

SEC Modification Proposal, SECMP241

Interoperability Checker Update

Preliminary Impact Assessment (PIA)

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1 Executive Summary

The Change Board are asked to approve the following:

- Total cost to complete the Full Impact Assessment (FIA) of £10,000; and
- The timescales to complete the Full Impact Assessment of 40 days.

The total ROM costs to deliver SECMP0241 are £100,000, which includes Design, Build and PIT, with a tolerance of $\pm 20\%$.

Problem Statement

Citizens Advice, as the statutory consumer champion, has a remit to provide independent information and advice to consumers. Citizens Advice offers information on smart meters, including a tool to check whether a SMETS1 Meter is operating in Smart Mode and DCC is mandated by the SEC to provide the data (the Interoperability Checker Service) that is displayed on the Citizens Advice website.

Currently, the Interoperability Checker's results may not reflect a consumer's actual experience with their Smart Meter. The indication of whether a consumer's SMETS1 Meter is operating in Smart Mode is generalised and can lead to confusion for the consumer, since it may be inconsistent with their experience.

The lack of a source of personalised information from an independent source for consumers waiting for a Smart Meter installation also leads to frustration. There is a need to improve this user experience by providing additional information on the likelihood of having a Smart Meter installed.

Benefit Summary

By enabling Citizens Advice to provide personalised results, derived from up-to-date data held by DCC, consumers will benefit from unambiguous and reliable information on whether their SMETS1 Meter is operating in Smart Mode.

By providing independent advice on the likelihood that a SMETS2 Meter can be installed, based on DCC data, Citizens Advice will enable consumers to make more informed choices about Smart Meters.

In both cases, Citizens Advice's own advisers will be better able to support consumers who contact them seeking help and advice with issues relating to energy and smart meters.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
13/10/2023	1.0	Issued

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	Annex A - MP241 Business Requirements v0.1	SECAS	
2	DP241 Modification Report v0.2	SECAS	28/06/2023
3	MP241 - Preliminary Assessment Request	SECAS	14/09/2023

References are shown in this format, [1].

2.3 Document Information

The Proposer for this Modification is Robin Seaby from DCC.

The initial Preliminary Impact Assessment was requested of DCC on 14th September 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 Problem Statement

Currently, the Interoperability Checker's results may not reflect a consumer's actual experience with their Smart Meter. This inconsistency has resulted in misunderstanding among some consumers.

The Interoperability Checker Service has issues with providing accurate information to consumers about their Smart Meter's capabilities and the likelihood of having one installed. The current generalised results are based on Device Model rather than personalised information. This has contributed to misperception and inconsistency in results which can be frustrating for consumers.

The lack of a source of personalised information for consumers waiting for a Smart Meter installation also leads to queries being raised to the DCC. There is a need to improve the Interoperability Checker's user experience and provide additional information on the likelihood of having a Smart Meter installed.

3.2 Business Context and Requirements

The Interoperability Checker Service is a tool available on the Citizens Advice website that advises consumers on whether their Smart Meter is operating in Smart Mode. The tool also informs consumers about which Suppliers they could switch to whilst retaining or regaining Smart functionality on their Smart Metering System (SMS). The data used to populate the Interoperability Checker is based on the Responsible Supplier's indication of which Smart Metering Equipment Technical Specification (SMETS) Device Models it is capable of operating. The Interoperability Checker Service was designed to assist SMETS1 consumers to identify whether their meters would lose functionality if they moved Supplier, as well as helping them to see whether the smart functionality was currently being used.

The Smart Energy Code (SEC) Section H16 'Provision of Data by Suppliers to the DCC' requires the DCC to collaborate with Citizens Advice to provide the tool.

3.3 Business Requirements

Requirement 1: Provide consumers with specific data to indicate whether their smart meter is capable of operating in Smart Mode.

This requirement is to ensure transparency and avoid any confusion. This information would help customers understand the capabilities of their smart meter. Providing clear and concise information would also help customers make informed decisions on whether to upgrade their meter if necessary.

Requirement 2: Provide consumers with specific data to indicate whether their smart meter is currently operating in Smart Mode.

This information would ensure that customers are aware of the current functionality of their meter.

Requirement 3: Provide consumers with specific data as to whether, if they switched Supplier, their meter would continue to operate in Smart Mode.

