

SEC Modification Proposal, SECMP0235, DCC CR5166

Enhanced Meter Data Access for Other Users Preliminary Impact Assessment (PIA)

Version:	0.2
Date:	27th October 2023
Author:	DCC
Classification:	DCC PUBLIC

Contents

1	Executive Summary	3
2	Document History	4
2.1	Revision History	4
2.2	Associated Documents	4
2.3	Document Information.....	4
3	Context and Requirements.....	5
3.1	Current Arrangements.....	5
3.2	What is the Issue?	5
3.3	Impact of the Issue	5
3.4	Business Requirements	6
3.5	Non Functional Requirement.....	9
4	Description of Solution	10
4.1	Impacts on DSP	10
4.2	Impacts on SMETS1 Service Providers (S1SP)	11
4.3	Impacts on SMETS2 CSPs and SMETS1 WAN Providers	11
5	Impact on DCC Systems, Processes and People	12
5.1	Security Impact.....	12
5.2	Technical Specifications	12
5.3	Integration Impact.....	12
5.4	Infrastructure Impact.....	12
5.5	Service Impact	12
6	Implementation Timescales and Approach.....	13
6.1	Implementation Approach.....	13
6.2	Testing and Acceptance.....	13
7	Costs and Charges.....	13
7.1	Design, Build and Testing Cost Impact.....	13
8	Risk, Assumptions, Issues, and Dependencies	14
8.1	Risks and Issues.....	14
8.2	Assumptions.....	14
8.3	Dependencies	14
	Appendix A: Glossary	15

1 Executive Summary

The Change Board are asked to approve the following:

- Cost to complete the Full Impact Assessment of **£54,435**.
- The timescales to complete the Full Impact Assessment of 40 working days.
- ROM costs for SECMP0235, up to the end of Pre-Integration Testing (PIT) of £60,000 to £235,000.
- The Data Service Provider (DSP), SMETS1 Service Providers (S1SPs), SMETS2 Communication Service Providers (CSPs) and SMETS1 WAN Providers are impacted by this Modification.

Problem Statement and Solution

Various SEC Parties retrieve data from Smart Metering Systems (SMS) using different User Roles. Currently, Other Users roles are limited in the Service Requests (SR) which they can request from Smart Metering Systems (SMS). The Proposer would like Other Users to be allowed access to 11 additional SRs.

Modification Benefits

The Proposer believes this will enable Other Users to offer improved services and provide Consumers with increased options to access granular information which in turn will assist them in making decisions about their energy usage.

In addition, a growing number of Energy Consumers are installing generation equipment in their homes to help reduce energy costs. If further information is available to Other Users this can be passed onto the Energy Consumer in order they can accurately assess the management of their micro-generation infrastructure.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
25/10/2023	0.1	Initial version, for DCC internal review
27/10/2023	0.2	Updated following DCC internal review

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP235 Modification Report v0.4	SECAS	12/09/2023
2.	MP235 Business Requirements v0.7	SECAS	03/10/2023

References are shown in this format, [1].

2.3 Document Information

The Proposer for this Modification is Matt Roderick from n3rgy. Latest version of Modification Report was prepared and published in September 2023.

The Preliminary Impact Assessment (PIA) was requested of DCC on 3rd October 2023.

3 Context and Requirements

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

The requirements have been provided by SECAS, the Proposer and the Working Group.

3.1 Current Arrangements

Various SEC Parties retrieve data from Smart Metering Systems (SMS) of Energy Consumers. This is done by sending Service Requests (SRs) to the SMS dependent on which type of information they would like to receive. Different SEC Parties are split into different User Roles, dependent on the relationship they have with the Energy Consumer.

Smart Energy Code (SEC) Appendix AD 'DCC User Interface Specification' (DUIS) states which SRs different User Roles can retrieve. Currently, Other Users are limited in the SRs which they can collect from SMS.

Below is a table of 11 selected SRs which Other Users cannot access. The column on the right notes which other User Roles can currently retrieve this information. User Roles are defined as Import Suppliers (IS), Export Suppliers (ES), Gas Suppliers (GS), Registered Supplier Agents (RSA), Electricity Distributors (ED), Gas Transporters (GT) and Other Users (OU), with the Meter Data Retriever (MDR) role becoming effective in June 2024.

