

SEC Modification Proposal, SECMP0304, DCC CR5723

Scheduling Services for SMETS1 Devices (SRV 4.3)

Full Impact Assessment (FIA)

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1 Executive Summary

The Change Board are asked to approve the following:

- Total cost to implement SECMP0304 Scheduling Services for SMETS1 Devices (SRV 4.3) of **£778,793** which comprises:
 - £667,257 in Design, Build, and Pre-Integration Testing (PIT)
 - £111,536 in Implementation, including integration testing and deployment
- Expected effort of nine months to complete with a target release of November 2026.

Problem Statement

The Smart Metering Equipment Technical Specification 1 (SMETS1) Service Reference Variant (SRV) 4.3 'Read Instantaneous Prepay Values' can currently only be requested on an 'On Demand' or 'Future Dated' service basis, and as such, Eligible Users must send one of these SRVs to the DCC each time the associated data is required. As SRV 4.3 is not currently eligible for Scheduled Services for SMETS1 services, Service Users cannot use SRV 5.1 'Create Schedule' to schedule SRV 4.3 on a repeating basis. Due to the nature of SMETS1 Device communication, each 'On Demand' and 'Future Dated' request requires at least one SMS text message to be sent.

This Modification seeks to add the SMETS1 version of SRV 4.3 as a Scheduled Mode of Operation.

Modification Benefits

Setting SRV 4.3 to a Scheduled Mode of Operation will significantly reduce SMS-related charges, resulting in cost avoidance. It will also allow SMETS1 Users to schedule SRV 4.3 on a repeating basis and not require individual SRVs to be sent.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
25/11/2025	0.1	Initial version, for DCC internal review
5/12/2025	0.2	Review complete, published

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	SECMP0304 PIA v0.22	DCC	29/09/2025
2	SECMP0304_Requirements_v0.31	DCC	09/09/2025
3	Business Case for SECMP0304	DCC	29/09/2025

References are shown in this format, [1].

2.3 Document Information

The Proposer for this Modification is David Walsh from the Data Communications Company (DCC).

The Preliminary Impact Assessment (PIA) was requested of DCC on 16th September, 2025, and submitted on the 29th September.

The FIA was requested on 27th October 2025.

3 Context and Requirements

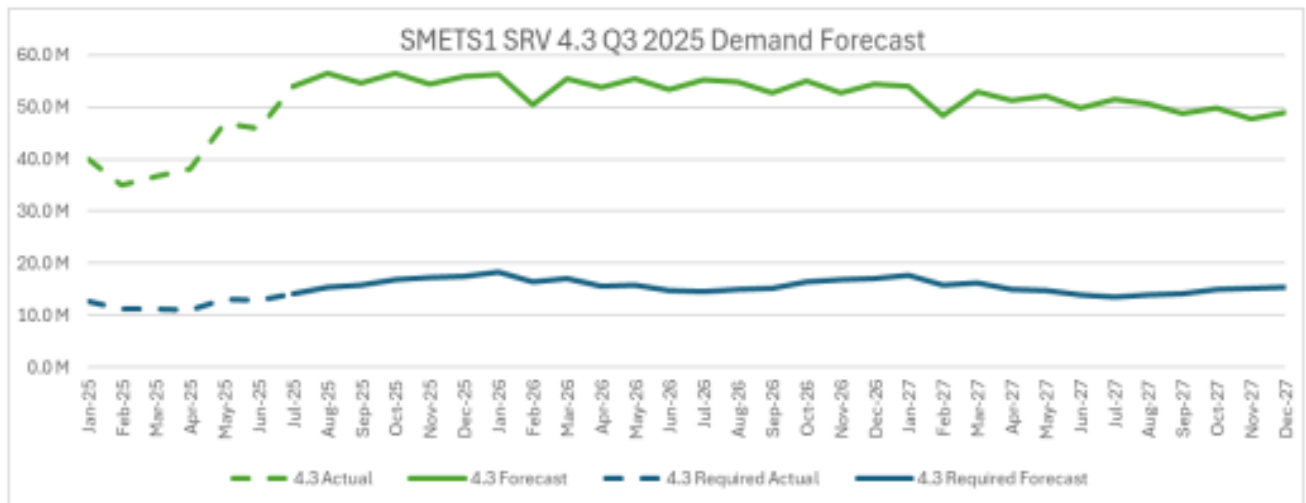
In this section, the context of the Modification, assumptions, and the requirements are stated.

