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MP192

‘Extend Scheduled Services for SMETS1 Devices’

Modification Report

Version 0.3

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Corporate member of
Plain English Campaign
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About this document

This document is a draft Modification Report. It currently sets out the background, issue, and progression timetable for this modification, along with any relevant discussions, views and conclusions. This document will be updated as this modification progresses.

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This document also has two annexes:

- **Annex A** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex B** contains the full Data Communications Company (DCC) Preliminary Assessment response.

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1. Summary

This proposal has been raised by David Walsh from the DCC.

SEC Appendix AD 'DCC User Interface Specification' (DUIS) defines the individual Service Reference Variants (SRVs) that are eligible for sending as Scheduled Services by Users.

SRV 4.3 'Read Instantaneous Prepay Values' and SRV 4.4.3 'Retrieve Billing Calendar Triggered Billing Data Log', can only be requested on an 'On-Demand' service basis or as a 'Future Dated' service. Eligible Users must send one of these SRVs to the DCC each time the associated data is required. These SRVs are not currently defined in the SEC as eligible for Scheduled Services so Users cannot use SRV 5.1 'Create Schedule' to schedule SRVs 4.3 and 4.4.3 on a repeating frequency. With a Smart Metering Equipment Technical Specifications (SMETS) 2+ Device operating in prepayment mode, Users have access to the Prepayment Daily Read Log and can schedule daily retrieval of this data. There is no equivalent log in SMETS1 Devices.

Running these SRVs using either the 'On-Demand' or 'Future-Dated' service is not practicable or efficient for either the DCC or many Users.

The Proposed Solution is to change SRVs 4.3 and 4.4.3 so they can also be scheduled by Suppliers for SMETS1 Devices using SRV 5.1. As the scheduling capability for SRV 4.3 and SRV 4.4.3 will be applicable for SMETS1 only, the DCC will implement a new error code to notify this validation failure if a Supplier attempts to schedule for SMETS2+ Devices.

This modification's impacts will be limited to the DCC and Suppliers. It is expected to cost £350,000 to £550,000 up to the end of Pre-Integration Testing (PIT). The full implementation costs will be identified in the DCC Impact Assessment. This is a Self-Governance Modification, and the targeted implementation date is the November 2022 SEC Release.

2. Issue

What are the current arrangements?

DCC Services are defined by the SEC. These services are split into different Categories of Service, and Scheduled Services is one of these.

Scheduled Services are defined in SEC Section H 'DCC Services' section 3.11 'Categories of Service':

Services identified in the DCC User Interface Services Schedule to be available as 'scheduled' services, and which a User requests on such basis specifying the initial time and date for execution as well as the frequency at which execution is to recur ("Scheduled Services").

For the purposes of Section H3.11, Scheduled Services, On-Demand Services and Future Dated Services are identified in the DCC User Gateway Interface Specification (DUGIDS).

The DUIS defines the individual SRVs that are eligible for sending by Users as Scheduled Services.

What is the issue?

SRV 4.3 and SRV 4.4.3, can only be requested on an 'On-Demand' service basis or as a 'Future Dated' service. Eligible Users must send one of these SRVs to the DCC each time the associated data is required. These SRVs are not currently defined in the SEC as eligible for Scheduled Services so Users cannot use SRV 5.1 'Create Schedule' to schedule SRVs 4.3 and 4.4.3 on a repeating frequency.

Running these SRVs using either the "On-Demand" or "Future-Dated" service is not practicable or efficient for either the DCC or many Users. To enable the DCC to 'schedule' these additional SRVs, a Modification Proposal is needed to amend the 'Service Request Matrix' contained within the DUIS to define these two SRVs as being able to be DCC Scheduled.

With a SMETS2+ Device operating in prepayment mode, Users have access to the Prepayment Daily Read Log and can schedule daily retrieval of this data (there is no equivalent log for SMETS1 Devices). Therefore, to get accurate prepayment SMETS1 data on a regular basis, most Suppliers would need to send SRVs 4.3 and 4.4.3 as On Demand Service Requests on a frequent, repeat basis.

