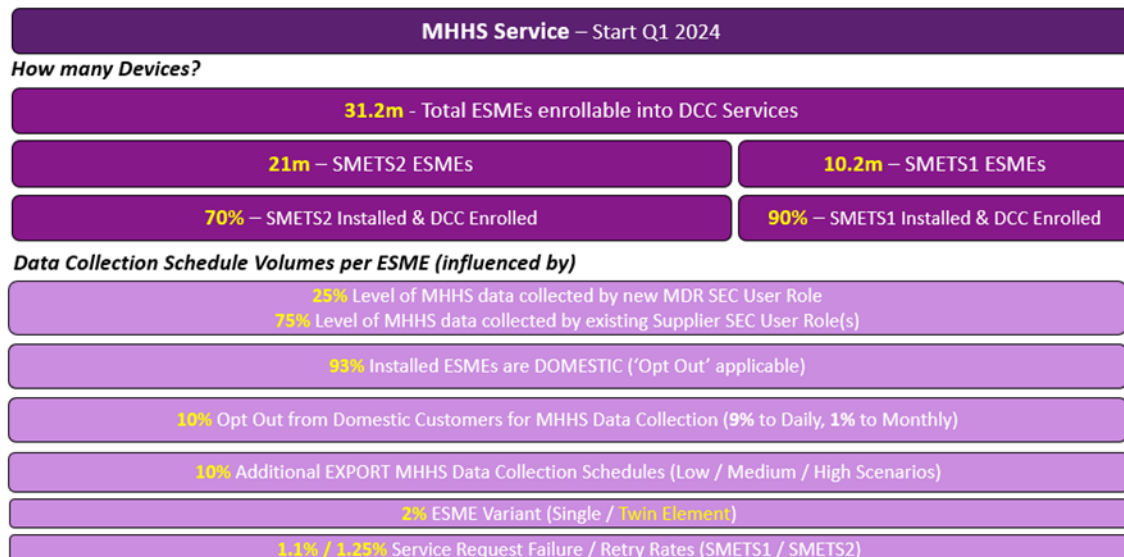
| General scope and service assumptions |   |
|---------------------------------------|---|
| Ref.                                  | Assumption description  |
| A3                                    | There will be no changes to any Smart Metering Devices (meters or Communications Hubs) to support the introduction of the new MHHS service, including no changes to the Great Britain Companion Specification (GBCS), the SMETS or the Communications Hub Technical Specification (CHTS) or any new GBCS commands or Device Alerts being introduced in support of the MHHS service.   |
| A4                                    | The MHHS service will operate for both <b>import consumption data</b> and <b>export generation data</b> sets. Both sets of data will need to be retrieved from ESME as part of the MHHS service.  |
| A5                                    | <p>The design approach to the collection of the required import consumption data and export generation data sets from ESMEs will be based on a Request / Response pattern and not on Devices pushing data back to the DCC using Device functionality.</p> <p>DCC scheduled services, rather than Device schedulable services, are expected to align to the 'no changes to Smart Metering Devices' assumption i.e., the data will be "pulled" from the ESME by the DCC upon request from Users instead of the smart meter data being "pushed" to the DCC via Device functionality.</p>   |
| A6                                    | <p>Service Requests sent by Users to retrieve import consumption and export generation data as part of the MHHS service will be expected to be scheduled, wherever possible and practical, to provide flexibility and mitigate capacity impacts.</p> <p>The DCC solution shall control these times and schedule in least impact times to smooth overall traffic.</p> <p>The DCC expects this to be regulated by the SEC and, where possible and practical to do so, technically enforced within the DCC Systems.</p>  |
| A7                                    | <p>Half-hourly profile data can be collected by the MDR User Role irrespective of whether the Supplier has already collected the same data sets from the same ESME.</p> <p>The MHHS service solution must allow for this and there is no regulation design to prevent multiple requests for the same data from different Users. It is expected there may be efficiencies created by industry to reduce costs, but it cannot be guaranteed.</p>  |
| A8                                    | <p>The DCC will be notified of the MDRA appointed to each MPAN by each Supplier and hence which maps to which ESME DeviceId.</p> <p>The DCC assumes that the DSP would receive this information via the CSS interface and the CSS interface definition will be extended to add new additional data items to support the transfer of this information from industry registration systems to the DCC.</p> <p>The additional data items that will be added to the CSS interface will be defined by Elexon's MHHS programme. These include:</p> <ul style="list-style-type: none"> <li>• The identity of the Registered Supplier's appointed MDR User (using the MPID)</li> <li>• The Effective From Date associated with the appointment of the MDR User</li> <li>• The Effective To Date associated with the appointment of the MDR User</li> </ul> |
| A9                                    | <p>The User requesting either import consumption data or export generation data sets for the MHHS service will be responsible for ensuring that it has the relevant consumer permissions to do so and that the Service Requests sent to the DCC are in line with the consumer's agreed consent granularity.</p> <p>The DCC Total System will not validate any consumer consent as part of the DCC solution.</p>   |

