

SEC Modification Proposal, SECMP0090, DCC CR1341

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

Full Impact Assessment (FIA)

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Contents

1	Document History	3
1.1	Revision History	3
1.2	Associated Documents	3
1.3	Document Information.....	3
2	Context and Requirements.....	4
2.1	Current State.....	4
2.2	What is the Issue?	4
2.3	Business Requirements for this Modification	5
2.3.1	Req. 1: Incorporation of Non-GBCS Non Mandated Alerts into GBCS	5
2.3.2	Req. 2: DCC to make consequential changes to Parse and Correlate.....	5
2.3.3	Req. 3: DCC to make consequential changes for the Non GBCS Non Mandated Alerts, included, to DUIS	5
3	Description of Solutions	6
3.1	Option 2: Incorporate and Support.....	6
3.1.1	Critical Software Changes.....	6
3.1.2	DSP Solution Overview.....	6
4	Implementation Timescales and Approach.....	7
5	Costs and Charges.....	8
Appendix A: Glossary		9
Appendix B: Current GBCS Non-Mandated Alerts.....		10

1 Document History

1.1 Revision History

Revision Date	Revision	Summary of Changes
18/08/2020	0.1	Initial version

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-v1.1	SECAS	1/04/2020
2	SECMP0090 CR1257 Preliminary Impact Assessment	DCC	11/05/2020

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 (PIA) was requested of DCC on 20th November 2019. Subsequently the requirements were updated to reflect the need to include the alerts in GBCS, but to not make them configurable in a simpler solution. This request was sent to DCC on 16th April, 2020, and the revised PIA [2] submitted on the 11th May 2020.

The Working Group elected to use the Option 2 solution approach described following. Because of the nature and magnitude of the change it was not deemed necessary to request and compile a complete Full Impact Assessment. As a result this is a brief overview of the planned solution with full costs and durations provided.

2 Context and Requirements

In this section, the context of the Modification, assumptions, and the requirements are stated. The text in this section is copied verbatim from the PIA [2].

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.

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.

Note that the configurability mentioned above is part of Business Requirement #3, and would not be included in the simplest solution proposed.

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 to Parse and Correlate
3	DCC to make consequential changes for the Non GBCS Non Mandated Alerts, included, to DUIS

Table 1: Business Requirements for SECMP0090, CR1257

2.3.1 Req. 1: Incorporation of Non-GBCS Non Mandated Alerts into GBCS

The list of Non GBCS Non Mandated Alerts shall be incorporated into table 16.2 of GBCS. These Alerts are already in a GBCS compliant format. By itself this is a document-only impacting change.

2.3.2 Req. 2: DCC to make consequential changes to Parse and Correlate

For this requirement, consequential changes will need to be made to Parse and Correlate (P&C) software to allow DCC Users to receive identification information about the Alerts.

2.3.3 Req. 3: DCC to make consequential changes for the Non GBCS Non Mandated Alerts, included, to DUIS

For this requirement, consequential changes will need to be made to DUIS. Those Alerts that are configurable should be set as configurable. 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. This is with the exception of '0x81D2 – Battery 3% Alert' which should not be configurable.

3 Description of Solutions

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.

SECAS and the Working Group requested three solutions options to be provided for the PIA:

1. Incorporate the alerts, but not implement any supporting technical changes
2. Incorporate the alerts, implement supporting technical changes, but not make them configurable
3. Incorporate the alerts, implement supporting technical changes, and setting the alerts as configurable

Option 1 to incorporate but not support would leave the SMIP out of synchronisation with the Smart Metering System as a whole, so was not evaluated. Both the remaining two options were evaluated in the PIA [2], and Option 2 was selected for progression in the FIA.

3.1 Option 2: Incorporate and Support

Incorporation of these changes will help the Service Users to identify the NGNM Alerts, but will not make the alerts configurable.

3.1.1 Critical Software Changes

The changes required to implement this Option will affect the SMITEn parse services requiring the following effort:

- Upgrade to new version of P&C
- Add system-test to validate parsing of new alerts
- Release new version of SMITEn Lite

3.1.2 DSP Solution Overview

For the DSP, this is equivalent to the effort and duration usually associated with a DCC small change. This change requires DSP to update the Service User Simulator (SUS) to incorporate the latest P&C software.

The activities will include:

- Liaison with Critical software to receive revised P&C software release.
- Goods-in processing of new release.
- Integration of new P&C software release with DSP Service User Simulator software
- Integrate Java .JAR files and test
- System testing
- Testing in SIT, UIT

No updates to any specification or design documents are required, but there is a dependency on Critical P&C software.

4 Implementation Timescales and Approach

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

Implementation of this change is assumed to follow a waterfall methodology. The timing of this Modification release will be tied to an appropriate SEC release and the timing of each application phase will be tied to the application phases dictated by any larger changes.

The Modification will include release based regression testing in SIT and UIT.

5 Costs and Charges

The table below details the cost of delivering the changes and Services required to implement this Modification Proposal. In this case, only two Service Providers are impacted, and the costs have been given as a total overall cost.

	Design, Build, Test	Total £
Option 2	17,000	17,000

Implementation and Application Support costs will be between nil and minimal, and would be absorbed by other Modifications or Change Requests in the associated SEC Release.

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
NGNM	Non GBCS Non-Mandated (GBCS Alerts)
PIA	Preliminary Impact Assessment
P&C	Parse and Correlate
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMIP	Smart Metering Implementation Programme
SP	Service Provider
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.

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.