If all Suppliers were to submit these requests On Demand, high volumes of up to around 2.7 million additional SRVs would be expected. These would likely be requested around midnight each day, at the same time as the highest peak demand is on the DCC Total System. This will create inefficiencies within the DCC Total System processing as using the existing On Demand mode of operation creates large peaks in demand. Without change, supporting these large demand spikes over a relatively short time period, will require additional DCC spend on infrastructure capacity upgrades. This is due to existing infrastructure capacity which will not allow for the DCC to smooth the peaks in demand. However, this proposal would allow this to be achieved by using DCC Scheduled Services over a longer defined time period for the given SRVs.

The DCC estimate of 2.7 million extra SRVs every day came from projections from the DCC SMETS1 team working with the DCC Demand Management team and are based on current and projected levels of enrolled SMETS1 meters when migration is complete.

The projection is based on the following:

- An average of 16% of meters nationally are prepayment (SMETS1 and SMETS2)
- There will be 16 million SMETS1 meters nationally (both Prepayment and Credit)
- Therefore 16% of 16 million is approximately 2.7 million SMETS1 prepayment smart meters, with each one daily read (SRV).

What is the impact this is having?

If these SRVs cannot be changed to run as Scheduled Services, then the DCC will need to invest in additional infrastructure capacity to fulfil an extra around 2.7m SRVs being sent to the DCC Total System by Users every day at midnight.

Without a change, Users would also have to create their own scheduling mechanism for these SRVs within their own systems which would be duplicating effort across the industry.

Impact on consumers

This issue does not impact consumers.

3. Solution

Proposed Solution

The Proposed Solution is to change SRVs 4.3 and 4.4.3 so they can also be scheduled by Suppliers for SMETS1 Devices using SRV 5.1. As the scheduling capability for SRV 4.3 and SRV 4.4.3 will be applicable for SMETS1 only, the DCC will implement a new error code to notify this validation failure if a Supplier attempts to schedule for SMETS2+ Devices.

4. Impacts

This section summarises the impacts that would arise from the implementation of this modification.

SEC Parties

SEC Party Categories impacted			
✓	Large Suppliers	✓	Small Suppliers
	Electricity Network Operators		Gas Network Operators
	Other SEC Parties	✓	DCC

Suppliers

Suppliers will be able to schedule SRVs 4.3 and 4.4.3 instead of having to send these on an on-demand basis.

DCC System

This modification will impact the Data Services Provider (DSP) and SMETS1 Service Providers. The DSP will need to amend the processing to enable creation of SRV 4.3 and SRV 4.4.3 for delivery to the SMETS1 Service Providers after they have been scheduled using SRV 5.1.

As the scheduling capability for SRV 4.3 and SRV 4.4.3 will only be applicable for SMETS1, the DCC will reject request for SMETS2+ and introduce a new error code to notify this validation failure

The full impacts on DCC Systems and DCC's proposed testing approach can be found in the DCC Preliminary Assessment response in Annex B.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 11 'TS Applicability Tables'
- Appendix AD 'DCC User Interface Specification'

The changes to the SEC required to deliver the proposed solution can be found in Annex A.

Technical specification versions

This modification will be implemented in the next Sub-Version of the latest version of DUIS. This is currently expected to DUIS v5.1 with DUIS v5.0 expected to be implemented in the June 2022 SEC Release.

Consumers

This has no impacts on consumers.

Other industry Codes

This modification has no impacts on other industry codes.

Greenhouse gas emissions

This modification has no impact on greenhouse gas emissions.

5. Costs

DCC costs

The estimated DCC implementation costs to implement this modification is £350,000 to £550,000. The breakdown of these costs are as follows:

Breakdown of DCC implementation costs	
Activity	Cost
Design, Build and PIT	£350,000 to £550,000
Systems Integration Testing (SIT)	TBC
User Integration Testing (UIT)	TBC
Implement to Live	TBC
Application Support	TBC

More information can be found in the DCC Preliminary Assessment response in Annex B.

