

SEC Modification Proposal, SECMP0318, DCC CR5853

**Incorporation of Category 3 Issue Resolution
Proposal into the SEC – Batch 12 and GBCS
Changes**

Preliminary Impact Assessment (PIA)

Version:	0.2
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Contents

1	Executive Summary	3
2	Document History	3
2.1	Revision History	3
2.2	Associated Documents	3
2.3	Document Information.....	3
3	Context and Requirements	4
3.1	Problem Statement	4
3.2	Business Requirement	4
3.3	Prepayment Process and IRP667 Details	4
4	Description of Solution	5
4.1	DSP Changes	5
4.2	Communication Service Provider Changes	5
4.3	Critical Software	5
5	Implementation Timescales and Approach.....	7
6	Costs and Charges.....	7
	Appendix A: Glossary	8
	Appendix B: IRP Details	8

1 Executive Summary

The Change Board are asked to note:

- Communication Service Providers (CSPs) have identified no impact from Issue Resolution Proposal (IRP) 667 if included in the next Release
- The addition of a small GB Companion Specification (GBCS) Uplift would normally require a small effort by the DSP and Critical Software, and could be included in a Maintenance Release or SEC Release
- ROM costs for SECMP0318 up to include Design, Build and PIT of up to £10,000, with anticipated Integration Testing and Implementation costs of about £15,000
- Costs to produce a Full Impact Assessment (FIA) of £10,560

Problem Statement and Solution

To apply a Prepayment top-up to a meter, a Unique Transaction Reference Number (UTRN) is sent to the target Device. Every UTRN in the Prepayment top-up process is unique and can only be used once. The meter will verify the UTRN and reject any duplicate UTRN. If the target meter detects a duplicate UTRN, then it neither sends a message to the energy Supplier, nor a message to the Prepayment Meter Interface Device (PPMID). In this case, neither the Supplier nor the consumer receives any warning or feedback about the top-up failure.

Benefits

These changes will enhance the Consumer experience by providing notification when a duplicate UTRN has been entered.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
14/04/2026	0.1	Initial version, DCC and DSP review
15/04/2026	0.2	Reviewed and published

2.2 Associated Documents

This document is associated with the following document:

Ref	Title and Filename	Source	Issue Date
1	DP318 Modification Report v0.1.pdf	SECAS	10/03/2026

References are shown in this format, [1].

2.3 Document Information

The Proposer for this Modification is David Walsh of the Data Communications Company (DCC). The proposal was submitted on 10th March 2026. A Preliminary Impact Assessment (PIA) was requested of DCC on 2nd April 2026.

3 Context and Requirements

The problem statement and requirement have been provided by SECAS and the Technical Specification Issue Resolution Sub-group (TSIRS).

3.1 Problem Statement

IRPs identify issues within the SEC Technical Specification documents and put forward a solution to the identified problem. The IRP667 details are included in **Error! Reference source not found.** at the end of this document, and reflects the issue, background information and details of the solution that has been discussed and agreed at TSIRS.

3.2 Business Requirement

Req.	Requirement
1	The following IRP shall be included in GBCS) v4.x series: IRP667 'Duplicate UTRN entry on PPMID'

Table 1: Business Requirement for SECMP0318, CR5853

Both requirements are applicable to Electricity Smart Metering Equipment (ESME) and Gas Smart Metering Equipment (GSME) for both Smart Metering Equipment Technical Specification (SMETS)1 and SMETS2+ Devices.

3.3 Prepayment Process and IRP667 Details

In general, the following methods can be used to apply a Prepayment top-up to a meter:

- an energy Supplier can send the UTRN directly to the meter using a Service Request
- a consumer can enter the UTRN at the meter
- a consumer can enter the UTRN at the PPMID which forwards the UTRN to the meter

Each UTRN is unique and can only be used once; the meter will verify the UTRN and reject any duplicate UTRN. Where a UTRN has been sent from the PPMID to the meter and has passed all checks, the meter will apply the UTRN and send two messages:

1. the first informs the energy Supplier of the successful top-up
2. the second is sent back to the PPMID informing the consumer of the successful top-up

If the meter detects a duplicate UTRN, then it neither sends a message to the energy Supplier, nor a message to the PPMID. In this case, the consumer does not receive feedback about the top-up failure.

The IRP will resolve the ambiguity in GBCS relating to the duplicate entry of an UTRN via the PPMID, by separating the generation of the two messages. If the consumer then enters a UTRN on the PPMID, which the meter identifies as a duplicate, the meter will not send a message to the energy Supplier, but it will send a message back to the PPMID indicating the UTRN has been identified as a duplicate. The PPMID will then display a 'Rejected-Duplicate Top Up' message on its screen, ensuring that the consumer is informed that the top-up failed.

4 Description of Solution

This section describes the DCC approach to supporting the included IRP in a future GBCS 4.x version, and notes potential Service Provider changes to accommodate this change.