This information would give customers the confidence to switch providers without worrying about their smart meter capabilities changing.

Requirement 4: Provide consumers with information as to whether their property could have a Smart Meter installed.

This information would enable customers to make more informed choices about availability of having a Smart Meter.

4 Description of Solution

Following analysis of the Requirements above, the DCC proposes the following Solution:

- Coverage data-marts with associated reporting
- Smart mode data-marts with associated reporting
- Supplier operable device model data-marts with associated reporting
- Smart meter take-up data-marts with associated reporting
- Additional DCC API endpoints for smart mode, smart meter take-up and WAN coverage
- Citizens Advice back-end system integration with new DCC API endpoints
- Citizens Advice website development

4.1 DCC Data Science and Analytics (DS&A) Solution

Utilising the coverage datasets provided by the CSPs and Smart Metering Inventory data provided by the DSP, the DS&A team will create and maintain bespoke, automated Extract, Transform and Load (ETL) processes to import the data from our Data Lake and from there create a new data model which can be used to satisfy Requirements 1, 2, 3 and 4.

The data from this data model will be used to create 3 separate reports in csv format that will be consumed by the Interoperability Checker Service ETL applications and loaded to the database.

Report 1 - Requirements 1 & 3

For Requirements 1 & 3, a new report will be created that will be produced each week. The new report will indicate, for each Domestic Energy Supplier, which SMETS1 Device Models it is operating in Smart Mode. To determine this information, DCC will apply the following criteria:

- The Supplier has sent at least one Service Request that targets a Device of that Device Model and that was successfully processed.

Report 2 - Requirement 2

For Requirement 2, a new report will be created that will be produced each day. The new report will indicate, for each Enrolled SMETS1 Smart Metering System, whether the Responsible Supplier is operating that Smart Metering System in Smart Mode. To determine this information, DCC will apply the following criteria:

- The Supplier has sent at least one Service Request within the preceding 30 days (or another period to be confirmed) from a list of SRVs (to be confirmed) that targets the Device and that was successfully processed.

Report 3 - Requirement 4

For Requirement 4, a new report will be created that will be produced each month. The new report will indicate, for each Domestic Premises in GB, whether that premises is covered by the DCC SMWAN and the percentage of the total number of Domestic Premises in the surrounding area (the minimum size of which is to be confirmed, subject to Data Privacy Impact Assessment) at which there is an Enrolled SMETS2 Smart Metering System.

4.2 Critical Software Solution

Utilising the new reports provided by DCC, Critical Software will develop additional Extract, Transform and Load (ETL) serverless applications to be deployed into the DCC Interoperability Checker Service cloud environments. The Interoperability Checker Service database will be modified to hold the data supplied in Reports 2 and 3 (Report 1 contains data of a type already held in the database and so can be processed without impacting the database table structure).

Supplier Interoperability Data (SDID) files containing Device Model interoperability data from Suppliers will no longer be processed and so Suppliers will no longer be required to submit these via the DCC external SharePoint site.

The Interoperability Checker Service API will be modified to include new endpoints for Citizens Advice to request information in relation to Requirements 2 and 4, consumers and additional serverless applications will be developed to fulfil valid requests received at the new API endpoints.

4.3 Citizens Advice Solution

Requirements 1 & 3

In response to a consumer query, the Citizens Advice smart meter checker website currently displays a list of Energy Suppliers who support SMETS1 Meters of the same Device Model as the consumer's Meter, provided by the DCC Interoperability Checker Service API.

DCC's solution to fulfil Requirements 1 & 3 changes how this data is populated in the DCC system, however there is no change to the interface with Citizens Advice.

Requirement 2

Currently, in response to a consumer query, the Citizens Advice smart meter checker website checks whether that consumer's SMETS1 Meter is of a Device Model that's listed as being supported by the Responsible Supplier, as provided by the DCC Interoperability Checker Service API.

To fulfil Requirement 2, the Citizens Advice smart meter checker website will call an additional endpoint to the DCC Interoperability Checker Service API to establish whether the consumer's Meter is operating in Smart Mode, as indicated by Report 2. The result will be presented to the consumer, which will replace the current output derived from the list of supported Device Models.

Requirement 4

Citizens Advice will develop a new user journey for consumers who visit its website seeking information about new Smart Meter installations, directing them to a new section of the website where they will be prompted to enter their postcode and premises identifier.

