

SEC Modification Proposal, MP169

DCC CR4896

Managing SEC Obligations and the Consumers Right to refuse a Smart Meter

DCC Preliminary Impact Assessment



Version:	1.1
Date:	1 March 2023
Author:	DCC
Classification:	DCC PUBLIC

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1 Executive Summary

MP169 proposes a set of arrangements to cater for consumers who wish to refuse to have a Smart Meter installed, or who have Smart Meter but wish to prevent their Energy Supplier from collecting consumption data remotely.

Due to the dwindling number of heritage meters in the supply chain, and Energy Suppliers' obligations relating to the installation and operation of Smart Meters, it is generally not an option to install a heritage meter at these consumers' premises.

MP169 will implement a flag in the DSP system to identify where a Smart Meter is to be restricted from operating in a fully smart mode, meaning that Service Requests to retrieve consumption data will be rejected: only Critical, Security and Safety Alerts and Firmware updates will be allowed.

The DSP, CSP North (CSPN), CSP Central and South (CSPC&S) and Critical Software are impacted by this change.

The Change Board are asked to approve one of the following options for Full Impact Assessment:

- Total cost to complete the Full Impact Assessment of £131,423;
- The timescales to complete the Full Impact Assessment of 50 working days; and
- ROM costs for MP169, for setup up to the end of Pre-Integration Testing (PIT) of between £1,291,600 and £1,690,600.

N.B. DCC is challenging the Service Providers' commercial proposals.

Benefits

The benefits of implementing this Modification will be:

- consistent and clear advice to consumers who wish to refuse a Smart Meter – remote retrieval of consumption data can be prevented;
- clarity for Energy Suppliers when dealing with consumers who wish to refuse a Smart Meter – no need to evaluate each case;
- continuity of arrangements for the consumer following Change of Supplier (CoS) – the flag in the DSP system is not reset automatically on CoS.

2 Introduction

2.1 Revision History

Revision Date	Revision	Summary of Changes
10/02/2023	1.0	Issued to SECAS
01/03/2023	1.1	Minor amendments in response to SECAS feedback

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP169 Business Requirements v0.2 [Draft 2]	SECAS	
2	DP169 Modification Report v0.1	SECAS	

References are shown in this format, [1].

2.3 Document Information

The proposer for this Modification is Emslie Law of OVO.

This Preliminary Impact Assessment was requested of DCC on 16 December 2022.

3 Context and Requirements

3.1 Problem Statement

Suppliers are unable to comply with consumer requests to install a smart meter in ‘dumb’ mode. The SEC does not allow for the Devices on the Smart Metering Inventory to be either installed and not commissioned (this is a transient state and not an enduring one) or to fit the meters without also fitting the DCC provided Communications Hub (as reference above in Gas and Electricity Supply Licence Condition 54.9). There is no concept, by design, of fitting a smart meter in ‘dumb’ mode.¹

Suppliers are currently either installing heritage meters or installing the smart meter in ways that are or will cause problems elsewhere.

Some of the factors that will need consideration as part of any solution are:

Additional Issues with non-communicating meters	
Issue for consideration	Details
Any form of Load (Heating / Hot Water / Electric Vehicle)	Any consumer on an Economy 7 tariff (or similar) arrangement relies completely on the Smart Meter communicating.
Change of Mode (Credit to Prepayment and vice versa)	This explicit part of Smart Metering; Prepayment will not work on a meter in dumb mode (or when not communicating)
Eligibility and non-eligibility	Potential Network Managed sites with No Wide Area Network (WAN) and those on specific Radio TeleSwitched regimes must have communications.
‘Dumb’ meters will need manual reads	It is likely Suppliers will no longer have meter reading agents, especially for a Smart Meter, so may need the customer to provide reads themselves. Smart Meter displays contain more screens and information and the potential for the customer reading the wrong data is therefore increased. There are billing implications Smart is designed to address
DCC / Distribution Network Operator (DNO) flagging the meter as non-communicating	These will be ‘invisible’ to the DCC. The DNO currently raise these with the Supplier to ‘fix’.
Supplier taking on a meter not recorded in the Smart Metering Inventory (SMI) as Smart	May require meters to be replaced and incur Premature Replacement Charges.
Industry standard	A new way to manage these installs must be standardised across the industry so that Change of Supplier (CoS) is not impacted, and the new gaining Supplier is aware of the customer preference and situation. There is currently no flag or state to highlight this.
Availability of Heritage Meters	They are no longer being made in some circumstances. Stocks are running low.

¹ Elsewhere in this document, such meters are referred to as Smart Meters that are operating in ‘restricted’ mode.