4.1 DSP Changes

A new version of GBCS (4.x) is required that supports the IRP, and the DCC Total System need changes to support any new version of GBCS. Support for the new version is achieved by updating DSP reference data. There are no changes to the way GBCS commands are built.

Any changes required for a new GBCS version can be accommodated in the DSP by relatively minor changes as follows:

- The Central Products List (CPL) processing needs to recognize the new GBCS 4.x as a valid GBCS version
- Service Request processing requires mappings of GBCS Use Cases for GBCS v4.x

DSP must record the full GBCS version from the CPL and create a mapping table for each GBCS version.

This is a relatively minor change for either the As Is DSP and/or Future DSP, and could be included in a Maintenance Release or SEC Release with other GBCS changes. The work would be carried out as a Small Change Request Release, which while being not directly charged to SEC Parties would result in a small increase of DCC costs.

4.2 Communication Service Provider Changes

Adding this IRP to a future GBCS 4.x release will not have any impact on Comms Hubs or Comms Hubs firmware and consequently CSPs, with a minor change to documentation and no integration testing required.

4.3 Critical Software

The main change related to this IRP is that when a duplicate UTRN is detected, a Home Area Network (HAN)-Only Response must be returned to the PPMID using the defined result type 0x02, Rejected-Duplicate Top Up. Although this result type is defined in GBCS, it is not currently implemented and therefore requires targeted updates.

In much the same way as the DSP, a change to support a new version of GBCS 4.x would also be required. While the change is minor, it would require effort and cost to include it in a Maintenance or SEC Release although the impact would be shared if a Release incorporated other GBCS change(s).

Coding changes in detail would include:

- Add UTRN Counter Cache to GSME and ESME configuration, GBCS integration testing For Industry (GFI) emulators and the GFI testing tool
- Check the UTRN Counter against the UTRN Counter Cache - support for result type 0x02, Rejected Duplicate Top Up
- Update the UTRN Counter Cache on Prepayment Top Ups

- Clear UTRN Counter Cache on Change Control
- Integrate the updated emulators into DCC Boxed

Changes to the GFI emulators, GFI, and DCC Boxed are usually carried out during the Implementation of a change. Although the GFI testing tool code will be updated, no standalone GFI Release is currently planned, as future delivery of this functionality is expected to be provided via DCC Boxed. Nevertheless, any future release of GFI would include this change.

Testing requirements include tests to validate:

- Correct validation against UTRN counter cache (duplicate UTRN validation)
- Clearing of counter cache on change control
- No regression in non-duplicate UTRN scenario
- Selected regression testing in GFI (manual and automatic)
- Full regression testing in DCC Boxed (manual and automatic)

Implementation costs are based on DCC Boxed distribution.

5 Implementation Timescales and Approach

Notwithstanding in which release this change is implemented, and based on the currently stated requirements, the effort for DSP and Critical Software implementation will be less than four (4) weeks to design, develop, test, and implement following the provision of full commercial cover, as part of the CAN signature process.

The release lifecycle duration will be confirmed as part of any FIA, or as part of the Maintenance Release definition. In the latter case, no FIA would be required

6 Costs and Charges

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

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional requirements as assumed now. The price is not an offer open to acceptance. This change has not been subject to the same level of analysis that would be performed as part of a FIA 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.

The table below details the cost of delivering the changes and Services required to implement this Modification in a SEC Release. *For a PIA, only the Design, Build, and PIT indicative costs are supplied.*

£	<i>Design, Build and PIT, DSP Cost Range</i>
SECMP0290	<i>£0 - £10,000</i>

Design	The production of detailed System and Service designs 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. It includes Unit Testing (also referred to as System Testing), Performance Testing and Factory Acceptance Testing by the Service Provider or supplier.
Pre-Integration Testing (PIT)	Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.

It should be noted the costs of any further additions to the GBCS 4.x version could be absorbed into the costs for other changes.

If there is a decision to approve this PIA, DCC notes that the costs for a Full Impact Assessment would be likely to be close to the costs to implement, although there would also be no significant extra post-PIT costs to be added. The expected costs for production of a FIA for Critical Software is £10,560 with DSP costs included in a Small Change Release.

Appendix A: Glossary

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

Acronym	Definition
CPL	Central Products List
CR	DCC Change Request
CSP	Communications Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
ESME	Electricity Smart Metering Equipment
FIA	Full Impact Assessment
GBCS	GB Companion Specification
GFI	GBCS integration testing For Industry
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
IRP	Issue Resolution Proposal
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
PPMID	Prepayment Meter Interface Device
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specification
TSIRS	Technical Specification Issue Resolution Sub-group
UTRN	Unique Transaction Reference Number

Appendix B: IRP Details



IRP667%20Duplicat
e%20UTRN%20entry