The requirements have been provided by the Proposer.

3.1 What is the Issue?

Smart Energy Code (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. For Smart Metering Equipment Technical Specifications 1 (SMETS1), SRV 4.3 ‘Read Instantaneous Prepay Values’ can currently only be requested on an ‘On Demand’ or ‘Future Dated’ service basis¹. As such, Eligible Users must send one of these SRVs to the DCC each time the associated data is required. As SRV 4.3 is not currently eligible for Scheduled Services for SMETS1 services, Service Users cannot utilise SRV 5.1 ‘Create Schedule’ to schedule SRV 4.3 on a repeating basis.

This results in a high volume of ‘On Demand’ or ‘Future Dated’ SRV 4.3s being requested on a regular, repeated basis. Note that a Future Dated Service Request is for a single command execution. The chart below shows the actual and forecasted volumes of SRV4.3s based on the DCC ‘Q3 2025 Demand Forecast’. In the case of SMETS1, SRV 4.3 volumes are forecast to peak in September 2025 in line with the completion of SMETS1 Enrolment and Adoption. This forecast is based on the total volume of SMETS1 Devices migrated to the DCC and the current proportion of prepayment Devices enrolled. The chart below shows the actual and forecast volumes of SRV 4.3 for SMETS1 based on the DCC ‘Q3 2025 Demand Forecast’.



With the completion of the SMETS1 Enrolment and Adoption programme, SMETS1 devices are now at a peak level of about 12million devices, the number of which is expected to slowly decline as we move towards the expected end of life of those devices.

¹ The “service basis” is termed Mode of Operation in DUIS.

3.2 Impact of the Issue

It should be noted that some SRV 4.3s are required after a customer sends Prepayment Top-Up, resulting in an SRV 2.2, TopUpDevice command. Based on initial customer feedback, the chart above also shows the volume of 'On Demand' and 'Future Dated' SRV 4.3s that are required to run in these Modes of Operation, with the remaining volume being migrated to Scheduled Mode of Operation. This is based on the following assumptions:

- 1) Any SRV 4.3 not sent immediately following an SRV 2.2 is eligible to be moved to Scheduled Mode of Operation.
- 2) Users migrate 80% of all eligible SRV 4.3s to Scheduled Mode of Operation.

Based on the assumptions above, around 74% of all 'On Demand' and 'Future Dated' SRV 4.3s can be moved to Scheduled Mode of Operation. Due to the one-to-one mapping between 'On Demand' and 'Future Dated' SRVs and SMS volumes, this will result in significant cost avoidance for DCC and incurred costs to DCC users.

Please note that the Department for Energy Security and Net Zero (DESNZ) have recently indicated that SMETS1 Devices are likely to not require replacement until 2033².

3.3 Business Requirements

The business requirements are as follows.

Ref	Requirement	MOSCOW
1	Add the Scheduled Mode of Operation to SRV 4.3 'Read Instantaneous Prepay Values' for SMETS1	Must
2	Enable SRV 5.1 'Create Schedule' to schedule SRV 4.3 on a repeating basis	Must
3	Update the SEC to recommend Users to use scheduling Service Requests for SRV 4.3 on SMETS1 Devices when possible	Must
4	Include DUIS Support for Schedulable SRV4.3	Must
5	Enable Management of New Schedules	Must

This solution relates to all cohorts of the Smart Metering Equipment Technical Specification (SMETS) 1 Devices, and will apply to both Electricity Smart Metering Equipment (ESME) and Gas Smart Metering Equipment (GSME).

DCC have also defined a series of Low-Level Requirements based on the requirements above. These will be used for development and testing of the functionality for this Modification. These Low-Level Requirements are included in Appendix B at the end of this document. The Appendix also includes the rationale for the High-Level and Low-Level Requirements [2].