Supplier Licence Requirements	Supplier Licence requires the Installing Supplier to configure and maintain a tariff on the system
Security and Safety Alerts.	The Smart Metering Solution is designed for these to be provided and sent out. This is part of the Benefits case and solution in place for DNOs.
Critical Alerts	SEC Parties are required to take action on specific critical or mandated Alerts.

3.2 Business Requirements

Ref.	Requirement
1	Suppliers will be able to notify the DCC of the consumer's preference for Smart functionality.
2	A DCC System flag will be created to indicate if communications with a Device have been reduced due to consumer choice.
3	The responsible Supplier will be able to request the addition and removal of the DCC System flag, subject to its adherence with all reasonable steps for Smart installations.
4	Critical, Security and Safety Alerts and Firmware updates will still be sent when communication with a Device has been reduced due to consumer choice.
5	The Data Service Provider (DSP) will notify the Communications Service Provider (CSP) when a DCC System flag has been applied.
6	The DCC to amend any reporting for which the success/failure of Service Requests relating to energy consumption is a metric to allow for exceptions where communications have been reduced due to consumer choice.

Table 1 - Business Requirements

N.B. Requirement number 5 requires system changes for both CSPs, in addition to the DSP. DCC requests that SECAS and the Proposer explore whether requirement 5 is mandatory, as it materially impacts the cost to implement this Modification.

4 Benefits

The Benefits associated with various stakeholders are noted following.

Stakeholder	Benefit
Energy Consumers	Consistent and clear advice to consumers who wish to refuse a Smart Meter – remote retrieval of consumption data can be prevented.
SEC Parties	Clarity for Energy Suppliers when dealing with consumers who wish to refuse a Smart Meter – no need to evaluate each case. Continuity of arrangements for the consumer following Change of Supplier – the flag in the DSP system is not reset automatically.

Table 2 – Benefits

The Business Case will be elaborated as part of the Full Impact Assessment.

5 Impacted Domains

The impacted domains have been identified as follows:

Domain	Impact Summary
DSP	SSI/SSMI DUIS Request Management CSP Management Interface
CSP North	CSP Management Interface Performance Reporting Service Management
CSP Central and South	CSP Management Interface Performance Reporting Service Management
DCC	Service Centre Critical Software

Table 3 – Impacted Domains

6 Impact on DCC's Systems, Processes and People

This section describes the overall solution and the impact of MP169 on DCC's Services and Interfaces that impact Users and/or Parties.

6.1 Description of Solution

6.1.1 DSP Solution

DSP's proposed solution will:

- introduce the concept of a 'Restricted' mode attribute/ flag to applicable device types (SMETS2+ only);
- provide a mechanism via the Self Service Interface (SSI) / Self Service Management Interface (SSMI) whereby a supplier can set (or clear) 'Restricted' mode for a meter (noting that when applied to a GSME then this will also apply to the corresponding Gas Proxy Function (GPF) device);
- add a new message to CSPs (Device Managers) to inform CSPs of changes to 'Restricted' mode for devices;
- add 'Restricted' mode attribute to the following:
 - SSI inventory display of devices;
 - SRV 8.2 (Read Inventory) response; and
 - Device Extracts;
- limit the Service Reference Variants (SRVs) that can be delivered to 'Restricted' devices – the list of allowed SRVs will be configurable;
- amend DUIS interface to add a new ResponseCode to indicate to Service Users where a request has been rejected due to a device being in 'Restricted' mode;
- limit the Alerts that can be delivered from a 'Restricted' device;
- rejected alerts are not to be recorded in the SAT log but will be recorded in a new log solely for the purposes of diagnostics and triage investigations.

6.1.2 Impact on CSP North

The following items are considered within the scope supply for CSP North for delivery of this Modification:

- Design, build, and system test modifications to the CSP North solution to implement Data and Structure changes to Ordering and Logistics, Communications Hub Management, Restricted Mode Management, Network management and other Service Processes and Service Operations, performance measures and service reporting within the CSP North Business Support Systems;
- Testing up to the end of PIT.

6.1.3 Impact on CSP Central and South

The following items are considered with the scope of supply by CSPC&S for delivery of this Modification:

- Design, build and system test modifications to the CSPC&S solution to support the delivery of a solution to allow for the implementation of a Smart Meter with reduced functionality, covering the following:
 - Receive and store an indicator from the DSP (via a system interface) which allows CSPC&S systems to recognise that an individual Comms Hub has reduced smart functionality.
 - Ensure this indicator is visible to service desk users so that any incidents associated to a premise with reduced Smart capabilities can be handled appropriately.
 - Introduce functionality in the performance measure reports to ensure these devices with reduced Smart functionality can be marked as exceptions so that they are not included in the monthly performance measures. This is to ensure CSPC&S's performance is not compromised due to an end user choice that is not under the control of CSPC&S.
- Testing of the CSPC&S solution up to and including the PIT test phase.

