SEC
Smart Energy Code

This document is classified as **White** in accordance with the Panel Information Policy. Information can be shared with the public, and any members may publish the information, subject to copyright.

Smart Energy Code

MP155
‘Communications Hub Re-Flash’

Modification Report

Version 0.5

15 August 2022

Corporate member of Plain English Campaign
Committed to clearer communication
592

About this document

This document is a Modification Report. It currently sets out the background, issue, impacts and progression timetable for this modification, along with any relevant discussions, views and conclusions. This document will be updated as this modification progresses.

Contents

1. Summary 3
2. Issue 3
3. Solution 5
4. Impacts 6
5. Costs 8
6. Implementation approach 9
7. Assessment of the proposal 9
8. Case for change 11

Appendix 1: Progression timetable 12

Appendix 2: Glossary 13

This document also has two annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the full Data Communications Company (DCC) Preliminary Assessment response.

Contact

If you have any questions on this modification, please contact:

Kev Duddy

020 3574 8863

kev.duddy@gemserv.com

1. Summary

This proposal has been raised by Tom Rothery from the DCC.

Currently, the Smart Energy Code (SEC) allows for the return of Communications Hubs in accordance with SEC Section F 'Smart Metering System Requirements' and Appendix I 'CH Installation and Maintenance Support Materials'.

However, the SEC does not currently accommodate the process of returning a Communications Hub to the DCC for the purpose of re-flashing the Device and then retaking delivery of that Device once the re-flashing process has been complete. Nor does it cater for re-flashing a Device whilst it is still in the supply chain. Furthermore, there is not an Explicit Charge that could be used for this service.

This modification is expected to impact the DCC, Supplier Parties and Other SEC Parties.

The Proposed Solution is for the DCC to create a process with its Service Providers whereby the DCC User can request a service to have the Communications Hub returned, re-flashed to the latest firmware version and re-delivered.

This modification will impact Suppliers, Other SEC Parties who order Communications Hubs and the DCC. The DCC Preliminary Assessment estimates the costs for Design, Build and Pre-Integration Testing (PIT) at £3,730,000. This change is targeted for the November 2024 SEC Release and is a Self-Governance Modification.

2. Issue

What are the current arrangements?

Communications Hub re-flashing

Manufacturers can develop Devices with non-operational interfaces to enable maintenance, diagnostics and refurbishment. The interfaces are designed to process instructions that are not defined in the Great Britain Companion Specification (GBCS). 'Re-flashing' is a process that delivers firmware upgrades to a Device using these interfaces. It means the Device can have its firmware upgraded without the Device first being installed in the field. The alternative is an Over The Air (OTA) upgrade which, when run at installation, can take a significant amount of time and increases the length of installation.

Guidance on re-flashing Devices has previously been developed and approved by the Security Sub-Committee (SSC) in conjunction with industry and any 'flashing' of Communications Hubs must comply with this guidance.

However, there is currently no mechanism in the SEC for the Communications Service Provider (CSP) to re-flash the Communications Hubs to uplift the firmware to the latest available before delivering to the User.

Communications Hub returns

The SEC does not currently specify that the DCC has to deliver Communications Hubs that support the latest firmware version available. Instead, the ordering and delivery processes as set out in SEC

Section F only require the DCC to deliver the requested volume of the specified Home Area Network (HAN) Variant Communications Hubs.

Currently, the SEC allows for the return of Communications Hubs in accordance with SEC Section F and Appendix I. SEC Parties can return Communications Hubs to the DCC and will be charged either one of two Explicit Charges:

- K7.5(o) – CH returned and redeployed
- K7.5(p) – CH returned and not redeployed

These Explicit Charges are set at the beginning of each Regulatory Year and can be found in the DCC Charging Statement.

Release 1.3 Communications Hubs

Due to the transition from Release 1 Communications Hubs to Release 2.0 Communications Hubs, the DCC offered a reflash capability in the North Region to upgrade firmware. This re-flashing activity enabled SEC Parties to return Communications Hub supporting v1.38.3 and v1.37.7 firmware to the CSP North to be re-flashed to a Release 2.0 firmware at no additional cost.

What is the issue?

The SEC does not currently accommodate the process of returning a Communications Hub to the DCC for the purpose of re-flashing the Device and then retaking delivery of that Device once the re-flashing process has been complete. Furthermore, there is not currently an Explicit Charge that could be used for this service.

Whilst the capability to reflash Communications Hubs in the North Region has been established, there will be associated charges going forward for all Regions and a process will need to be defined, which will require changes to the SEC.

There are two issues associated with re-flashing Communications Hubs firmware that this modification aims to address:

1. Communications Hubs already in the Supply Chain i.e., with the CSPs ready for distribution to DCC Users may be on a previous firmware version to the latest of Communications Hub firmware. Currently there is no mechanism for the CSP to “re-flash the Communications Hubs to uplift the firmware to the latest available before delivering to the User.
2. Communications Hubs on older firmware versions are currently being held in volume by DCC Users, with Users tending to install the Communications Hubs on the latest versions first so these numbers are not reducing at speed. There are no current provisions that accommodates the process of returning a Communications Hub to the DCC for the purpose of re-flashing the Device and then retaking delivery of that Device once the re-flashing process has been complete. Furthermore, there is not currently an Explicit Charge that could be used for this service, meaning the costs for this would be spread across all Parties.

What is the impact this is having?

If this issue is not resolved, Communications Hubs supporting older versions of firmware will continue to be held in volume by CSPs and DCC Users. If these Communications Hubs are not installed by the

relevant Installation Validity Periods (IVP) as set out in SEC Schedule 11 (Technical Specifications Applicability Tables (TSAT)), there is a risk that these Devices will need to be scrapped. Therefore, re-flashing Communications Hubs will have commercial benefits for Suppliers in ensuring their existing stock volumes are optimised and there will be minimal costs incurred from scrapped Communications Hubs. MP191 'Extending CHTS v1.0 & v1.1 IVP and MVP end dates' was raised specifically to extend the IVP for Communications Hubs that are compliant with Communications Hub Technical Specifications (CHTS) v1.0 and CHTS v1.1 within the TSAT. This modification will provide an enduring solution by providing a service to upgrade the firmware in advance of installation.

Impact on consumers

Not resolving this issue could increase the chance of consumers being left with out-dated Communications Hubs which do not allow consumers to reap the full benefits of smart metering.

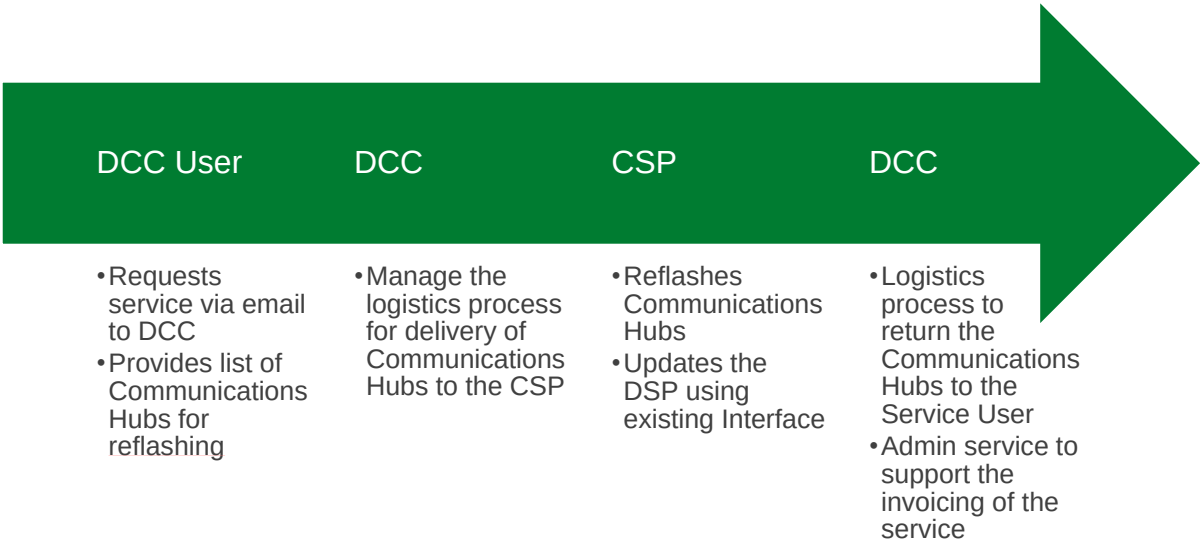
3. Solution

The DCC will implement a process to manage requests from SEC Parties to re-flash Communications Hubs. These requests to re-flash batches of Communications Hubs will be recorded as Work Orders in the DCC Service Management System and assigned to the relevant CSP. The relevant CSP will update each Communications Hub that is returned to it for re-flashing to the latest production Firmware Version for that Device Model and redeliver it to the SEC Party that requested the service.

After the Communications Hub has been uplifted to the latest available firmware via a re-flash, the CSPs will update their asset records with the new Firmware Versions. They will then notify the Data Service Provider (DSP) using the existing Communications Hub Pre-Notification interface within the CSP Management Gateway.

On receipt of the notification from the CSP, the DSP will update the Smart Metering Inventory (SMI) with the new information received, including any updates to the Firmware Version.

The CSPs will both need to develop and implement processes to re-flash Communications Hubs at scale. CSP Central and South has noted this will include development of a ‘multi-jig’ solution that could handle up to eight Communications Hubs in parallel.



4. Impacts

This section summarises the impacts that would arise from the implementation of this modification.

SEC Parties

SEC Party Categories impacted			
✓	Large Suppliers	✓	Small Suppliers
	Electricity Network Operators		Gas Network Operators
✓	Other SEC Parties	✓	DCC

Breakdown of Other SEC Party types impacted			
	Shared Resource Providers	✓	Meter Installers
	Device Manufacturers		Flexibility Providers
✓	Meter Asset Providers (MAPs)		

Suppliers and Other SEC Parties that place orders for Communications Hubs will be able to return these to the DCC to have them upgraded to the latest firmware efficiently and redelivered before installing these at consumer premises.

DCC System

The DCC will need to develop and implement this new service, calculate an Explicit Charge and ensure the back-office processes are in place to manage the end-to-end delivery. It is not expected to impact upon the DCC Total Systems.

SEC and subsidiary documents

The Smart Energy Code Administrator and Secretariat (SECAS) and the DCC will assess the full impacts to the SEC as part of the DCC Impact Assessment.

The following parts of the SEC will likely be impacted:

- SEC Section K 'Charging Methodology'
- Appendix I 'CH Installation and Maintenance Support Materials' (CHIMSM)

Devices

Devices impacted			
	Electricity Smart Metering Equipment		Gas Smart Metering Equipment
✓	Communications Hubs		Gas Proxy Functions
	In-Home Displays		Prepayment Meter Interface Devices
	Standalone Auxiliary Proportional Controllers		Home Area Network Connected Auxiliary Load Control Switches
	Consumer Access Devices		Alternative Home Area Network Devices

This process will allow SEC Parties to return Communications Hubs that are untouched, in their original packaging to the CSPs to reflash them onto the latest firmware version and then be redelivered to that Supplier. The modification will not impact Device behaviour.

Consumers

This modification will aim to benefit consumers by ensuring they have the latest possible version of Communications Hubs installed and to provide a better consumer experience by preventing prolonged installation times. It should help to shorten installer timescales and therefore increase roll out efficiency.

It will also reduce disposal of out-of-date Communications Hubs which would be a cost to SEC Parties and ultimately be passed onto the consumer

Other industry Codes

This modification will not impact other Industry Codes.