² [Smart Metering Policy Framework – Post 2025: consultation](#)

4 Description of Solution

The Proposed Solution is to update DUIS to allow SRV 4.3 'DCC Scheduled' Mode of Operation. This will enable Eligible Users to setup Scheduled SRV 4.3s to SMETS1 Devices using SRV 5.1. Those schedules will be managed using the existing SRVs 5.1 and 5.2.

As the scheduling capability for SRV 4.3 will be applicable for SMETS1 Devices only, the DSP will implement an error code to notify this validation failure if a Supplier attempts to schedule for SMETS2+ Devices.

While the solution will decrease the number of SRVs each Supplier will have to send, the impact on network capacity from DSP to the SMETS1 Service Providers (and back) will be minimal.

4.1 DSP Technical Solution

The DSP changes for this Modification will involve the addition of SRV4.3 into SRV 5.1 that schedules Service Requests, together with changes to the DUIS schema and DCC User Gateway Design Specification (DUGIDS) documentation.

Scheduling of Service Requests is carried out by using SRV 5.1. In order for SRV4.3 to be scheduled, the structure of SRV 5.1 will need to be changed to include SRV4.3. This requires changes to the DUIS schema. Processing will be changes to enable creation of SRV4.3 for delivery to SMETS1 Service Providers (S1SP) after they have been scheduled using SRV 5.1. A new S1SP XML Schema that references the DUIS schema will need to be created.

The scheduling capability for SRV4.3 will be applicable only for SMETS1. If the DSP receives a request to schedule SRV4.3 for SMETS2 the request will be rejected. The pre-existing error code, E050112, will be returned to the User.

4.1.1 Application Components

The following components of the DSP solution will be updated for this Modification:

- DUIS and DUGIDS Technical Specifications
- Request Management
- Data Management
- S1SP Gateway

Technical Specifications

DUIS and DUGIDS documentation will be updated to describe that scheduling will be supported for SRV4.3 for SMETS1. The DUIS schema will need to be modified to add SRV4.3 to the list of Service Requests accepted by SRV 5.1 for scheduling. The following DUIS extracts provides a view of the changes required.



DUIS Legal Text
changes for SECMP03

DUGIDS changes will be provided as part of the SEC Release cycle.

Request Management

Request Management will be amended to add support for creation of Service Requests on schedule activation of SRV4.3.

The processing of SRV5.1 will be modified to include a validation check to ensure that the scheduling of SRV4.3 is not supported for SMETS2. When this validation check fails error code E050112 will be returned.

Data Management

Data Management will be updated to allow SRV4.3 to be scheduled.

S1SP Interface

The S1SP XML schema used by the S1SP Interface will require uplifting as a result of the changes to SRV5.1 within the main DUIS schema, since this Service Request is passed to the S1SPs in order for them to maintain details of DSP Schedules for SMETS1 devices.

The application changes will allow each S1SP to be individually migrated to the new schema such that the scheduling of SRV4.3 can be enabled separately from the delivery of schedule notifications to the S1SPs.

4.1.2 Infrastructure Impact

The revised DUIS schema to the existing Data Power devices. Network configuration updates will be required at the S1SP Gateways and the incoming F5 controller will need to point to the appropriate DUIS version at the DataPower devices.

There is no impact to infrastructure resilience or the Disaster Recovery (DR) implementation.

Additional processing and storage will be required. However, this additional processing and storage is not sufficiently large to warrant the procurement of additional compute power or storage.

4.1.3 Security Impact

There is no material impact on the DCC Data System security implementation. This change requires some reconfiguration of the F5 Policy Enforcement Point and the loading of new XML schema's for DUIS and S1SP into DataPower which will need to be overseen, and it requires some minor modifications to the Data Management and Request Manager components but does not otherwise affect security functionality.