| General scope and service assumptions |   |
|---------------------------------------|---|
| Ref.                                  | Assumption description  |
| A10                                   | <p>Half-hourly data granularity opt-out</p> <ul style="list-style-type: none"> <li>Domestic consumers have the choice to "opt-out" of providing half-hourly granularity data for their import consumption data for MHHS service purposes and instead inform their Supplier of their required consent granularity of either "Daily" or "Monthly".</li> <li>Domestic customers <b>do not</b> have the choice to "opt-out" of providing half-hourly granularity data for their <b>export</b> generation data for MHHS service purposes and consent granularity must be "Half-Hourly".</li> <li>Non-domestic customers cannot opt out of sharing half-hourly profile data for import consumption data or export generation data for MHHS service purposes.</li> </ul> |

### 4.3 Demand modelling assumptions

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.

#### DCC - Key Volumetric Assumptions for Demand / Capacity consideration



#### 4.4 Non-functional requirement assumptions

The table below represents the current set of key assumptions with respect to the non-functional requirements associated with MP162. These non-functional requirements will form the basis of the DCCs determination of:

- The size of solution it will need to build and support;
- How it will quantify the potential additional User demand for SRV processing for MHHS; and
- How it will manage changes to User behaviours and demand over time.

| Non-functional requirement assumptions |   |  |
|--|---|--|
| Ref.                                   | Category  | Solution assumption  |
| NFR-1                                  | <b>DCC User set-up</b><br>Who will send Service Requests to the DCC?                                  | <b>75%</b> of SRV demand for MHHS data is expected from the <i>Registered Energy Supplier</i> User Role<br><b>25%</b> of SRV demand for MHHS data is expected from the new <i>Meter Data Retriever</i> User Role   |
| NFR-2                                  | <b>Supplier User behaviour</b><br>How is User SRV demand to be modelled?                              | Where consumption and generation data is requested by the Registered Supplier for MHHS purposes, the data set shall <b>only be requested once</b> from the DCC and this data set will be used internally by the Supplier for all business purposes.  |
| NFR-3                                  | <b>Supplier User behaviour</b><br>How is User SRV demand to be modelled?                              | Any SRV demand sent by MDR Users will be <b>in addition to</b> the existing consumption and generation data currently requested for existing business-as-usual purposes by the Registered Supplier and <b>not instead of</b> . <ul style="list-style-type: none"> <li>• Suppliers will continue to use existing scheduled data requests for non-MHHS purposes.</li> </ul>  |
| NFR-4                                  | <b>User Behaviours</b><br>Which SRVs are to be sent and how often?<br>Main/majority use case scenario | Users will carry out <b>daily</b> scheduled retrieval of <b>48 half-hourly intervals</b> of import consumption data and, where configured, <b>48 half-hourly intervals</b> of export generation data. <ul style="list-style-type: none"> <li>• This is in preference to a <i>weekly</i> or <i>monthly</i> scheduled retrieval activity.</li> </ul> <p>Users will carry out <b>daily</b> scheduled retrieval of a set of register read data for <b>import consumption</b> and, where configured, register read data for <b>each day within the month's export generation</b> for reconciliation to the half-hourly interval data to act as a check process.</p> <ul style="list-style-type: none"> <li>• This is in preference to a <i>weekly</i> or <i>monthly</i> scheduled retrieval activity</li> </ul> |
| NFR-5                                  | <b>User / DCC behaviours</b><br>How is data to be requested from Users and retrieved by DCC?          | All Users requesting data for MHHS purposes shall ensure that all first attempts to retrieve a new data set from each target ESME device shall be made <b>using the DCC's scheduled services</b> . <ul style="list-style-type: none"> <li>• The number of on-demand SRVs sent for MHHS purposes is low and is for exception management purposes only.</li> </ul>   |



| Non-functional requirement assumptions |  |   |
|--|--|---|
| Ref.                                   | Category   | Solution assumption   |
| NFR-6                                  | <b>User / DCC behaviours</b><br>Data retrieval User request behaviours                   | <p>Where an Eligible User wishes to retrieve <b>import consumption data</b> or <b>export generation data</b> sets from an ESME for the purposes of supporting MHHS, the User shall ensure that all first attempts to retrieve a new data set from each target ESME device shall be made using scheduled services.</p> <p>In cases where either:</p> <ul style="list-style-type: none"> <li>the use of scheduled services fails to return the required data to the requesting Eligible User; or</li> <li>scheduled services are not possible to retrieve the required data,</li> </ul> <p>then an Eligible User may use on-demand services to request (or re-request) the required consumption data or generation data to ensure that the required data is successfully retrieved from each target ESME.</p> |
| NFR-7                                  | <b>DCC behaviours to meet requirements</b><br>What response times are expected to SRVs?  | <p>The TRTs as defined in the MP162 business requirements for SRVs sent to support the MHHS service will remain and <b>will not change</b>.</p> <ul style="list-style-type: none"> <li><b>24 hour TRT</b> for all DCC scheduled and on-demand Service Requests for <b>all</b> Users for requests for MHHS service data.</li> </ul>  |
| NFR-8                                  | <b>DCC behaviours to meet requirements</b><br>-How will DCC scheduling operate for MHHS? | <p><b>The DCC will schedule MHHS SRVs across the day</b> (in line with the TRTs' 24-hour definition) outside the existing read window in order to reduce and smooth any demand peaks for DCC infrastructure and maximising capacity re-use wherever possible.</p> <p>This aligns with Assumption A6.</p>  |
| NFR-9                                  | <b>DCC behaviours to meet requirements</b><br>-How will DCC scheduling operate for MHHS? | <p>The DCC is not constrained in defining "scheduling time periods" that can be used by the MHHS solution for either existing business-as-usual scheduling windows or any potential newly proposed separate MHHS scheduling windows</p> <ul style="list-style-type: none"> <li>These DCC-defined scheduling windows (and shared with Users) may be different time periods for each Communications Service Provider (CSP) and SMETS1 Service Provider (S1SP) to maximise capacity efficiencies.</li> </ul>   |
| NFR-10                                 | <b>DCC behaviours to meet requirements</b><br>How will DCC scheduling operate for MHHS?  | <p>DCC scheduling time periods for <b>MHHS SRVs</b> would apply to <b>all</b> scheduled SRVs from Suppliers and <b>all</b> MDR SRVs (on-demand, future-dated and scheduled) in line with the TRTs, but would not impinge on existing business-as-usual scheduling time periods.</p>   |

| Non-functional requirement assumptions |  |   |
|--|--|---|
| Ref.                                   | Category   | Solution assumption   |
| NFR-11                                 | <b>DCC Behaviours to meet non-functional requirements</b><br><br>How are changes to User behaviours and associated SRV demand over time to be managed? | <p>Due to the uncertainty of anticipated User behaviours associated with the new MHHS service, there is a risk for the DCC and the industry of potentially under- or over-building system capacity to meet what may be a variable and volatile demand level from Users.</p> <p><b>In line with customer feedback, the DCC shall take a conservative risk-based approach to estimating the volumetrics and User demand levels associated with the proposed MP162 solution.</b> This creates a <b>risk</b> that any significant changes from anticipated User behaviours as increased demand and capacity requirements are not included within the initial design for MP162.</p> <p><b>New Design principle:</b></p> <ul style="list-style-type: none"> <li>• The DCC shall take a cautious approach to the implementation of any additional infrastructure to deliver increased SRV processing capacity associated with MHHS service changes</li> <li>• The DCC shall initially only deploy a limited amount of additional infrastructure to deliver increased SRV processing capacity directly based upon the defined non-functional requirements associated with MP162. It will increase these capacity levels over time to reflect the variable User behaviours over time based on experience gained from monitoring actual MHHS service usage as and when they occur.</li> </ul> <p>This potential risk could be further mitigated by the following:</p> <ul style="list-style-type: none"> <li>• MP162 is due to be implemented as part of the November 2023 SEC Release. This is prior to the start of the MHHS programme migration activity to implement the new service, which is expected to start early in Q1 2024 and take up to a year to migrate all sites. This allows an implementation window where the volumes of MPANs using the MHHS services will steadily increase and means that all of the new MHHS User demand will not occur from the point of the DCCs implementation of the MHHS solution associated with MP162.</li> </ul> |

## 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   |
| ADT      | Anomaly Detection Threshold                       |
| BSC      | Balancing and Settlement Code                     |
| CHTS     | Communications Hub Technical Specifications       |
| CSP      | Communications Service Provider                   |
| 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                                 |
| GBCS     | Great Britain Companion Specification             |
| 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                         |
| S1SP     | SMETS1 Service Provider                           |
| SCR      | Significant Code Review                           |
| SDS      | Smart Data Service                                |
| 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                        |