

SEC Modification Proposal, SECMP0290, DCC CR4653

Incorporation of Category 3 Issue Resolution Proposal into the SEC – Batch 11 and GBCS Changes

Preliminary Impact Assessment (PIA)

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1 Executive Summary

The Change Board are asked to note:

- Service Providers have identified no impact from Issue Resolution Proposals (IRP) 665 if included in the next Release.
- The addition of the Non-GBCS Non-Mandated (NGNM) Alerts in a GB Companion Specification (GBCS) Uplift would normally require a small effort by the DSP, but will be included in a separate change, and hence there will be no effort required.
- ROM costs for SECMP0290 up to the end of Pre-Integration Testing (PIT) of up to £10,000 if included in a SEC Release

Problem Statement and Solution

Issue Resolution Proposals (IRPs) identify issues within the SEC Technical Specification documents and put forward a solution to the identified problem.

For IRP665, certificates applied to Devices during manufacturing have been validated and are stored as credentials in the Trust Anchor Cells in the Device. If these Certificates need replacing during commissioning or if the Certificate credentials expire, a replacement Certificate will be required. Replacements certificates are applied through the 'Update Security Credentials' command, i.e., Service Reference Variant 6.15.1, 6.15.2, and 6.23, and are subject to Certification Path Validation (CPV).

NGNM Alerts table Device Alerts are unsolicited messages sent by Devices to DCC Users. These new non-mandated Alerts were captured in the GBCS Table 16.2 following the November 2021 SEC Release.

The IRP change is solely document-based. Both DSP and Critical Software minor changes are required to support a new version of GBCS with the NGNM Alerts. However, these changes might be accommodated by other DCC programmes, in a later Release and no charge is anticipated.

Benefits

Ensuring that CPV is only applied to replacement Certificates avoids any unnecessary time or effort during manufacturer testing. The aim of this proposed change is to emphasise that CPV only applies to the replacement Certificates and does not apply under any circumstance to existing Certificates held as credentials in Trust Anchor Cells.

Manufacturers can implement their own Alerts provided they follow the definitions given by GBCS with regards to the format and the actual Alert Code (the hexadecimal number). The benefits of the NGNM process and the listing of NGNM Alerts in GBCS are:

- Formal approval of the Alert by Technical Specification Issue Resolution Sub-Group (TSIRS)
- Controlled Alert Code assignment
- Single source for all Alerts for all interested parties like DCC Users

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
27/05/2025	0.1	Initial version, DCC and DSP review
29/05/2025	0.2	Reviewed and submitted

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Filename	Source	Issue Date
1	DP290 Modification Report v0.1.pdf	SECAS	24/04/2025

References are shown in this format, [1].

2.3 Document Information

The current Proposer for this Modification is David Walsh of the Data Communications Company (DCC). The proposal was submitted on 8th April 2025.

A Preliminary Impact Assessment was requested of DCC on 7th May 2025.

3 Context and Requirements

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

The problem statement and requirements have been provided by SECAS and TSIRS.

3.1 Problem Statement

IRPs identify issues within the SEC Technical Specification documents and put forward a solution to the identified problem. The IRP665 details are included in Appendix B: IRP Information at the end of this document, and reflects the issue, background information and details of the solution that has been discussed and agreed at the Technical Specification Issue Resolution Sub-group (TSIRS). This is an integral part of the SEC Modification.

This Modification also includes an update to the NGNM Alerts table in the GBCS. Device Alerts are unsolicited messages sent by Devices to DCC Users. GBCS lists and defines the structure of these Alerts, distinguishing between mandated and non-mandated Alerts. GBCS Parse and Correlate software allows any new non-mandated Alerts of the right format (as specified by the GBCS) sent by Devices to be passed to the DCC User. These new non-mandated Alerts were captured in the GBCS within Table 16.2 following the November 2021 SEC Release. Any new non-mandated Alerts are captured temporarily in a register until they are adopted by the SEC.

3.2 Business Requirement

Req.	Requirement
1	The following IRP shall be included in GBCS) v4.x series: IRP665 'Certification Path Validation clarification'
2	Include further Non-GBCS Non-Mandated Alerts currently held in the SECAS NGNM List into GBCS Table 16.2

Table 1: Business Requirement for SECMP0290, CR4653

Both requirements are applicable to SMETS2 Devices only.

3.3 Scope and Impact

3.3.1 IRP665

Certificates applied to Devices during manufacturing have been validated and are stored as credentials in the Trust Anchor Cells in the Device. If these Certificates need replacing during commissioning or if the Certificate credentials expire, a replacement Certificate will be required. Replacements certificates are applied through the 'Update Security Credentials' command, i.e., Service Reference Variant 6.15.1, 6.15.2, and 6.23, and are subject to Certification Path Validation (CPV). This process only applies to replacement certificates as any original certificates in the Trust Anchor Cells would have been previously validated. Ensuring that CPV is only applied to replacement Certificates avoids any unnecessary time or effort.

During testing, there was some uncertainty as to the circumstances under which CPV occurs. The drafting changes proposed are to clear up any ambiguity there may be regarding the circumstances under which CPV occurs. The aim of the IRP is to emphasise that CPV occurs *only* when an Update Security Credentials Command is received and applies *only* to the replacement Certificates contained within the Command. CPV does not

apply under any circumstance to existing Certificates held as credentials in Trust Anchor Cells.

3.3.2 NGNM (Non-GBCS Non-Mandated) Alerts

NGNM table Device Alerts are unsolicited messages sent by Devices to DCC Users. The GBCS lists and defines the structure of these Alerts, distinguishing between mandated and non-mandated Alerts. The Parse and Correlate software (P&C) allows any new non-mandated Alerts of the right format (as specified by the GBCS) sent by Devices to be passed to the DCC User. These new non-mandated Alerts have been captured in the GBCS within Table 16.2 following the November 2021 SEC Release. Any new non-mandated Alerts are captured temporarily in a register until they are adopted by the SEC.

Manufacturers can implement their own Alerts provided they follow the definitions given by GBCS with regards to the format and the actual Alert Code (the hexadecimal number). GBCS is silent about how Alert Codes are assigned to manufacturer specific Alerts. In particular it is important to avoid the use of the same Alert Code for different purposes by different manufacturers.

The NGNM process had been established to allow for manufacturers to apply for Alert Codes: This avoids the issue of duplicate Alert Codes for different purposes, it allows consecutive number of Alert Codes, the meaning of Alerts are documented. The NGNM Alerts are presented to TSIRS for approval. Once an Alert Codes has been assigned and approved, it is then published on the SECAS website so that all interested parties can have access to the information. The Alert Codes established via the NGNM process are usually not tied to a particular GBCS, SMETS or CHTS version, they are rather specific to the Device firmware version of the manufacturer supporting the Alert.

From time to time the NGNM Alert Codes are added to the GBCS Table 16.2 (and removed from the SECAS NGNM Alerts list); this has the benefit that Manufacturers, Suppliers, the DCC, and other DCC Users (e.g. DCC Adaptors) have a single source document which lists all the Alerts which can be generated by a Device.

The benefits of the NGNM process and the listing of NGNM Alerts in GBCS are:

- Formal approval of the Alert by TSIRS
- Controlled Alert Code assignment
- Single source for all Alerts for all interested parties like DCC Users

A listing of the four (4) new Alerts is given in a spreadsheet in Appendix A.

4 Description of Solution

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

4.1 DSP Changes

A new version of GBCS (4.x) is required that supports the IRP and the NGNM Alerts. The DCC Data System will need to support the new version of GBCS. Support for the new version is achieved by updating DCC Data System 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 some relatively minor changes. DSP changes to support the GBCS 4.x for CPL validation and Command creation are 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, and can be included in a Maintenance Release with other GBCS changes. There would be no charge to SEC Parties for this update.

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, with a minor change to documentation and no integration testing of the changes in SIT or UIT required.

The increased number of NGNM Alerts, and their frequency of usage is so low that any increase in traffic is likely to be undetectable.

4.3 Critical Software

While Critical Software noted that there might be an impact on both Parse & Correlate and DCC Boxed related to the inclusion of NGNMs in a Release, the IRP itself change will not have an impact.

The change for the NGNM Alerts is relatively minor, as the P&C software and DCC Boxed do not read or process the Alerts in any way, but there is functionality to filter Alerts that would be impacted.

A change to support a new version of GBCS 4 would require a minor change. While the changes are relatively minor changes, it would require effort and cost to include it in a SEC Release. Given that these changes would need to be included in System Integration Testing (SIT) there would need to be an adequate lead up time of at least 6 – 8 months before implementation. These changes can be included in a Maintenance Release with other GBCS changes, and there would be no charge to SEC Parties for this update.

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 and System test implement following the provision of full commercial cover, as part of the CAN signature process.

Any change to the GBCS version is likely to be as part of GBCS4.4. At this stage it is too early to identify which SEC or Maintenance Release will be targeted for this change, although it is already too late to include this in the November 2025 SEC Release.

The release lifecycle duration will be confirmed as part of the 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.

£	Design, Build and PIT, DSP Cost Range
SECMP0290	£0 - £10,000

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.

If there is a change to the IRP only, there is no charge or effect required from the DCC System Providers.

If the changes were to be implemented as part of a Maintenance Release, any costs would be covered by the DCC Small Change Request budget. It should be noted the costs of any

further additions to the GBCS 4.x version would be absorbed into the costs for other changes. Post-PIT charges are expected to keep the costs inside the range stated above.

If there is a decision to include this Modification in a SEC Release, based on the existing requirements, the fixed price cost for a Full Impact Assessment is **£6,646** and would be expected to be completed in 30 Working Days.

6.1 Contract and Schedule Changes

Updates to the Design Baseline (Schedule 4.1) and Payment milestones (Schedules 6.1 and 7.1) are anticipated for this Modification.

Appendix A: Glossary

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

Acronym	Definition
CHTS	Communications Hub Technical Specifications (DUIS Schedule 10)
CPL	Central Products List
CPV	Certification Path Validation
CR	DCC Change Request
CSP	Communications Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
FIA	Full Impact Assessment
GBCS	GB Companion Specification
IRP	Issue Resolution Proposal
NGNM	Non-GBCS Non-Mandated (Alerts)
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
P&C	Parse and Correlate
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
TCSO	Trust Centre Swap Out
TSIRS	Technical Specification Issue Resolution Sub-group
UIT	User Integration Testing

Appendix B: IRP Information and List of Changed NGNM Alerts



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Path Validation clari



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