Using a new API endpoint provided by DCC, Citizens Advice will request SMWAN coverage and Smart Meter take-up information relevant to that address and present back to the consumer.

5 Impact on Systems, Processes and People

As defined the change included in this document is confined to data already within the DCC, with no expected changes impacting SMETS1 or SMETS2 Service Providers.

5.1 Infrastructure Impact

No impact to existing infrastructure.

It should be noted that the solution as proposed should not add noticeable traffic or processing to the Smart Metering System or network.

5.2 Security Impact

The provision of Smart Meter take-up data for the area surrounding a consumer's premises will be subject to a Data Privacy Impact Assessment by DCC, in order to ensure that the definition of that geographical area encompasses a sufficient number of domestic premises that there could be no risk of any breach of privacy for those individuals, while still providing a meaningful response to the consumer.

5.3 DCC Functions and Capabilities

The full range of activities required to implement the new reports including design, development, testing, and implementation would be performed by DCC DS&A utilising in-house contractors and permanent staff.

DCC Enterprise IT will support deployment of the updates to the DCC Interoperability Checker SIT and Prod environments.

DCC Enterprise Testing will execute tests in the DCC Interoperability Checker SIT environment to validate the deployment.

DCC Service Centre procedures and knowledge articles will be updated to reflect the extended scope of the service provided to Citizens Advice.

6 Implementation Timescales and Approach

A key factor in planning and delivering this Modification's implementation and release is that the changes are neither part of the Smart Metering System, nor do they impact any Technical Specifications, such that they can be implemented separate from the now-standard SEC Release dates.

This work should be completed within ten (10) months of approval. This delivery timeline can be considered as two separate parts:

Part 1: Delivery of Requirements 1, 2 and 3 within six (6) months; and

Part 2: Delivery of Requirement 4 within a further four (4) months.

Parts 1 and 2 may be released separately or combined into a single release into Production. Timescales will be further elaborated as part of the Full Impact Assessment.

6.1 Testing and Acceptance

The development and testing will not follow the PIT, SIT, and UIT pattern associated with a conventional SEC Release, and will not require the testing services of the System Integrator, DSP or CSPs.

DCC DS&A and Critical Software will develop and test the required changes in their respective test environments prior to deployment into the DCC Interoperability Checker SIT environment, where DCC will carry out further testing to validate the DCC solution end-to-end.

Citizens Advice will carry out User Acceptance Testing against the DCC Interoperability Checker SIT environment prior to deployment to the Production environment.

Consumer focus groups will be used during the development of website content to ensure clarity and ease of understanding of the information presented.

Further detail on the testing approach will be developed as part of the Full Impact Assessment.

7 Costs and Charges

The table below details the cost of delivering the changes and Services required to implement this Modification Proposal. The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the business requirements.

7.1 Design, Build, and Testing Cost Impact

The table below details the cost of delivering the changes and Services required to implement this Modification. The scope of supply under this PIA includes design, development (build), testing within the Critical Software PIT environment and validation by Citizens Advice against the DCC Interoperability Checker SIT environment.

£	Design, Build and Test
Implement Interoperability Checker Update	£100,000 with a tolerance of +/- 20%

Based on the existing requirements, the fixed price cost for a Full impact Assessment is £10,000 and would be expected to be completed in 40 days.

Appendix A: Glossary

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

Acronym	Definition
BAU, BaU	Business As Usual
CPL	Central Products List
CSP	Communication Service Provider
CSV	Comma Separated Variable
DCC	Data Communications Company
DNO	Distribution Network Operator
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
FIA	Full Impact Assessment
FTE	Full Time Employees
GBCS	Great Britain Companion Specification
GSME	Gas Smart Metering Equipment
I&C	Installation and Configuration
IHD	In Home Display
KPI	Key Performance Indicators
MVP	Minimum Viable Product
OMR	Operational Metrics Review
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
PMR	Performance Measurement Report
PPMID	Payment Meter Interface Device
ROM	Rough Order of Magnitude (cost)
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
SMS	Smart Metering System
SRV	Service Request Variant
SVP	Speed, Volume, Payload
S1SP	SMETS1 Service Provider
TOC	Technical Operations Centre
UIT	User Integration Testing