The Security Assurance team will provide general security oversight of the implementation throughout, in accordance with contractual requirements:

- review test artefacts and outcomes where there is a potential security consideration
- liaise with the DCC as necessary on any security related concerns

No additional Penetration Testing will take place as a result of this change on the basis that:

- there are no material changes to DSP interfaces (DUIS updates are relatively minor and do not pose a security risk)

- there are no material changes to the security implementation
- there is no new infrastructure being introduced

As a result of the above, there is no requirement to update the Protective Monitoring implementation.

It will not be necessary to update any security documentation as a result of this Change.

4.1.4 Other DSP Changes

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

No impact on performance is anticipated, although should be monitored.

No penetration testing will be required, and DSP anticipate no material impact to the DSP security implementation as the solution proposed is making use of pre-set patterns which are security assured.

4.2 DSP2

Changes associated with this Modification have already been lined up to add to the DSP2 (Future DSP) requirements. The DSP2 team have indicated the changes as described for As Is DSP can be included at no charge, with similar impact on testing.

4.3 CGI Instant Energy

The following CGI Instant Energy (CGI IE) changes will be made.

Allow SRV 4.3 to be DSP Scheduled	On receipt of a DSP Scheduled SRV4.3, a validation check ensures the SRV is applicable to Command Variant 9 and returns an S1SP Alert S1VE12 to the User if invalid. Develop and test a database update script to add standing data to the “security module” component database, to allow SRV 4.3 to be processed as a DSP Scheduled Request. Uplift internal schema definitions to support the DUIS changes required for Scheduling SRV 4.3.
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4.3.1 Service User Notes

The CGI IE solution has up to twenty-four (24) hours to process Service Requests received with Command Variant 9. This period supports scenarios where communication cannot be established, and the Service Request is put into long retry. In these cases, responses for a DSP Scheduled SRV 4.3 could be returned up to twenty-four (24) hours after the request is submitted and are not instantaneous but accurate when the response is sent.

4.3.2 Retry Handling

For the DSP Scheduled SRV 4.3, the solution will use the current default long retry policy configured to retry every two (2) hours, up to a maximum of twelve (12) attempts. For each long retry, the normal pattern of short retries will also occur.

4.3.3 Other Impacts on Overall Solution

In the same way as the DSP solution, there will be no impacts on performance, resilience, disaster recovery, security, or infrastructure.

An internal change will support the DUIS schema changes.

4.4 Secure Software

The Secure changes will set the required schedule on the end Devices using SRV5.1 and implement the SRV4.3 with Command Variant 9.

The following component changes will be required to support scheduled SRV 4.3:

Request Manager, Validation, Transform, Schedule Transform, Schedule Request	Response services will be modified to implement SRV 4.3 using existing design patterns. In addition, manage schedules with SRV5.1 and 5.3
Database:	Modification in DB tables to execute SRV 4.3 and also store data against scheduled 4.3. Existing database design will be used to design and implement schedule DB tables and fields to store data for SRV 4.3. Other database tuning to maintain or enhance DB performance.
Schedule Manager	Interpret prepay data, account balance required for SRV 4.3 received against SRV 5.1 for midnight snapshot data. Store above data in DB.
Response Builder	Handle message received from Schedule Request function for SRV 4.3
Management Interface	Delete schedule as required.
Performance Testing	Check for scheduled and on demand SRV4.3
Infrastructure	Additional hard disk storage is required for scheduled SRV4.3. DCC is challenging the disk sizing and operational costs associated with this change

4.5 Trilliant

For S1SP to support receiving and processing scheduled SRV4.3, no processing change is required. This request is non-critical so Trilliant is not required to verify the Command Variant of the incoming SRV.

Trilliant will need to uplift their solution to the new DUIS schema such that the software complies with the latest version. It is expected that the following will need uplifting to the latest versions, as they are inter-related:

- SMWAN Gateway Interface Specification
- SMWAN schema
- DUIS specification
- DUIS and associated MMC schema

Associated microservices in the Trilliant solution will require some updating.

4.6 Changes to DS&A Reporting

A small charge has been included to cover reporting changes for this Modification. The design for the DS&A reporting to meet the detailed requirements above and associated testing will take place as part of the detailed design phase of implementation.