6.1.4 Impact on DCC

- DCC will update Service Centre processes and knowledge articles to include verification of and procedures for dealing with 'Restricted' devices as part of Incident triage; and
- DCC will uplift, test and release Parse & Correlate and DCC Boxed software to use the new DUIS schema.

6.1.5 Impact on SEC Parties

SEC Parties will be impacted in the following ways:

- systems and processes for dealing with customers who wish to refuse a Smart Meter and for gaining new customers will need to recognise the need to set and read the 'Restricted' flag; and
- User Systems will need to be uplifted to use the new DUIS schema.

6.1.6 Technical Specifications

DUIS changes to:

- add new ResponseCode for "device use is 'Restricted'"; and
- amend SRV 8.2 Read Inventory response to include 'Restricted' indication.

6.1.7 Impact on the SEC

This will be provided as part of the Full Impact Assessment.

6.1.8 Impact on Security

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

7 Testing Considerations

This section outlines the testing required to complete the Design, Build and Test phases for this SEC Modification.

7.1 Pre-integration Testing

During Pre-Integration Testing (PIT), each Service Provider tests its own solution to agreed standards in isolation of other Service Providers.

The design, implementation, Early Automated System Testing (EAST), System Testing, Performance Testing and Factory Acceptance Testing (FAT) phases will operate as a single phase of activity with a single drop into DSP's SIT-B environment.

FAT will consist of a defined subset of EAST tests being observed by DCC within the final one week of testing. The Schedule 6.2 exit criteria and defect mask will apply for the Pre-Integration Process.

7.2 Systems Integration Testing

Systems Integration Testing (SIT) is the testing of the DCC Total System, which brings together the components, e.g., DSP and CSP Systems, to allow testing of the end-to-end solution by DCC. SIT is carried out for every DCC System release and incorporates the test and integration of multiple changes.

MP169 will be tested in SIT with support from the CSPs. The change affects SMETS2 only. The proposed SIT scope is:

- update devices to/from 'Restricted' via SSML;
- verify the message sent to the appropriate CSP when the restriction status is set/cleared;
- execute a sample of supported SRs to 'Restricted' devices;
- execute a sample of negative tests for unsupported SRs to 'Restricted' devices; and
- verify the following:
 - that supported device alerts are sent to the SU for 'Restricted' devices;
 - that unsupported device alerts are rejected and do not appear on SAT log for 'Restricted' devices;
 - that 'Restricted' status is displayed correctly on the SSI inventory, SR8.2 and device extracts.

7.3 User Integration Testing

The proposed UIT test execution scope for MP169 will cover running the following test suites on two SMETS2 meter sets, with one meter set for each of the CSPs. All SRVs tested will use the updated DUIS version associated with the change.

The UIT testing for each meter set will comprise:

- Customer Journey 1 - Install and Commission the meter set;
- a selected sample of SRV testing to prove the sending of relevant SRVs is not 'Restricted';
- update devices to 'Restricted' via SSML;
- a selected sample of SRV testing to validate that the device behaviour is now being treated as 'Restricted';
- over-the-air firmware updates to the 'Restricted' ESME and GSME to check the upgrades are successful;
- update devices to not be 'Restricted' via SSML;
- re-run a selected sample of SRVs to validate that the device is no longer being treated as 'Restricted';
- decommission the meter set.

The above testing will be conducted in both the UIT-A and UIT-B test environments and will be undertaken by the UIT Projects team.

8 Implementation Timescales and Releases

The system changes for this option will need to be packaged as part of a wider release, the timing of which will be dependent on the priority of this SEC Modification relative to other changes also awaiting scheduling for release.

For the purposes of this Preliminary Assessment, a prudent planning assumption would be that DCC requires a lead time of **9 months** from the date of approval, (in accordance with Section D9 of the SEC) to implement the changes up to and including the PIT complete stage.

Implementation timescales will be confirmed as part of the Full Impact Assessment.

9 DCC Costs and Charges

The table below details the cost of delivering the changes and Services required to implement this Modification Proposal.

