

SEC Modification Proposal, SECMP0090, DCC CR1257

**Incorporation of Non GBCS Non-Mandated Alerts
into the SEC**

Preliminary Impact Assessment (PIA)

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1 Document History

1.1 Revision History

Revision Date	Revision	Summary of Changes
6/02/2020	0.1	Initial version
11/2/2020	0.3	Reviewed and sent to SECAS

1.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP090 Business Requirements v1.0	SECAS	29/11/2019

References are shown in this format, [1].

1.3 Document Information

The Proposer for this Modification is Emslie Law of SSE. The original proposal was submitted in October 2019.

The Preliminary Impact Assessment was requested of DCC on 20th November 2019.

2 Context and Requirements

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

2.1 Current State

Non GBCS Non-Mandated (NGNM) Alerts are Alerts that are built into Devices by Device manufacturers. These conform to GBCS formats but are not included in GBCS.

Suppliers and manufacturers have a general (but non regulatory) responsibility to ensure all Alerts supported by their Devices beyond those specified in the SEC are captured in the Non-GBCS Non-Mandated Alerts Register on the SEC Website until they are adopted into the SEC.

Many DCC Users only recognise Alerts defined in the Great Britain Companion Specification (GBCS) as when the Smart Metering Implementation Programme (SMIP) was in its infancy, Alerts that were not defined in the GBCS were not expected to be in use such that DCC Users' systems have not been designed to recognise Non GBCS Non-Mandated Alerts.

A list of

2.2 What is the Issue?

As these are currently not included in GBCS, the Parse and Correlate software provides the Alert code but does not provide a description of the problem the Alert is communicating. Suppliers therefore receive Alerts but are unable to identify the reason for them. Whilst Suppliers could access this information from the SEC website, this would be manual and labour intensive. Alternatively, each Supplier could amend their systems to incorporate the Alert codes from the SEC website, but this would involve a large number of individual system changes.

Additionally, whilst a Supplier may know which NGNM Alerts to expect from meters and Devices installed by themselves, they will continually inherit meters and Devices for which they were not the original installer and will be unaware of NGNM Alerts on Devices that have 'churned' to them.

Depending on the individual Alert either the Supplier or the Network Operator can configure the Alerts by setting them on or off according to their business needs. In order to make NGNM Alerts configurable these must be included in GBCS Table 16.2 and must be added to the DCC User Interface Specification (DUIS) Schema. As things stand, Suppliers and Network Operators receive large numbers of Alerts which have no description and which they are not able to stop receiving.

As currently designed, Suppliers and Network Operators will receive large numbers of Alerts which have no description and which they are not able to stop receiving. In order to make NGNM Alerts configurable these must be included in GBCS Table 16.2 and must be added to the DCC User Interface Specification (DUIS) Schema.

2.3 Business Requirements for this Modification

This section contains the considerations and assumptions for each business requirement as provided by the Proposer and SECAS.

Req.	Requirement
1	Incorporation of Non GBCS Non Mandated Alerts into GBCS.
2	DCC to make consequential changes for the Non GBCS Non Mandated Alerts below to Appendix AD 'DCC User Interface Specification' (DUIS).
3	DCC to make consequential changes to Parse and Correlate.

Table 1: Business Requirements for SECMP0090, CR1257

3 Description of Solution

The solution requested by SECAS is for the DCC is to design a solution to facilitate the incorporation into the SEC of currently Non GBCS Non Mandated Alerts listed in the SECMP0090 business requirements.

3.1 DSP Solution Overview

This SECMOD adds twelve NGNM Alerts to GBCS as described in Table1. It is possible to configure eleven Alerts by the Suppliers and one Alert (0x81D2) cannot be configured. The following Service Requests will be updated to allow Service Users to configure these Alerts and read their configuration status.

- SRV 6.2.10, Read Device Configuration (Event and Alert Behaviours)
- SRV 6.22, Configure Alert Behaviour

The overall structure of these two will not require any changes, but they will need to support the new Alert Codes.

3.2 DUGIDS, DUIS and MMC Specifications

The new version of DUGIDS, DUIS and MMC will include the changes to the SRVs 6.22 Configure Alert Behaviour and 6.2.10 Read Device Configuration (Event and Alert Behaviours).

3.3 Critical Software Changes

The changes required to implement this Modification will affect the Parse service. Parse and Correlate will accommodate this by:

- Updating the existing GBCS Use Cases GCS20r, ECS25r1 and ECS25r2
- New DUIS / MMC schema deployment
- Add test cases to exercise the changes
- Documentation updates and release tasks

4 Impact on DCC Systems, Processes and People

This section describes the impact of SECMP0090 on DCC Services and Interfaces that impact Users and/or Parties.

4.1 Security Impact

The uplift of the DUIS schema will require supported versions of the schema to be loaded into the Data Power appliances within each Non-Production and Production environment (six development environments, eight System Test Environments, PIT Performance environment, SIT-A/B, UIT-A/B, Production and Disaster Recovery) following the standard process for a SEC release.

It is not thought that there will be any impact on the Protective Monitoring Solution as a result of this change, or that any specific penetration testing will be required. The wider requirement for Penetration Testing of the SEC Release will be considered as part of the Release CR.

This CR is expected to require a degree of security assurance as part of the design phase. A more detailed Security Risk Assessment will be carried out as part of the Full Impact Assessment to validate the level of assurance required.

4.2 Integration Impact

Introduction of a new GBCS version and DUIS version impacts multiple parties. The majority of the integration testing that will result from this change will be regression testing (SIT testing to test for device integration and UIT with Service Users).

4.3 Infrastructure Impact

It is not expected that there will be any material impact on infrastructure as a result of this change.