4.7 Impact on Users

In order to take advantage of this Modification, and use Scheduled SRV4.3 for SMETS1 Devices, Users will have to uplift to the new version of DUIS. In addition, Users will need to make changes to their own systems to switch from using the On Demand Mode of Operation.

5 Implementation Timescales and Approach

DCC anticipates the change will be implemented in the November 2026 SEC Release. A provisional plan for the SEC Release is as follows:

- PIT design and implementation phase is expected to commence in late January 2026 and complete at the end of April 2026
- SIT preparation and execution is expected to commence in May 2026 and complete at the end of August 2026
- UIT preparation and execution is expected to commence and complete in September 2026
- SEC System Release in November 2026

5.1 Pre-Integration Testing

Each Service Provider will carry out Pre-Integration Testing (PIT) in their own environments against their systems.

DSP PIT testing will include testing both existing updated DSP Use Cases, and new Use Cases developed for SECMP0304 to reflect DUIS and infrastructure changes in impacted environments. Automated testing will be used where possible, and no performance testing is required for this change.

DCC are challenging the levels of PIT testing required for this Modification.

5.2 System Integration Testing

This System Integration Testing (SIT) response and costs cover only activities and deliverables that are specific to functionality in this Modification. The SIT team will plan, prepare, and execute testing to verify the successful implementation of DSP schedulable SRV4.3 across all three (3) S1SPs aligned with each operating cohort. There is no expected requirement for a SMETS2+ device set beyond a small set of negative testing.

A summary of the scope for Solution Testing will comprise:

- creating SRV4.3 DSP Schedule and verifying their subsequent execution and response over a number of days, ensuring data is returned as expected
- verifying that SRV4.3 DSP Schedule can be read with SRV5.2 and deleted with SRV5.3
- verifying that functionality is as expected across a number of Business Scenarios:
 - Meter Reading
 - Change of Supplier
 - Change of Mode
- submitting SRV4.3 DSP Schedule on a SMETS2+ Comms Hub device set and verifying that an error is returned accordingly

Across all of these tests, SRVs will be submitted by (simulated) Users, making use of the new DUIS schema version. The number of tests and durations for the functional SIT testing is expected to be as follows.

Test Phase	Type	Total Tests	Workdays	Envir Avail	Net Days	Re-Test	Total Test
Scheduling SRV 4.3	Automated	96	40	85%	34	1.4	134
Scheduling SRV 4.3	Manual	1	40	85%	34	1.4	1
Totals/Averages		97					135

5.3 User Integration Testing

User Integration Testing (UIT) will verify the successful implementation of the DSP schedulable SRV4.3 capability across all three (3) S1SPs. The following scope of functional Pre-IT testing will be undertaken in each UIT environment for each SMETS1 cohort:

- a Service User will create a schedule (using SRV5.1) for daily SRV4.3 instantaneous reads of prepay values from an ESME device and verify that the schedule is created (SRV5.2)
- verify that the scheduled reads are successfully executed at the scheduled time over the following two Working Days
- delete the schedule using SRV5.3

The testing in each UIT environment will cover Service Users in each of the different Eligible User roles across the three (3) SMETS1 cohorts to maximise test coverage (one user/test per cohort) as follows:

Test Type	Cost per Test Categorisation	Type	Number of Tests	Re-Test Factor	Total Tests	Notes
Functional (SMETS1)	Complex	Manual	0	1.4	0	
Functional (SMETS1)	Medium	Manual	3	1.1	3	1 IOC, 1FOC, 1MOC (3 Schedules)
Functional (SMETS1)	Simple - SRs	Manual	1	1.1	1	
SMETS1 Regression	Regression Test Packs - SRs	Automated	858	1.1	944	3 SMETS1 Test Packs
Functional (SMETS2)	Complex	Manual	0	1.25	0	
Functional (SMETS2)	Medium	Manual	0	1.1	0	
Functional (SMETS2)	Simple - SRs	Manual	0	1.1	0	
SMETS2 Regression	Regression Test Packs - SRs	Automated	0	1.1	0	
			862		948	

6 Costs and Charges

This section indicates the costs for all phases of application development for this Modification. Note these costs assume a release of just this SEC Modification without any other Modifications or Change Requests in the release, and without the regression testing required during the Integration Testing, which is not truly reflective of the post-PIT test costs. A separate estimate of these costs is provided by DCC.

