SEC Modification Proposal

- DCC Impact Assessment (IA) - FINAL

- **Mod Proposal Ref: SECMP 0025**

- **Mod Proposal Title: Electricity Network Party Access to Load Switching Information**

- **Mod Path: Path 2 - Authority determination**

Version:	**1.2**
Date:	**23/01/18**
Author:	**DCC**
Classification:	**DCC PUBLIC**

Contents

Formatted: Font: Arial (United States)

Formatted: Font: Arial Auto

1 Introduction

1.1 Document Purpose

The purpose of this DCC Impact Assessment (IA) is to provide the relevant Working Group with the information requested in accordance with SEC Section D6.9 and D6.10.

1.2 Previous information provided by DCC

This IA is provided further to a DCC Preliminary Assessment (PA), which was returned to the Working Group on 22nd May 2017. This document builds on the information previously provided as part of the PA, clarifying and refining the impact of this SEC Modification on DCC.

This DCC Impact Assessment was requested of DCC on 12th July 2017.

1.3 DCC Contact Details

Please raise any queries regarding this DCC Impact Assessment using the contact details provided below.

Name	DCC - SEC Modification queries
Contact email	Mods@smartdcc.co.uk

1.4 Modification description

The Proposer of this modification summarises the change as follows:

This proposal seeks to enable Electricity Network Parties to have access to information from the Smart Metering System relating to load switching carried out by Smart Meters or Smart Meter connected Devices. It also proposes that the Smart Metering System informs Electricity Network Parties when changes are made to existing load switching regimes..

1.5 Requirements

The requirements for this modification have been developed by the Working Group during the Refinement phase. The impact on DCC has been assessed against the Business Requirements and the corresponding draft legal text set out in the Solution Design Document – SECMP0025 Solution document v2.5 effective 12th July 2017.

Based on the discussions at the Working Group, DCC considers the requirements for SECMP 0025 to be **STABLE** (low risk of change). DCC is not aware of any Working Group discussions relating to changes to requirements or assumptions. Where the requirements set out in the Solution Design Document above change, DCC will be required to carry out further impact assessment.

2 Impact on DCC's Systems, Processes and People

This section describes the impact of SECMP 0025 on DCC's Services and Interfaces that impact Users and/or Parties.

2.1 Summary

- This Modification Proposal enables the DCC System to provide access for Electricity Network Parties to information from the Smart Metering System relating to load switching carried out by Smart Meters or Smart Meter connected Devices. It will also enable the Smart Metering System to inform Electricity Network Parties when changes are made to existing load switching regimes.

- Impacted Systems, Processes and People:

  - Primary impacts on DSP Systems (multiple components) within the DCC ecosystem:

    - Service Request Processing including DCC User Interface Specification

2.2   Impacts on DCC Services and Interfaces

The following table describes the detailed impacts of SECMP 0025 on DCC's Systems and Processes.

Ref	Impact on DCC	User or Party Impact
001	**Service Request processing – Changes to SRV6.13** Starting from the supported DUIS version, SRV 6.13 shall use the newly introduced GBCS Use Case ECS35g in place of ECS35f for both Electricity Import Supplier (EIS) and Electricity Network Party (ENP user roles for devices that support the new Use Case. For devices that do not support the new Use Case, the existing ECS35f Use Case shall be used for the EIS role and the request shall be rejected for the ENP role with error code E061304, as it would be in any earlier DUIS version. ECS35g will return exactly the same data in the payload as ECS35f. This will require changes to Request Management, Transform, and Data Management	GBCS Change New version of the DUIS SEC Subsidiary Document (SSD) and associated DUIS XML Schema to be created by DCC and implemented within both the DCC Systems and User Systems (where required). Note: DCC data systems will provide support for at least two DUIS versions, thus maintaining backwards compatibility and giving users time to implement the changes within their systems. At some point support for older use cases will be removed and users will need to use the new use case, but this is dependent upon Release Planning and support for the new use case within deployed ESME's, this is outside the scope of this Impact Assessment.

Formatted: Fo
(United States)

Ref	Impact on DCC	User or Party Impact
002	**Service Request processing – Changes to SRV 7.7** SRV 7.7 shall be available to the Electricity Network Party starting only from the Supported DUIS version. ACB shall consider ENP as an URP and use the existing UC ECS61a (with no change in access rules) to allow the ENP to read the data. This is an exceptional use of URP pattern in a KRP scenario scenario and requires DCC Data Systems to change the Access Control to allow Electricity Network Parties to submit SRV 7.7. This will require changes to Request Management, and Data Management	New version of the DUIS SEC Subsidiary Document (SSD) and associated DUIS XML Schema to be created by DCC and implemented within both the DCC Systems and User Systems (where required).

Formatted: Fo
(United States)

003	**Service Request processing – New DCC Alert and changes to processing the Response to SRV 6.14.2 'Update Device Configuration (Auxiliary Load Control Scheduler)'**	New version of the DUIS SEC Subsidiary Document (SSD) and associated DUIS XML Schema to be created by DCC and implemented within both the DCC Systems and User Systems (where required) to support the definition of a new DCC Alert.

A new DCC Alert of type ALCS HCALCS Configuration Change shall be introduced to notify the Electricity Network Parties in the event of any of the following scenarios. The associated DCC Alert Code (NXX) shall be finalised during the design stage.

- Upon successful completion of Service Request 6.14.2 Update Device Configuration (Auxiliary Load Control Scheduler) – GBCS Use Case ECS46c.

    OR

- Future Dated Execution of Instruction Alert (DLMS COSEM) Alert (Alert Code 0x8F66 and Message Code 0x00CC) corresponding to AuxiliaryLoadControlSwitchesCalendar received by the DCC Data Systems.

    OR

- **[Optional]**Upon successful completion of Service Request 6.14.1 Update Device Configuration (Auxiliary Load Control Descriptions)

The relevant Electricity Network Parties are determined as per the CR193 solution being implemented as part of Release 1.4

Local Delivery is supported for SRV 6.14.2 and the new DCC Alert shall be triggered when successful Responses to these SRVs are received via SRV 8.13 Return Local Command Response. [**Optional**] The same is applicable for SRV6.14.1 as well.

This will require changes to Request Management.

Ref	Impact on DCC	User or Party Impact
004	**Parse and Correlate** The changes required to implement this SECMOD will affect the Parse service. Parse and Correlate will accommodate this change by: Replacing the existing GBCS Use Case ECS35f 'Read ALCS Event Log' with the new replacement Use Case ECS35g. DUIS/MMC schema deployment Provide support for the existing Use Case for users of GBCS / DUIS / MMC v1.0 Add test cases to exercise the Use Case replacement Add test cases to exercise the new Use Case Documentation updates and release tasks	Updated Parse and Correlate software will be provided as part of the implementation of this Change Request. All Users will be required to implement these new versions within their systems.

3 Impact on Security

This section describes the impact DCC considers SECMP 0025 will have on Security of DCC's Total System.

DCC has carried out a security risk assessment for SECMP 0025 and determined that **there are no material security risks** associated with the implementation of DCC's proposed solution.

4   Testing Considerations

This Impact Assessment includes the cost to develop and deliver this SEC Modification up to and including Pre-Integration Testing (PIT). The cost for Systems Integration Testing (SIT) and User Integration Testing (UIT) will be determined once the full scope of the release that this SEC Mod is allocated to is finalised; the cost will apply to the release and not to an individual SEC Modification.

Formatted: Font: Arial

Formatted: Font: 10 pt

5 Implementation Timescales and Releases

5.1 Change Lead Times

From the date of approval (in accordance with Section D9 of the SEC), to implement the changes proposed DCC requires a lead time of: **13 months**.

5.2 Consideration against Other Changes

None currently identified.

6 DCC Costs and Charges

Implementation Costs							
Implementation Phase:	Design	Build	Pre-Integration Testing	System Integration Testing	User Testing	Implementation to Live	Total
SECMP0025	Included	Included	Included	Not Included	Not Included	Not Included	£386,009
Implementation costs – supplementary Information							
Implementation cost assumptions	A. Costs are exclusive of VAT and any applicable finance changes B. The majority of the costs above represent labour costs C. Costs provided for Design, Build, and Pre-Integration Testing are quotes provided by the Service Providers and assuming there is no scope change can be considered the final costs. DCC have reviewed and challenged the costs from the Service Providers to ensure this reflects best price to date. D. Service Providers were asked what the costs for System Integration Testing would be. Their initial estimate was provided and is reflected above. DCC considers that further reduction in these costs may be possible as part of final contract negotiations. E. Costs provided for User Testing and Implementation to Live are an initial estimate created by DCC and may differ from final costs provided by the Service Providers as part of a contracted solution for the approved release.							

	F. A reduction of circa 20% in costs can be assumed for Systems Integration Testing and User Testing and a reduction of circa 33% in costs can be assumed for Implementation to Live G. User Testing estimates provided above represent an incremental cost to the existing testing arrangements that are in place and provided for by DCC as part of the existing cost base. The testing environments that the DCC provides as part of Testing Services will be open to all User Roles and multiple Users within each User Role to ensure that any Users wishing to test this SEC Modification are able to do so. These cost estimates have been provided on the assumption that the test environment would be made available for a minimum of 15 working days to enable Users to test the changes associated with this SEC Modification. The User Testing costs assume there will be 15 days of User Testing with up to 10 Users undertaking testing. H. The split of costs between Design, Build and Pre-Integration testing phases has been derived by DCC from the Service Provider submissions.
Explanation of Implementation Phases	DCC's implementation costs are provided by Implementation Phases. The following describes the purpose of each phase: • 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. • Pre-Integration Testing: Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC. • Systems Integration Testing: All Service Providers PIT complete solutions are brought together and tested as an integrated solution, ensuring all Service Provider solutions align and operate as an end-to-end solution. • User Integration Testing: Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change. • Implementation to Live: The solution is implemented into production environments and ready for use by Users as part of a live service. This service is subject to implementation costs.

6.1 On-going Operational Costs

None identified.

6.2 Impact on Charges

The following section describes the potential impact on Charges levied by DCC in accordance with the SEC.

DCC notes that SECMP 0025 does not propose any changes to the charging arrangements set out in SEC Section K. DCC has made the assumption that, in the absence of an agreed alternative arrangement by the Working Group, the costs associated with the implementation of SECMP 0025 will be allocated to DCC's fixed cost base and passed through to Parties via Fixed Charges.

Formatted: Fo

Formatted: Fo

7 RAID

The detail below provides a summary of the risks, assumptions, issues, dependencies and clarifications observed during the production of a DCC Impact Assessment. DCC requests that the Working Group considers this section and considers any material matters that have been identified during this Impact Assessment phase. Any changes may impact the proposed solution, implementation costs and/or implementation timescales.

7.1 Risks

Ref	Risk Description	Probability	Impact
	None identified		

7.2 Assumptions

DCC would like to confirm the validity of assumptions listed below with the Working Group. These assumptions have been used in the creation of this DCC Impact Assessment. Any changes to the assumptions may require DCC to undertake further assessment, prior to the contracting and implementation of this change.

Ref	Assumption Description	Assumption Accepted
A-001	This impact assessment has assumed an 'as is' baseline of the R2.0 specifications and these changes are expected to be implemented as part of DUIS version m.n and MMC version m.n.	

Formatted: Fo

Formatted: Fo

Ref	Assumption Description	Assumption Accepted
A-002	DUIS XSD – Request and Response schemaVersion attributes will be used to indicate change to the schema	
A003	MMC XSD – Response schemaVersion attribute will be used to indicate change to the schema	
A004	The existing GBCS Use Case ECS35f will not be changed at all, e.g. to include access to the Electricity Network Party from a given GBCS version.	
A005	The new GBCS Use Case ECS35g will return exactly the same data in the payload as ECS35f	
A006	GBCS Use Case ECS35f will be replaced by Use Case ECS35g. The existing Use Case name (Read ALCS Event Log) will be used, and the new Message Code is 0x00FD.	
A007	SRV7.7 – ED's will be able to run this SRV from DUIS version m.n, MMC version m.n regardless of the ESME GBCS version.	
A008	Due to the DUIS XSD and Parse software impacts, a new MMC XSD will be required.	
A009	SRV 6.14.2 shall be added to the list of SRV's to be processed via SRV 8.13, if delivered locally, so that the new DCC Alert to the Electricity Network Party can be generated and sent.	

Formatted: Fo

Formatted: Fo

Ref	Assumption Description	Assumption Accepted
A010	NXX is used as the place holder alert code for the new DCC Alert. The actual alert code shall be finalised after approval of this change request.	

7.3   Issues

Ref	Issue Description	Severity	Priority
	None Identified		

7.4   Dependencies

Ref	Dependency	Dependency Accepted
	None identified	

Formatted: Fo
~~Auto~~

Formatted: Fo

7.5 Clarifications Required

Ref	Clarification	Status
	None identified	

Formatted: Fo

Formatted: Fo

Appendix A – Design Specification Updates

This section sets out DCC's proposed changes required to DUIS because of this Modification Proposal. The changes are indicative and are designed to support the Working Group Consultation.

Latest Version -These changes are indicated against DCC User Interface Specification (version v2-0-draft-3)

DUIS Changes

SR 6.13 Read Event or Security Log

Section 3.8.63 Read Event Or Security Log – Table 161 ReadEventOrSecurityLog, shall be amended as per:

Service Request Name	ReadEventOrSecurityLog
Service Reference	6.13
Service Reference Variant	6.13
Eligible Users	Import Supplier (IS) Gas Supplier (GS) Electricity Distributor (ED) Gas Transporter (GT) Registered Supplier Agent (RSA)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Communications Hub Function (CHF)
Can be future dated?	No
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request - (Only one populated)	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1 **Error! Reference source not found.**
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause **Error! Reference source not found.** for more details on processing patterns • Acknowledgement • Service Response from Device – GBCSPayload • Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request

Response Codes possible from this Service Request	See clause 3.5.10 **Error! Reference source not found.** for Common Response Codes	
GBCS Cross Reference	Electricity	Gas
GBCS v2.0 MessageCode	0x0048 (Device event log) 0x0049 (Device security log) 0x0093 (CHF event log) 0x0094 (CHF security log) 0x00B9 (ESME power event log) 0x00BA (ESME HAN ALCS event log)	0x0014 (Device event log) 0x00A1 (Device security log)
GBCS v2.0 Use Case	ECS35a (Device event log) ECS35b (Device security log) ECS35c (CHF event log) ECS35d (CHF security log) ECS35e (ESME power event log) ECS35f (ESME HAN ALCS event log)	CS10a (Device event log) CS10b (Device security log)
GBCS vn.0 MessageCode	0x0048 (Device event log) 0x0049 (Device security log) 0x0093 (CHF event log) 0x0094 (CHF security log) 0x00B9 (ESME power event log) 0x00FD (ESME HAN ALCS event log)	0x0014 (Device event log) 0x00A1 (Device security log)
GBCS vn.0 Use Case	ECS35a (Device event log) ECS35b (Device security log) ECS35c (CHF event log) ECS35d (CHF security log) ECS35e (ESME power event log) ECS35g (ESME HAN ALCS event log)	CS10a (Device event log) CS10b (Device security log)

Section 3.8.63.3 Specific Validation for this Request, table shall be amended as per:

See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Read Log Period validation.

Response Code	Response Code Description
E061301	Log To Read / Device Type mismatch. The Log to Read is not applicable to the Device Type
E061304	Invalid User Role. The ALCS Event Log is not available to the requesting User Role. Only the IS and ED User Roles are eligible to read this log OR The User Role is ED and the ESME firmware version is not certified to GBCS vn.0 or later.

SR 8.13 Return Local Command Response

The following table lists the Service Requests Responses and Device Alerts needed by the DCC Systems from Users via the return Local Command Response Service Request if these are collected from execution of Local Commands on Devices. Note that a HHT will receive all Alerts / Responses from all HAN Devices whilst it is connected; these may or may not be related to the execution of Local Commands.

Service Request Responses
3.2 - Restrict Access For Change Of Tenancy
6.8 - Update Device Configuration (Billing Calendar)
6.14.1 – Update Device Configuation (Auxilliary Load Control Descriptions)
6.14.2 – Update Device Configuration (Auxilliary Load Control Scheduler)
6.15.2 - Update Security Credentials (Device)
6.23 - Update Security Credentials (CoS)
8.7.1 - Join Service (Critical)
8.7.2 - Join Service (Non-Critical)
8.8.1 - Unjoin Service (Critical)
8.8.2 - Unjoin Service (Non-Critical)
8.11 – Update HAN Device Log
8.12.1 - Restore HAN Device Log
8.12.2 - Restore Gas Proxy Function Device Log
11.2 – Read Firmware Version
11.3 - Activate Firmware

SR 7.7 Read Auxiliary Load Switch Data

Section 3, Table 12 Service Request Matrix – The entry for SR 7.7 shall be amended as per:

Service Request Name	Service Reference	Service Reference Variant	Critical	On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Service Request	Eligible User Roles
Read Auxiliary Load Switch Data	7.7	7.7	No	Yes	DSP	No	No	IS ED OU

Section 3.8.92.1 Read Auxilliary Load Switch Data

Table shall be amended as per:

Service Request Name	ReadAuxiliaryLoadSwitchData
Service Reference	7.7
Service Reference Variant	7.7
Eligible Users	Import Supplier (IS) Electricity Distributor (ED) Other User (OU)
Security Classification	Non Critical
BusinessTargetID - **Device Type applicable to this request**	Electricity Smart Meter (ESME)
Can be future dated?	DSP
On Demand?	Yes
Capable of being DCC Scheduled?	No
Command Variants applicable to this Request **(Only one populated)**	1 – Send (Non-Critical) 2 – Return for local delivery (Non-Critical) 3 – Send and Return for local delivery (Non-Critical)
Common Header Data Items	See clause 3.4.1.1
Data Items Specific to this Service Request	See Specific Data Items Below
Possible responses from this Service Request	These are the possible responses applicable to this Service Request. Please see clause 3.5 **Error! Reference source not found.** for more details on processing patterns • Acknowledgement • Service Response (from Device) – GBCSPayload

Formatted: Font: Arial Auto
Formatted: Font: 10 pt
Formatted: Font: Arial Auto

	• Response to a Command for Local Delivery Request – LocalCommand Format Also see Response Section below for details specific to this request
Response Codes possible from this Service Request	See clause 3.5.10 **Error! Reference source not found.** for Common Response Codes
GBCS Cross Reference	Electricity (ALCS and HCALCS)	
GBCS MessageCode	0x00BB	
GBCS Use Case	ECS61a	

New DCC Alert

Section 3.6.3.4 DCC Alert Codes – Add an additional row as per:

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient
NXX	ALCS/HCALCS configuration change	ALCS/HCALCS configuration changed on ESME	Upon successful completion of Service Request 6.14.2 Update Device Configuration (Auxilliary Load Control Scheduler) OR [Optional] Upon successful completion of Service Request 6.14.1 Update Device Configuration (Auxilliary Load Control Descriptions) OR Future Dated Execution Of Instruction Alert (DLMS COSEM) Alert (Alert Code 0x8F66 and Message Code 0x00CC) corresponding to AuxiliaryLoadControlSwitchesCalendar received by the DCC Data Systems	ED

Section 3.6.4 – Table 36 DCC Alert Codes / Response Codes Cross Reference – add an additional row as per:

Alert Code	Response Code
Nxx	I0

Section 3.9 Table 256 DCC Alert (sr:DCCAlert) data items – add an additional row as per:

DCC Alert Format / Data Item	Description / Allowable values	Type	Mandatory for Alert Codes	Default	Units
ALCSHCALCSConfigurationChange	The trigger event indicates the ESME's ALCS/HCALCS configuration has changed	sr:ALCSHCALCSConfigChange	Nxx	None	N/A

Section 3.9 DCC Alert Messages – add a new sub-section after 3.9.16 as per:

3.9.zz ALCSHCALCS Configuration Change

3.9.zz.1 Specific Data Items for this DCC Alert

ALCSHCALCS Data Items Definition

Data Type / Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ESMEDeviceID	The Device ID of the ESME for which the ALCS / HCALCS configuration has changed	sr:EUI (see Section 3.10.1.3 EUI)	Yes	None	N/A

MMC Changes

SR 6.13 Responses – Section 5.60.2.1.6 HCALCS Event Log, amend Table 158 as per:

Data Item	GBCS v2.0 Electricity Response	GBCS vn.0 Electricity Response
GBCSHexadecimalMessageCode	0x00BA	0x00FD
GBCS Use Case (for reference - not in header)	ECS35f	ECS35g

SR7.7 Responses – Section 5.89.2 MMC Output Format, amend Table 207 as per:

Data Item	Electricity Response (HCALCS or ALCS)
GBCSHexadecimalMessageCode	0x00BB
GBCS Use Case (for reference - not in header)	ECS61a
SupplementaryRemotePartyID	sr:EUI (as set out in DUIS Section 3.10 Shared Data Types) Where originator is Unknown Remote Party or Electricity Distributor
SupplementaryRemotePartyCounter	xs:nonNegativeInteger Where originator is Unknown Remote Party Or Electricity Distributor