Implementation costs, MP169							
Phase:	Design	Build	PIT	SIT	UIT	Implementation to Live	Total
DSP, CSPC&S, CSPN, P&C, DCC Boxed	£1,291,600 - £1,690,600			Not applicable in PIA			£1,291,600 - £1,690,600
Implementation costs – supplementary information							
Implementation cost assumptions	<p>A. Costs are exclusive of VAT and any applicable finance charges</p> <p>B. Majority of the costs above represent labour costs.</p> <p>C. Costs provided for Design, Build and Pre-Integration Testing are quotes provided by the Service Providers and based on current understanding of the requirements. DCC is challenging the technical solutions and costs from the Service Providers to ensure that they represent best value.</p> <p>D. Costs will be refined during future assessments.</p>						
Explanation of Implementation Phases	<p>DCC’s implementation costs are provided by implementation phases. The following describes the purpose of each phase:</p> <ul style="list-style-type: none">Design: The production of detailed System and Service design to deliver all new requirements.Build: The development of the designed Systems and Services to create a solution (e.g. code, systems, or products) that can be tested and implemented.Pre-integration Testing: Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.System Integration Testing: All Service Providers’ PIT-complete solutions are brought together and tested as an integrated solution, ensuring all Service Provider solutions align and operate as an end to end solution.User Integration Testing: Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change.Implementation to Live Costs: The solution is implemented into production environments and ready for use by Users as part of a live service. This service is subject to implementation costs.						

The fixed price cost for a Full Impact Assessment is £131,423 and would be completed in 50 working days.

DSP and CSP Central and South have indicated that they can provide a Full Impact Assessment within 30 working days.

CSP North has indicated that they can provide a Full Impact Assessment within 50 working days.

10 RAID

The risks, assumptions, issues and dependencies below are applicable to both solution options.

Risks

Ref.	Risk Description	Status
MP169-R-001	There is a risk that customers who opt out of smart metering functionality will attempt to block any signals into the CHs which will result in key updates such as firmware updates not occurring. This represents a security risk as the meters and CHs require latest firmware updates to address any security limitations. Firmware versions on 'Restricted' devices should be monitored so that this can be addressed with the customer should there be persistent failures in firmware updates.	Open
MP169-R-002	There is a risk that MP169 cannot be accommodated to meet the requested timeline. This is because CSPC&S is undergoing an internal programme of work to replace its reporting platform in 2023, which means there may be no capacity to include the changes required under this Modification to update the reporting platform. This will need to be assessed during the FIA phase based on the required deployment date, should the decision be made to proceed with the FIA. The timing of when this solution goes live also influences the implementation scope of the solution.	Open

Assumptions

Ref.	Description	Status
MP169-A-001	It is assumed that approximately 750 tests will be executed within the proposed SIT scope.	Open
MP169-A-002	It is assumed that this will form part of the June 2024 release.	Open

Ref.	Description	Status
MP169-A-003	It is assumed that there is no requirement for DCC to suppress the transmission of messages inbound via the SMWAN from 'Restricted' Devices. The controls applied to 'Restricted' Devices will be solely in the form of rejection of specific Service Reference Variants and discarding of specific Device Alerts by DSP.	Open
MP169-A-004	It is assumed that, in the absence of any volumetrics relating to consumers requiring reduced functionality Smart Meters, volumes are significant enough to require an enduring technical solution (e.g. managing exceptions for performance measures). The supply of volumetrics can influence the overall solution implemented under this Modification.	Open

Issues

Ref.	Description	Status
MP169-I-001	The inclusion of a requirement for CSPs to be notified of the 'Restricted' status of devices (requirement number 5) is a significant driver of cost and complexity. DCC requests that this requirement is reviewed by SECAS and the Proposer.	Open

Dependencies

Ref.	Description	Status
MP169-D-001	Prior to accepting a request to produce a Full Impact Assessment, DCC requires direction on whether 'Restricted' is to be modelled as an extra attribute on the Device, or a new Status (like 'Suspended').	Open
MP169-D-002	Prior to accepting a request to produce a Full Impact Assessment, DCC requires the initial list of allowed SRVs and Device Alert Codes.	Open

Ref.	Description	Status
MP169-D-003	Prior to accepting a request to produce a Full Impact Assessment, DCC requires estimated volumes of consumers requiring reduced functionality Smart Meters.	Open

Appendix A: Glossary

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

Acronym	Definition
CR	DCC Change Request
CSP	Communications Services Provider
DCC	Data Communications Company
DSP	Data Service Provider
FIA	Full Impact Assessment
GPF	Gas Proxy Function
I&C	Installation and Commissioning
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
RAID	Risks, Assumptions, Issues and Dependencies
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
SMI	Smart Metering Inventory
SSI	Self Service Interface

SSMI	Self Service Management Interface
UIT	User Integration Testing