It is assumed that the use of new/changed Service Requests will have no material impact on the currently agreed volumetric profiles for Service Requests.

4.4 Application Support

No changes to Application Support are expected.

4.5 Service Impact

No material impact is expected for the DSP Operations team and no changes to SLAs are expected.

4.6 Request Management

The newly introduced Alerts do not require any specific processing within Request Management. Request Management will however need changes to integrate the new version of DUIS.

4.7 Data Management

Data Management will require configuration updates to support the new version of DUIS and GBCS.

4.8 Service User Simulator

This Modification requires changes to Parse and Correlate (P&C) software to support the new Alerts. The Service User Simulator shall be updated to incorporate the latest P&C software.

4.9 Safety Impact

No impact is expected, but a full Safety Impact Assessment will be carried out as part of the production of the Full Impact Assessment (FIA).

4.10 Contract Schedules

No changes to contracts are expected, but this will be evaluated for the FIA.

5 Implementation Timescales and Approach

Notwithstanding in which release this change is implemented, based on the currently stated requirements, the elapsed time for DSP implementation will be approximately 3 months from project initiation through to PIT complete.

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

5.1 Implementation Approach

Implementation of this change is assumed to follow a waterfall methodology. The release lifecycle duration will be confirmed as part of the FIA. The timing of this Modification release will be tied to an appropriate SEC release with the introduction of new GBCS and DUIS versions.

5.2 Testing and Acceptance

It is assumed that the change will be implemented and tested as part of a major release, and will include release based regression testing in SIT and UIT.

6 Costs and Charges

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

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

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional requirements as assumed above. The price is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a Full Impact Assessment and as such there may be elements missing from the solution or the solution may be subject to a material change during discussions with the DCC. As a result the final offer price may result in a variation.

6.1 Design, Build, and Testing Cost Impact

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

£	Design, Build and PIT	SIT	UIT	TTO	App. Support	Total
Phase ROM	230,150	n/a	n/a	n/a	n/a	230,150

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. This phase also includes regression testing across all Comms Hub products
Systems Integration Testing (SIT)	All the Service Providers PIT-complete solutions are brought together and tested as an integrated solution, ensuring all SP solutions align and operate as an end-to-end solution. The System Integrator is responsible for leading this phase with the Service Providers offering testing support services.
User Integration Testing (UIT)	Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change. The DCC is responsible for leading this phase with the Service Providers offering testing support services.

Implementation to
Live (TTO)

The solution is implemented into production environments and ready for use by Users as part of a live service. The Transition to Operations (TTO) service is subject to implementation costs.

Application Support

Any costs associated with supporting the new functionality.

Based on the existing requirements, the fixed price cost for a Full Impact Assessment is **£16,651** and would be expected to be completed in 30 days.

Appendix A: Glossary

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

Acronym	Definition
CR	DCC Change Request
DCC	Data Communications Company
DNO	Distribution Network Operators
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
FIA	Full Impact Assessment
GBCS	Great Britain Companion Specification
GSME	Gas Smart Metering Equipment
MMC	
NGNM	Non GBCS Non-Mandated (GBCS Alerts)
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
SP	Service Provider
SR	Service Request
SRV	Service Request Variant
SSI	Self Service Interface
TTO	Transition to Operations
UIT	User Integration Testing

Appendix B: Current GBCS Non-Mandated Alerts

The table below lists the Non GBCS Non Mandated (NGNM) Alerts Register held on the SECAS website (<https://smartenergycodecompany.co.uk/the-developing-sec/>). Subject to review, additional NGNM Alerts may be added to the Non GBCS Non Mandated Alerts Register and shall also be covered by this Modification. The final list of NGNM Alerts targeted for inclusion in GBCS will be established at the time the Final Assessment is carried out by the DCC.

Event/Alert Code	Event/ Alert Code Name	Trigger conditions	Known Remote Party Role	ESME/GSME Event/Alert Configuration Responsibility
0x81C7	Over Current Level 2	Current over 120% of the I _{max} rating for more than 20 minutes	Supplier	Supplier
0x81C8	Over Current Level 2 L1	Current over 120% of the I _{max} rating for more than 20 minutes in phase L1	Supplier	Supplier
0x81C9	Over Current Level 2 L2	Current over 120% of the I _{max} rating for more than 20 minutes in phase L2	Supplier	Supplier
0x81CA	Over Current Level 2 L3	Current over 120% of the I _{max} rating for more than 20 minutes in phase L3	Supplier	Supplier
0x81CB	Bridged terminals	Bridged terminals are detected	Supplier	Supplier
0x81CC	Ultrasonic A flag start	A flag present	Supplier	Supplier
0x81CD	Ultrasonic A flag stop	A flag cleared	Supplier	Supplier
0x81CE	Ultrasonic B flag start	B flag present	Supplier	Supplier
0x81CF	Ultrasonic B flag stop	B flag cleared	Supplier	Supplier
0x81D0	Ultrasonic C flag start	C flag present	Supplier	Supplier
0x81D1	Ultrasonic C flag stop	C flag cleared	Supplier	Supplier
0x81D2	Battery 3% Alert	Battery very low alert (3%)	Supplier	Not possible

Table 2: List of current Non GBCS Non-mandated Alerts

These alerts are already in use, being sent from devices to DCC Users, and are sent in GBCS format. They should be incorporated into GBCS and the Parse and Correlate application to enable DCC Users to identify them and in DUIS for configurable Alerts.

Configurable Alert Codes begin either with 0x80 and can be configured by the DNO (Distribution Network Operator), or begin with 0x81 and can be configured by the Supplier; Alert Codes beginning with 0x8F are not configurable.