SECAS costs

The estimated Smart Energy Code Administrator and Secretariat (SECAS) implementation cost to implement this as a stand-alone modification is half a day of effort, amounting to approximately £600. This cost will be reassessed when combining this modification in a scheduled SEC Release. The activities needed to be undertaken for this are:

- Updating the SEC and releasing the new version to the industry.

SEC Party costs

If this modification is approved, the central implementation cost will be socialised across all SEC Parties. Also, the scheduling capability of SRVs 4.3 and 4.4.3 for SMETS1 Device will need to be implemented in a new version of the DUIS. As a result, Parties that choose to uplift to this new version will incur additional internal costs to uplift to support new version, but this would include all modifications associated with this uplift.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **3 November 2022** (November 2022 SEC Release) if a decision to approve is received on or before 3 June 2022; or
- **2 November 2023** (November 2023 SEC Release) if a decision to approve is received after 4 June 2022 but on or before 2 June 2023.

The DCC has advised a solution to the issue is needed as soon as possible before Suppliers start to implement their own workarounds. The soonest available DCC Systems impacting release is the November 2022 SEC Release and SECAS is estimating a five-month lead time is required. SECAS notes that a DUIS uplift is already planned for the June 2022 SEC Release so if this approach were approved, this would result in two new versions on DUIS in 2022. However, Parties would not be forced to uplift to this version of DUIS. If there is not enough time to make the November 2022 SEC Release, then the next available DCC Systems impacting release is expected to be on 2 November 2023 (November 2023 SEC Release).

7. Assessment of the proposal

Observations on the issue

The Draft Proposal was presented to the Change Sub-Committee (CSC) for initial comment. Two Suppliers agreed with the issue raised and noted that the DCC had already carried out a Preliminary Assessment to assess a solution before identifying it would require a SEC change. SECAS advised it

would review the requirements with the DCC to determine if the Preliminary Assessment already completed can be used under this modification to save time.

The Supplier Party members advised it should be progressed as soon as possible. As a result, the CSC agreed to progress it forward with the intent of including it in the November 2022 SEC Release.

Solution development

Initial review of the DCC Preliminary Assessment

The DCC completed its Preliminary Assessment prior to the Draft Proposal being raised and shared this during the Development Stage (provided in Annex B). This was discussed at a requirements workshop where SECAS agreed with the business requirement it had been assessed against, as well as the impacts noted with in the assessment.

SECAS noted that Users must be made aware that when scheduling SRV 4.3 or SRV 4.3.3, they may not receive a response for 24 hours.

The DCC noted that as SRV 4.3 or SRV 4.3.3 would only be eligible for Scheduled Services for SMETS1 Devices, a new error code would be needed to cater for any Users that attempted to schedule it for a SMETS2+ Device.

Working Group views

A Working Group member questioned if the SRVs would be rejected if they were scheduled for a SMETS2+ Device. SECAS confirmed they would be rejected, and a new error code introduced for this scenario. A member questioned if SECAS or the DCC were keeping a holistic view on the projects and modifications that have been raised to address DCC infrastructure capacity. Although they agreed there is benefit in MP192, they noted there could be a scenario where due to the number of projects and modifications raised, it may more cost effective to invest in additional DCC infrastructure. The DCC confirmed that the Demand Management Team and the Architecture Team work together to monitor this. The DCC noted that the DCC would ask the Service Providers to include an estimate of 'doing nothing' in the final Impact Assessment.

Members questioned if the modification was looking to address a hypothetical issue or one that has evidence will happen in the future. The DCC agreed to provide their modelling and assumptions (performed in collaboration with the Department for Business, Energy and Industrial Strategy (BEIS)) to be included in the Modification Report. The DCC later advised that the estimate of 2.7 million extra SRVs every day came from projections from the DCC SMETS1 team working with the DCC Demand Management team and are based on current and projected levels of enrolled SMETS1 meters when migration is complete.

The projection is based on the following:

- An average of 16% of meters nationally are prepayment (SMETS1 and SMETS2)
- There will be 16 million SMETS1 meters nationally (both Prepayment and Credit)
- Therefore 16% of 16 million is approximately 2.7 million SMETS1 prepayment smart meters, with each one daily read (SRV).

A member suggested that Suppliers could use SRV 4.6.1 'Retrieve Import Daily Read Log' to access the same data from SRV 4.3 or SRV 4.4.3. However, following investigation the DCC later advised SRV 4.6.1 can be used to collect the register reads, but the prepayment values cannot be returned

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using this SRV. This is requested via SRVs 4.3 and 4.4.3 and the results don't only relate to consumption values for register reads, but also include meter balance, debt register values, accumulated debt values, emergency credit balances etc., that are in addition to the standard register reads showing consumption. SMETS2+ meters have a read log and a separate prepayment read log that contain prepayment specific information and SRV 4.4.3 returns data from both. In SMETS2+, Users can use and schedule SRV 4.14 'Read Prepayment Daily Read Log'. SMETS1 works slightly differently for collecting this data and hence the need for the proposed change.

TABASC views

SECAS summarised MP192 DCC Preliminary Assessment for the Technical Architecture and Business Architecture Sub-Committee (TABASC). A TABASC member commented that given the DCC's expectation of a high level of On Demand SRVs at midnight, if these were spread over a 24-hour period as per the suggested Target Response Time (TRT), it would mean the Devices would be contacted over the same period. Considering this they queried whether Suppliers would require a midnight (or close to) read and whether the TRT should be shorter as a result.

A member queried whether there was demand from DCC Users for the SRVs to be scheduled. Another member clarified that it had previously been a requirement during Enrolment & Adoption from SRVs 4.3 and 4.4.3 to be scheduled but it was subsequently removed, and the programme advised a modification should be raised to implement it instead. They noted that some Suppliers now had workarounds in place given the scheduled services not being available but the question remained as to why it was not to the original DCC SMETS1 implementation.

Support for Change

Both the Working Group and the TABASC agreed the solution met the business requirement and would resolve the issue. However, both groups questioned the business case due to the issue being based on a projection of SRV demand in the future. As a result, both groups sought more detail on the DCC's estimations, to which the DCC later provided and is set in the 'What is the issue' and 'Working Group views' sections above.

Views against the General SEC Objectives

Proposer's views

SECAS noted MP192 would better facilitate SEC Objective (a)¹ by allowing Suppliers to schedule SRVs 4.3 and 4.4.3 for SMETS1 Devices whilst reducing peak demand on the DCC Total System, making for a more efficient process.

Industry views

The Working Group agreed this modification would better facilitate SEC Objective (a).

¹ To facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain.

Views against the consumer areas

Improved safety and reliability

This modification will be neutral against this consumer benefit area.

Lower bills than would otherwise be the case

This modification will be neutral against this consumer benefit area.

Reduced environmental damage

This modification will be neutral against this consumer benefit area.

Improved quality of service

This modification will be neutral against this consumer benefit area.

Benefits for society as a whole

This modification will be neutral against this consumer benefit area.

Appendix 1: Progression timetable

A Refinement Consultation has been issued with responses requested by Friday 4 February 2022. Following this, SECAS will present this modification to the Change Board for approval to undertake a DCC Impact Assessment.

Timetable	
Event/Action	Date
Draft Proposal raised	23 Nov 2021
Presented to CSC for initial comment	30 Nov 2021
Discussed at Requirements Workshop	14 Dec 2021
CSC converts Draft Proposal to Modification Proposal	21 Dec 2022
Presented to Operations Group	4 Jan 2022
Presented to Working Group	5 Jan 2022
Presented to TABASC	6 Jan 2022
Refinement Consultation	13 Jan 2022 – 4 Feb 2022
Update given to CSC	15 Feb 2022

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	Full term
BEIS	Department for Business, Energy and Industrial Strategy
CSC	Change Sub-Committee
DSP	Data Services Provider
DCC	Data Communications Company
DUGIDS	DCC User Gateway Interface Specification
DUIS	DCC User Interface Specification
OPSG	Operations Group
PIT	Pre-Integration Testing
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS	Smart Metering Equipment Technical Specifications
SRV	Service Reference Variant
TABASC	Technical Architecture and Business Architecture Sub-Committee
TRT	Target Response Time
UIT	User Integration Testing