Service Requests		
Service Reference Variant	Service Request Name	Eligible User Role
4.2	Read Instantaneous Export Registers	ES, ED, (MDR)
4.6.1	Retrieve Import Daily Read Log	IS, GS, (MDR)
4.6.2	Retrieve Export Daily Read Log	ES, (MDR)
4.12.1	Read Maximum Demand Import Registers	IS, ED
4.12.2	Read Maximum Demand Export Registers	ES, ED
4.13	Read Prepayment Configuration	IS, GS
4.14	Read Prepayment Daily Read Log	IS, GS
6.2.1	Read Device Configuration (Voltage)	IS, RSA, ED
6.2.5	Read Device Configuration (Instantaneous Power Thresholds)	IS, RSA
6.2.9	Read Device Configuration (Payment Mode)	IS, GS, RSA
7.4	Read Supply Status	IS, ES, GS, RSA, ED, GT

Table 1: Service Requests and eligible User Roles

3.2 What is the Issue?

DUIS details which SRs each User Role can retrieve. Other Users are limited in the Service Requests they can access. As Third Parties are developing products to assist Energy Consumers in managing their usage, the limitations on the SRs they can access is preventing them from offering improved services.

3.3 Impact of the Issue

The current arrangements mean that Other Users are limited in their ability to offer innovative services to Energy Consumers.

Impact on consumers

Energy Consumers can now use independent services to manage and control energy costs through apps or online services. If Other Users have access to additional SRs this will enable consumers to have access to more granular data about their usage patterns, which in turn will assist them in making decisions about their energy usage.

In addition, a growing number of Energy Consumers are installing generation equipment in their homes to help reduce energy costs. If further information is available to Other Users this can be passed onto the Energy Consumer in order they can properly assess the management of their micro-generation infrastructure.

3.4 Business Requirements

The business requirements are as follows.

Ref.	Requirement
1	Allow Parties acting in the Other User Role to access SRV 4.2 'Read Instantaneous Export Registers'
2	Allow Parties acting in the Other User Role to access SRV 4.6.1 'Retrieve Import Daily Read Log'
3	Allow Parties acting in the Other User Role to access SRV 4.6.2 'Retrieve Export Daily Read Log'
4	Allow Parties acting in the Other User Role to access SRV 4.12.1 'Read Maximum Demand Import Registers'
5	Allow Parties acting in the Other User Role to access SRV 4.12.2 'Read Maximum Demand Export Registers'
6	Allow Parties acting in the Other User Role to access SRV 4.14 'Read Pre-payment Daily Read Log'
7	Allow Parties acting in the Other User Role to access SRV 4.16 'Read Active Power Import'
8	Allow Parties acting in the Other User Role to access SRV 6.2.1 'Read Device Configuration (Voltage)'
9	Allow Parties acting in the Other User Role to access SRV 6.2.5 'Read Device Configuration (Instantaneous Power Thresholds)'
10	Allow Parties acting in the Other User Role to access SRV 6.2.9 'Read Device Configuration (Payment Mode)'
11	Allow Parties acting in the Other User Role to access SRV 7.4 'Read Supply Status'

This solution will be applied to SMETS1 and SMETS2 Devices.

The proposer notes that this solution should be applied to 45,000 Consumers.

Requirement 1: Allow Parties acting in the Other User Role to access Service Reference Variant (SRV) 4.2 'Read Instantaneous Export Registers'.

Parties acting in the Other User Role shall be allowed to access SRV 4.2 'Read Instantaneous Export Registers' on demand.

For Smart Metering Equipment Technical Specification (SMETS)2+ Devices, the Target Response Time shall be 30 seconds.

For SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than four requests a month per Device for this SRV, aggregated over the entire estate which the Other User has within scope of their activities.

Requirement 2: Allow Parties acting in the Other User Role to access SRV 4.6.1 'Retrieve Import Daily Read Log'.

Parties acting in the Other User Role shall be allowed to access SRV 4.6.1 'Retrieve Import Daily Read Log' on demand and as a scheduled request.

For Scheduled Services, the Target Response Time shall always be 24 hours.

As an On Demand Service, for SMETS2+ Devices, the Target Response Time shall be 30 seconds.

As an On Demand Service, for SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than one request a month per Device for this SRV, aggregated over the entire estate which the Proposers organisation has within scope of their activities.

Requirement 3: Allow Parties acting in the Other User Role to access SRV 4.6.2 'Retrieve Export Daily Read Log'.

Parties acting in the Other User Role shall be allowed to access SRV 4.6.2 'Retrieve Export Daily Read Log' on demand and as a scheduled request.

For Scheduled Services, the Target Response Time shall always be 24 hours.

As an On Demand Service, for SMETS2+ Devices, the Target Response Time shall be 30 seconds.

The DCC should expect less than one request a month per Device for this SRV for only devices which have an Export MPAN assigned, aggregated over the entire estate which the Other User has within scope of their activities.

Requirement 4: Allow Parties acting in the Other User Role to access SRV 4.12.1 'Read Maximum Demand Import Registers'.

Parties acting in the Other User Role shall be allowed to access SRV 4.12.1 'Read Maximum Demand Import Registers' on demand and as a scheduled request.

For Scheduled Services, the Target Response Time shall always be 24 hours.

As an On Demand Service, for SMETS2+ Devices, the Target Response Time shall be 24 hours.

The DCC should expect less than four requests a month per Device for this SRV.

Requirement 5: Allow Parties acting in the Other User Role to access SRV 4.12.2 'Read Maximum Demand Export Registers'.

Parties acting in the Other User Role shall be allowed to access SRV 4.12.2 'Read Maximum Demand Export Registers' on demand and as a scheduled request.

For Scheduled Services, the Target Response Time shall always be 24 hours.

As an On Demand Service, for SMETS2+ Devices, the Target Response Time shall be 24 hours.

The DCC should expect less than four requests a month per Device for this SRV.

Requirement 6: Allow Parties acting in the Other User Role to access SRV 4.14 'Read Pre-payment Daily Read Log'.

Parties acting in the Other User Role shall be allowed to access SRV 4.14 'Read Pre-payment Daily Read Log' on demand and as a scheduled request.

For Scheduled Services, the Target Response Time shall always be 24 hours.

As an On Demand Service, for SMETS2+ Devices, the Target Response Time shall be 30 seconds.

The DCC should expect less than 0.1 requests a month per Device for this SRV.

Requirement 7: Allow Parties acting in the Other User Role to access SRV 4.16 'Read Active Power Import'.

Parties acting in the Other User Role shall be allowed to access SRV 4.16 'Read Active Power Import' on demand and as a scheduled request.

For Scheduled Services, the Target Response Time shall always be 24 hours.

For SMETS2+ Devices, the Target Response Time shall be 30 seconds.

For SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than 10 requests a month per Device for this SRV.

Requirement 8: Allow Parties acting in the Other User Role to access SRV 6.2.1 'Read Device Configuration (Voltage)'.

Parties acting in the Other User Role shall be allowed to access SRV 6.2.1 'Read Device Configuration (Voltage)' on demand.

For SMETS2+ Devices, the Target Response Time shall be 30 seconds.

For SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than one request a month per Device for this SRV.

Requirement 9: Allow Parties acting in the Other User Role to access SRV 6.2.5 'Read Device Configuration (Instantaneous Power Thresholds)'.

Parties acting in the Other User Role shall be allowed to access SRV 6.2.5 'Read Device Configuration (Instantaneous Power Thresholds)' on demand.

For SMETS2+ Devices, the Target Response Time shall be 30 seconds.

For SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than 0.1 requests a month per Device for this SRV.

Requirement 10: Allow Parties acting in the Other User Role to access SRV 6.2.9 ‘Read Device Configuration (Payment Mode)’.

Parties acting in the Other User Role shall be allowed to access SRV 6.2.9 ‘Read Device Configuration (Payment Mode)’ on demand.

For SMETS2+ Devices, the Target Response Time shall be 30 seconds.

For SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than one request a month per Device for this SRV.

Requirement 11: Allow Parties acting in the Other User Role to access SRV 7.4 ‘Read Supply Status’.

Parties acting in the Other User Role shall be allowed to access SRV 7.4 ‘Read Supply Status’ on demand.

For SMETS2+ Devices, the Target Response Time shall be 30 seconds.

For SMETS1 Devices, the Target Response Time shall be 16 seconds.

The DCC should expect less than one request a month per Device for this SRV.

The Proposer has stated that there should be no duplicated data with the current contents of Post-Commissioning reports. It is advantageous to have a single source of data to not cause confusion amongst the recipients of the reports. The contents of the reports will be agreed following the completion of the Preliminary Assessment.

3.5 Non Functional Requirement

Based on associated volumetric information for each Service Request in the business requirements, DCC has prepared a projected volumetric analysis for additional Service Requests from Other User role for Service Provider’s Preliminary Impact Assessment(PIA) for this Modification. The volumetric analysis is attached herewith.



MP235%20Volumetri
c%20Info%20V0.1.xls

Note that the projected volumetrics extrapolated the mentioned number of devices (45000 devices) for **all active Other Users** to give a worst case scenario to Service Providers. Please see assumptions in section 8 for details.

4 Description of Solution

The modification impacts the DSP, S1SPs, SMETS2 CSPs and SMETS1 WAN Provider.

4.1 Impacts on DSP

Based on the business requirement in section 0, following changes are identified for the DSP.

The table below confirms the Service Request Variants (SRVs) impacted and whether they apply to SMETS2 meters or both SMETS1 and SMETS2:

Key	Requirements	SMETS1 / SMETS2
1	Allow Parties acting in the Other User Role to access SRV 4.2 'Read Instantaneous Export Registers'	SMETS1 & SMETS2
2	Allow Parties acting in the Other User Role to access SRV 4.6.1 'Retrieve Import Daily Read Log'	SMETS1 & SMETS2
3	Allow Parties acting in the Other User Role to access SRV 4.6.2 'Retrieve Export Daily Read Log'	SMETS2
4	Allow Parties acting in the Other User Role to access SRV 4.12.1 'Read Maximum Demand Import Registers'	SMETS2
5	Allow Parties acting in the Other User Role to access SRV 4.12.2 'Read Maximum Demand Export Registers'	SMETS2
6	Allow Parties acting in the Other User Role to access SRV 4.14 'Read Pre-payment Daily Read Log'	SMETS2
7	Allow Parties acting in the Other User Role to access SRV 4.16 'Read Active Power Import'	SMETS1 & SMETS2
8	Allow Parties acting in the Other User Role to access SRV 6.2.1 'Read Device Configuration (Voltage)'	SMETS1 & SMETS2
9	Allow Parties acting in the Other User Role to access SRV 6.2.5 'Read Device Configuration (Instantaneous Power Thresholds)'	SMETS1 & SMETS2
10	Allow Parties acting in the Other User Role to access SRV 6.2.9 'Read Device Configuration (Payment Mode)'	SMETS1 & SMETS2
11	Allow Parties acting in the Other User Role to access SRV 7.4 'Read Supply Status'	SMETS1 & SMETS2

Table 2: SMETS1 / SMETS2 applicability

- The reference data used in Authorisation at DSP will be updated by adding a mapping for the 11 specified SRVs to the Other User role.
- A new feature switch will be created, and the Authorisation code will be updated to add a check that when Other User attempts to use one of these additional SRVs then the new feature switch must be enabled.
The use of a feature switch enables the reference data to be updated but control the point in time at which the new SRVs actually become available to the Other Users.

Note that once enabled, the additional SRVs will be available to Other Users using any DUIS version.

4.2 Impacts on SMETS1 Service Providers (S1SP)

On receipt of the SMETS1 capable Service Requests in the **Table 2**, some of the S1SP solutions carry out a validation check to ensure the SRV is applicable to the User Role sending the Service Request and returns an S1SP Alert S1VE2 to the Service User if the combination is invalid.

Impacted S1SPs will develop and test a database update script to add standing data to its Access Control component database, to allow each of the Other User Eligible Service Requests to be processed by users acting in the Other User Role.

Impacted S1SPs will also create a database table backup script in order to ensure any changes can be rolled back in the event of issues during implementation.

4.3 Impacts on SMETS2 CSPs and SMETS1 WAN Providers

SMETS2 CSPs and SMETS1 WAN Providers will look into the overall increase in Service Requests volume from all Other Users due to this Modification during Full Impact Assessment (FIA) phase [see risk in Section 8.1].

Initial analysis on mentioned volumetrics in the Business Requirement (for 45000 consumers from one Other User) is considered having no material impact on the network and will likely impact only secondary systems (such as storage for reporting and management systems). No other functional changes are anticipated.

5 Impact on DCC Systems, Processes and People

This section describes the impact of SECMP0235 solution on DCC Services and Interfaces that impact Users and/or Parties.

5.1 Security Impact

The implementation will be security assured during the implementation phase. This includes reviewing designs, test artefacts and providing consultancy to the implementation and test teams.

A more detailed security impact will be carried out as part of the Full Impact Assessment.

5.2 Technical Specifications

There will be changes in DUIS and corresponding changes in DUGIDS for the changes in DUIS but no changes required to DUIS schema.

5.3 Integration Impact

An appropriate level of Systems Integration and User Integration Testing (SIT and UIT) will be carried out prior to progressing the release of this change to the Production environment, but this is not included in the PIA. A more detailed integration impact will be carried out as part of the Full Impact Assessment.

5.4 Infrastructure Impact

It is assumed that the additional SRVs are distributed equally over 30 days per month and that the majority of these SRVs will be sent in an 8-hour window or will be scheduled where applicable. The assumed increase in SRV volumes is not material enough to warrant additional infrastructure to be procured that is specific to this Modification.

It should be noted that the aggregated impact of many such changes to the DSP solution will result in a reduction of the available processing headroom assumed as part of the original Agreement. As such, it may be necessary for DSP to raise a Business as Usual (BAU) CR for the provision/ of additional infrastructure to ensure the DCC Total System does not experience performance problems that are the direct result of the accumulation of such changes.

The change does not impact the DSP resilience or Disaster Recovery implementation.

5.5 Service Impact

It is not thought that the change in behaviour of the DCC system from this SECMP0235 will have a material ongoing service impact. A small allowance would be expected to be included for knowledge transfer to the Operations team to ensure that any issues identified can be supported.

A detailed service impact will be completed as part of the Full Impact Assessment.

6 Implementation Timescales and Approach

This Modification is expected to be implemented in a future SEC Release. Design, Build, and PIT is expected to take approximately three months to complete after the CAN is signed.

Details of the implementation will be finalised in the FIA.

6.1 Implementation Approach

Implementation of this change is assumed to follow a hybrid of agile and waterfall methodology. The release lifecycle duration will be confirmed as part of the FIA.

6.2 Testing and Acceptance

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 scope of supply under this PIA includes design, development (build), system testing, and performance testing within the PIT environments.

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional and non-functional requirements as assumed above. The price is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a Full Impact Assessment and as such there may be elements missing from the solution or the solution may be subject to a material change. As a result, the final offer price may result in a variation.

7.1 Design, Build and Testing Cost Impact

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

£	Design, Build and PIT
SECMP0235	£60,000 to £235,000

Based on the existing requirements, the total fixed price cost for a Full Impact Assessment by all impacted (SMETS2+ and SMETS1) Service Providers is **£54,435** and would be expected to be completed in 40 working days.

8 Risk, Assumptions, Issues, and Dependencies

In the following sections, Risks, Assumptions, Issues, and Dependencies have been identified.

8.1 Risks and Issues

Ref.	Assumption	Impact
MP235-R1	Service Providers have provided initial assessment only and need to go through detailed assessment during FIA phase considering cumulative increase in total number of Service Requests from all active Other Users.	This needs to be considered in FIA stage.

8.2 Assumptions

Ref.	Assumption	Impact
MP235-AS1	Additional SRVs will be distributed equally over 30 days per month and that the majority of these SRVs will be sent in an 8-hour window or will be scheduled where applicable.	This needs to be confirmed before FIA stage.
MP235-AS2	DCC has extrapolated the total number of devices for all active (currently 8 as of July 2023) Other Users with the assumption of equal volume will be used by all Other Users.	

8.3 Dependencies

None at this time.

Appendix A: Glossary

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

Acronym	Definition
BaU, BAU	Business As Usual
CAN	Contract Amendment Note
CHF	Communications Hub Function
CR	DCC Change Request
CSP	Communications Services Provider
DCC	Data Communications Company
DS&A	Data Science and Analytics
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
HAN	Home Area Network
GPF	Gas Proxy Function
GSME	Electricity Smart Metering Equipment
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
RAID	Risks, Assumptions, Issues, and Dependencies
ROM	Rough Order of Magnitude (cost)
S1SP	SMETS1 Service Provider
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SLA	Service Level Agreement
SMETS	Smart Metering Equipment Technical Specification
SMI	Smart Metering Inventory
SR	Service Request
SRV	Service Request Variant
SSI	Self Service Interface
UIT	User Integration Testing
WAN	Wide Area Network