A detailed calculation of the Release costs will be carried out through a "Release CR" also referred to as a "Post-PIT CR" when the contents of the targeted SEC Release are finalised.

It should be noted that DCC have negotiated a significant cost reduction with Secure on this Modification which has been applied to the figures below. In addition, DCC are challenging several facets of the Service Providers' costs.

£	Design, Build, and PIT	Integration Testing, SIT and UIT	TTO	Application Support	Total
SECMP0304	667,257	103,554	5,354	2,628	778,793

Design	The production of detailed System and Service designs to deliver all 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 (PIT)	Each Service Provider tests their own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.
Systems Integration Testing (SIT)	All the Service Provider's PIT-complete solutions for a Release are brought together and tested as an integrated solution, ensuring all SP solutions align and operate as an end-to-end solution.
User Integration Testing (UIT)	Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change.
Implementation to Live (TTO)	The solution is implemented into production environments and made ready for use by Users as part of a live service. Activities will include; checking all application services are running and available, checking application component connectivity, and •checking logs for errors.
Application Support	The Application Management Support team is responsible for the provision of application level support for the DCC Total System. It is assumed that this Change will not result in a material increase in support required, although an allowance has been included to allow

knowledge transfer to the AMS team to ensure that issues can be supported.

6.1 Changes to the Agreement

This SECMP0304 will be approved through a CAN. The contract updates will be detailed within the CAN for each Service Provider and will impact the following schedules:

- Schedule 2.1 (DCC Requirements): update to reflect the addition of new DCC Requirements
- Schedule 3 (DCC Responsibilities): update to reflect the addition of new DCC Responsibilities
- Schedule 4.1 (Contractor Solution): Solution Design documents will need to be updated
- Schedule 6.1 (Implementation Planning): addition of new Milestones
- Schedule 7.1 (Charges and Payment): revisions to incorporate the charges and payment applicable for SECMP0304

There will be no updates to any other schedules not listed above as a result of this Change (including Schedule 2.2 (Performance Measures and Monitoring)).

Appendix A: Glossary

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

Acronym	Definition
CAN	Contract Amendment Note
CGI IE	CGI Instant Energy
CR	DCC Change Request
DCC	Data Communications Company
DESNZ	Department for Energy Security and Net Zero
DR	Disaster Recovery
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
GSME	Gas Smart Metering Equipment
MMC	Message Mapping Catalogue
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS	Smart Metering Equipment Technical Specification
SMS	Short Message Service aka Text Message
SR	Service Request
SRV	Service Reference Variants
S1SP	SMETS1 Service Provider
UIT	User Integration Testing

Appendix B: Low-Level Requirements for SECMP0304

The following Low-Level Requirements have been defined for this Modification.

1. MP304_LLRL_001: Add the Scheduled Mode of Operation to Service Reference Variant (SRV) 4.3
2. MP304_LLRL_002: Enable SRV 5.1 to schedule SRV 4.3 on a repeating basis
3. MP304_LLRL_003: Users should use Scheduled Services for SRV 4.3 when possible
4. MP304_LLRL_004: Include DUIS XML Schema support for changing SRV 4.3 to a Schedulable Mode of Operation
5. MP304_LLRL_005: Include DUIS XML Schema support for changing SRV 5.1 to support Scheduling of SMETS1 SRV 4.3
6. MP304_LLRL_006: Include DUIS XML Schema support for an error if Users attempt to Schedule SRV4.3 for a SMETS2 Device
7. MP304_LLRL_007: Enable DUIS XML Schema support for Viewing New Schedules
8. MP304_LLRL_008: Enable DUIS XML Schema support for Deleting SRV 4.3 Schedules



SECMP0304_Requirements_v0.31.xlsx

The full requirements and supporting rationale are included in this file: