Data Communications Company

SEC Modification Proposal MP162, DCC CR4813

SEC Changes Required to Deliver the Market Data Retriever (MDR) User as part of MHHS

Preliminary Impact Assessment (PIA)

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Data Communications Company

Contents

1 Executive Summary 3
2 Document History 4
2.1 Revision History 4
2.2 Document Information 4
3 Context and Requirements 5
3.1 Context 5
3.2 Requirements 5
3.3 Business Requirements 5
4 The DCC Total System Technical Solution 7
4.1 High Level Architecture 7
4.2 Solution Summary 8
4.3 Technical Specifications 9
4.4 Application Support Costs 9
5 Implementation Timescales and Approach 9
5.1 Testing and Acceptance 9
6 Costs and Charges 10
6.1 Contracts and Schedules 10
Appendix A: Glossary 11

1 Executive Summary

The Change Board are asked to approve the following:

- No additional costs to complete the Full Impact Assessment.
- The timescales to complete the Full Impact Assessment of 40 days.
- ROM costs for CR4813, including SMETS1 and SMETS2 Design, Build, and PIT of between £2.52m and £3.75m.
- ROM costs for additional associated Integration Testing and Release (i.e. SIT and UIT) of between £2.72m and £3.60m.
    - *Note - These costs would be incurred for the entire release and not specific just for this Modification.*

Problem Statement and Solution

Following a Change Board vote to Reject the CR4434 Full Impact Assessment for the Market-wide Half-Hourly Settlement (MHHS), the Office of Gas and Electricity Markets (Ofgem) requested a further PIA to assess the impact of implementing the MDR User only.

Modification Benefits

The MHHS draft business case relies on exposing energy suppliers to the exact HH costs of customer consumption patterns, rather than being profiled as they are now for Non Half-Hourly (NHH) customers. This exposure will incentivise electricity suppliers to offer Time of Use (ToU) tariffs, which in turn will incentivise customers to shift load patterns. Customer load shifting will benefit both intermittent generation balancing and reduce network infrastructure investment. Ofgem's Electricity Settlement Reform Significant Code Review (SCR) has concluded that settling all consumers on a half-hourly basis would bring net benefits of between £1.6bn and £4.5bn by 2045.

MHHS will also increase overall settlement accuracy. It will also help to enable new products and services, for example, in supporting the use of electric vehicles, heat pumps or making use of smart appliances. These can deliver positive outcomes for consumers through lower bills, reduced environmental impacts, enhanced security of supply and a better quality of service.

This Change Request looks to include a new MDR User role as part of the MHHS solution. Changes relating to MHHS capacity uplift are not included in this document.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
16/09/2022	0.1	First draft
23/09/2022	0.5	Updated following reviews
28/09/2022	1.0	Baseline version created for Working Group

2.2 Document Information

This Modification forms part of a wider solution to deliver the Market-wide Half-Hourly Settlement (MHHS). This change 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.

As directed, this document contains the business requirements to implement the Market Data Retriever (MDR) user, a cost and duration to complete the Full Impact Assessment, and ROM costs (including integration testing) only. Supporting information for these estimates have not been provided.

3 Context and Requirements

In this section, the context of the Modification, assumptions, and the requirements are stated.

3.1 Context

Ofgem have sent back MP162 to SECAS for review and a further impact assessment. The Modification and associated change, CR4434, will retain the original numbering and be held open for now.

DCC will work with Service Providers in a separate set of Change Requests to establish capacity uplift costs.

3.2 Business Requirements

This section identifies and expands on the business requirements for this Modification.

Note that there are several requirements which do not apply to the DCC Total System, but they have been maintained for completeness.

#	Requirement
1	A new DCC User Role will be created for Meter Data Retrieval (MDR) Users
2	MDR Users will need to accede to the SEC and undergo User Entry Process Testing (UEPT)
3	There shall be Access Control for MDR Users
4	The applicable Service Requests will have extended Target Response Times (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

Table 1: Marketwide Half Hourly Settlement Requirements

3.3 Requirements

In this new version of the Modification, based on the Ofgem requirements, DCC are asking the Service Providers to provide an impact assessment that details the additional costs and efforts to add a new Market Data Retriever (MDR) user role. This role was defined in the original CR4434 impact assessments for MHHS, and there is no change to the expected functionality around the MDR role. DCC expects a substantial re-use of the impact assessments from CR4434, with no new functionality, and DCC has kept the requirements as simple as possible to allow for this.

Service Providers were asked to provide a PIA-level document indicating a ROM estimate of the expected final cost as well as both the costs and timescales to produce a FIA. The design in this CR will use the existing solution design, assumptions, and design principles relating to the MDR User making the time to complete much shorter than usual. Given that most Service Providers were impacted by the CR4434 change, DCC believes the same SPs will be impacted to a certain extent.

As part of the submission, Service Providers have considered the following components in their solutions:

- Adding functionality to support the additional, new MDR User role (as included in SECMP0162, CR4434)
- Include planned Store and Publish ("cache") functionality for SMETS1
- Include Northbound Prioritisation to ensure that Supplier activities are not impacted by MDR system usage (DSP only)
- Include an inbound interface from the Central Switching Service (CSS) (DSP only)
- Testing costs for Design, Build, PIT, SIT, and UIT are for the MDR functionality only

It should be noted that the following changes in CR4434 are out of scope for this PIA:

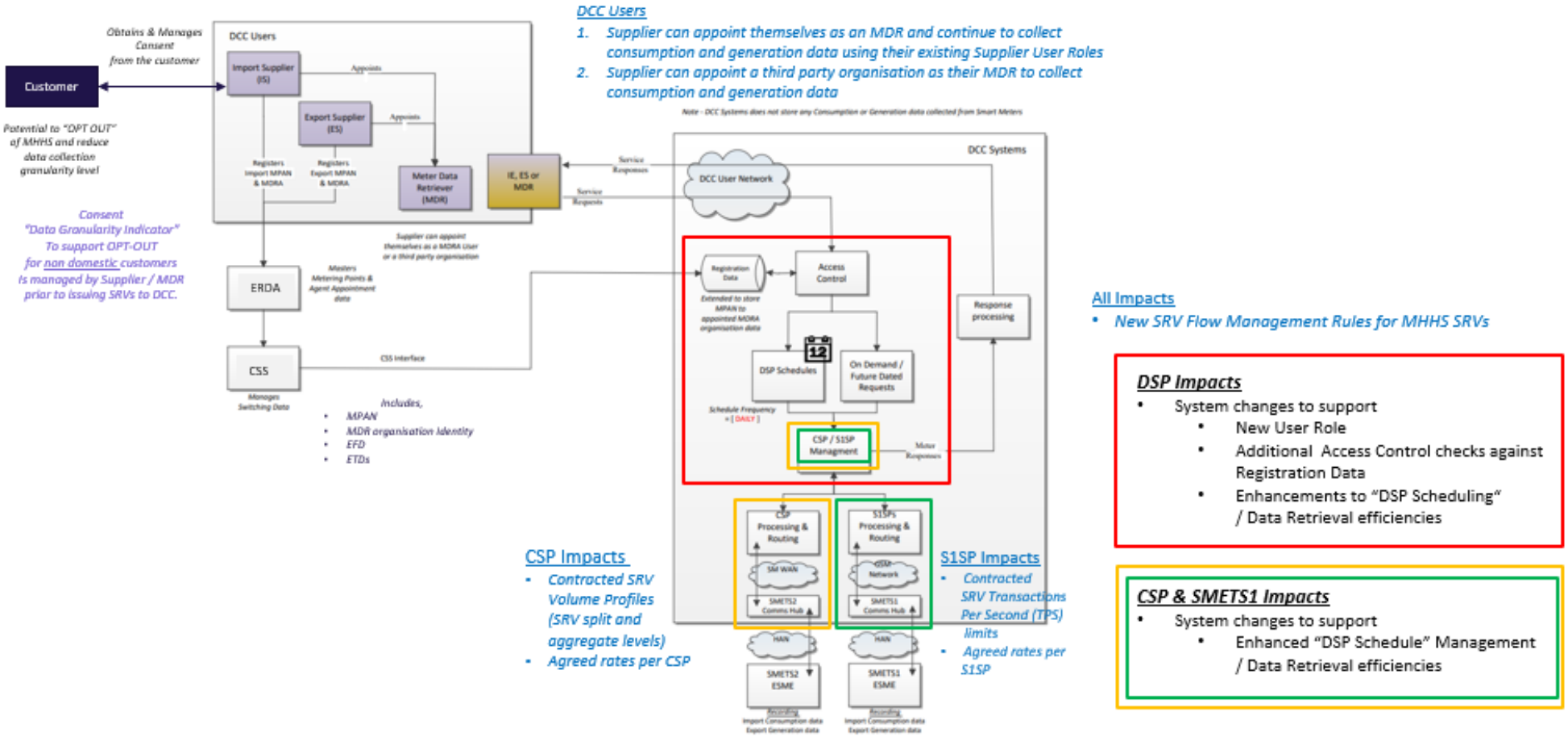
- Adding capacity related to the MDR role
- Any other capacity uplift related to MHHS
- The implementation of Peak and Off Peak windows for Scheduled requests as defined in the CR4434 FIA
- While User Entry Process Testing is required for this Modification, it has not been included in this PIA.

4 The Technical Solution

The following sections give an overview of the high level outline solution created to support the PIA discussion and associated PIA responses from DCC and the Service Providers.

4.1 High Level Architecture

The following diagram gives a high level architecture view of the intended MHHS solution for this Change Request.



4.2 Solution Summary

The key points of the solution are as follows:

- The DCC shall be able to accept Service Requests from a new 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+ ESMEs enrolled within the DCC Systems.
- All Service Requests received from new 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 via the Central Switching Service and ECoS interfaces[1]. This will ensure that only registered MDR Users can retrieve the relevant Import consumption and/or Export generation data from each ESME.

Note that the functionality associated with this change remains as described in CR4434, but the non-functional requirements and changes related to MHHS will be covered by separate programmes.

[1] The Registration data that is to be used by the ECoS Party is a direct copy of that received and stored by the DSP as part of the Access Control check. When the ECoS solution is implemented, the DSP and the ECoS Party will each use the same CSS data feed and updated data format. Any changes to this interface and associated data transfer format will impact both DSP and ECoS Party alike as the same set of changes are assumed applied once to the single CSS data set / interface so that it remains consistent. Changes will have to be assessed against the ECoS programme, but this will be out of scope for SECMP0162.

5 Impact on Systems, Processes and People

This section describes the impact of CR4813 on Services and Interfaces that impact Users and/or Parties.

5.1 Technical Specifications

Updates to the DCC User Interface Specification (DUIS) schema and DCC User Gateway Interface Design Specification (DUGIDS) are required to incorporate a change in definition of E040101 error code and new error E050111. A new DCC Alert N66 for schedule deletion resulting from MDR appointment changes is required.

5.2 Application Support Costs

Application Support costs are not included in this PIA. However the impact of adding a new user will not increase infrastructure requirements, and hence the new User Role will have only a minor impact on Business as Usual running costs.

6 Implementation Timescales and Approach

This change is expected to be included in a future SEC Release. Design, Build, and PIT is expected to take up to 12 months to complete after the CAN is signed.

Details of the implementation will be finalised in the FIA.

6.1 Testing and Acceptance

There will be significant impact to Systems Integration Testing (SIT) as a result of this change. It is assumed that the change will be implemented and tested as part of a major release and will include release based regression testing in SIT and UIT.

7 Costs and Charges

The table below details the PIA ROM cost of delivering the changes and Services required to implement CR4813.

The ROM costs are indicative amounts to implement solutions to meet the defined requirements and are not offered or open to acceptance. The change has not been subject to the level of analysis that would be performed as part of an FIA. There may be elements missing from the solution or the solution may be subject to a material change, which could impact the final offered fixed price.

The table below details the cost of delivering the changes and Services required to implement this Modification. For a PIA, only the Design, Build and PIT indicative fixed costs are supplied.

£	Design, Build, and PIT	Integration Testing and Release
SMETS2 Service Providers	1,515,000 – 2,520,000	2,000,000-2,800,000
SMETS1 Service Providers	1,000,000 – 1,230,000	720,000 – 800,000
TOTAL	2,515,000 – 3,750,000	2,720,000 – 3,600,000

Table 2: CR4813 Cost Breakdown – High Level

Based on the existing requirements, there are no additional fixed price costs for Full Impact Assessments. These would be expected to be completed in 40 working days.

It should be noted that there are ten Service Providers required to complete the FIA as follows:

- DSP
- CSP North (Arqiva)
- CSP South and Central (VMO2)
- CGI Instant Energy
- Secure
- Trilliant
- DXC
- Vodafone
- Capgemini
- Critical Software

7.1 Contracts and Schedules

Service Providers have indicated changes are required in number of Contract schedules and these will be detailed during the FIA.

Appendix A: Glossary

The table below provides definitions of the terms used in this document.

Acronym	Definition
BSC	Balancing and Settlement Code
CAN	Contract Amendment Note
CR	DCC Change Request
CSS	Central Switching Service
DCC	Data Communications Company
DSP	Data Service Provider
DUGIDS	DCC User Gateway Interface Design Specification
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
FIA	Full Impact Assessment
HH	Half-Hourly
MDR	Meter Data Retriever -(New User Role)
MHHS	Marketwide Half-Hourly Settlement
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
SCR	Ofgem's Electricity Settlement Reform Significant Code Review
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS	Smart Metering Equipment Technical Specification
SR	Service Request
TOM	Target Operating Model
UEPT	User Entry Process Testing
UIT	User Integration Testing