Greenhouse gas emissions

This modification will reduce the impact on greenhouse gas emissions by minimising the number of Communications Hubs that would need to be disposed of.

5. Costs

DCC costs

The estimated DCC implementation costs to implement this modification is £3,730,000 up until the end of PIT. The breakdown of these costs are as follows:

Breakdown of DCC implementation costs	
Activity	**Cost**
Design, Build and PIT	£3,730,000
Systems Integration Testing (SIT)	TBC
User Integration Testing (UIT)	TBC
Implement to Live	TBC
Application Support	TBC

More information can be found in the DCC Preliminary Assessment response in Annex B.

SECAS costs

The estimated SECAS implementation cost to implement this as a stand-alone modification is one day of effort, amounting to approximately £600. This cost will be reassessed when combining this modification in a scheduled SEC Release. The activities needed to be undertaken for this are:

- Updating the SEC and releasing the new version to the industry.

SEC Party costs

The costs for this modification are expected to be covered by the Users of the service via an Explicit Charge. There are many factors that influence the Explicit Charge calculation, including fixed and variable cost elements, forecast demand, cost recovery period etc., so the below figures can only be treated as illustrative. The fixed cost element is also sensitive to the number of Communications Hubs that we forecast needing to re-flash, as the CSPs would need to procure sufficient capacity (facilities, equipment etc.) to process those volumes.

Estimated values for explicit charge	
Volume of Communications Hubs submitted to be re-flashed over 12 month period	**Indicative estimate for Explicit Charge**
~300,000	£7.58 – £12.03
~130,000 and below	£30+ (breakeven point vs Explicit Charge K7.5 (p))
~50,000	£80+

It should be noted that should the DCC be asked to implement this service but not be able to recover the full cost through an Explicit Charge (i.e. the demand doesn't materialise), any unrecovered funds would be socialised through the main fixed charge.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **7 November 2024** (November 2024 SEC Release) if a decision to approve is received on or before 31 May 2023; or
- **26 June 2025** (June 2025 SEC Release) if a decision to approve is received after 31 May 2023 but on or before 28 February 2024.

Due to the estimated time required to complete the DCC Impact Assessment of 90 working days, it will be unlikely to reach a decision on the modification before Q2 2023. The lead time for the implementation is 12 months up to the end of PIT meaning the earliest this modification could be targeted for would be November 2024 SEC Release.

7. Assessment of the proposal

Observations on the issue

Change Sub-Committee (CSC)

The CSC noted the benefits of this modification. However, it questioned:

- What the explicit charge for the proposed service would be;
- Whether the DCC has an idea of the volume of Communications Hubs impacted by this;
- Who will be responsible for the Communication Hubs that are in transit;
- How likely are people to use this; and
- What happens if the firmware version changed, and how this would be recorded in the SMI?

The CSC was cautious about implementing a change that would not be widely used and agreed that further development was required to understand the above points. The DCC confirmed that further analysis to produce up to date estimates of the number of Devices held will continue. The remaining points will be addressed as part of the Refinement Process.

Other Sub-Committee views

The SSC advised that it had previously issued guidance on how Communications Hubs may be re-furbished and any process as part of the solution must be compliant with this guidance.

The Operations Group (OPSG) questioned whether the issue was specific to the transition from Release 1 Communications Hubs to Release 2.0 Communications Hubs. The DCC highlighted that the Communications Hub returns process agreed with the CSP North is a separate entity and not dependant on this modification, noting that Users can only return v1.38.3 and v1.37.7 Communications Hub stock free of charge for them to be re-flashed. As part of further development of the issue, the DCC has since expanded the scope of the modification to include all Communications Hubs that could benefit from a firmware update prior to delivery to a DCC User.

An OPSG member also questioned how the business case would be affected by the availability of any new 4G Communications Hubs in the future. The Proposer has advised that the timescales for delivery of the solution would feed into the business case for the existing stocks of 3G Communications Hubs but this information would not be available until after a Preliminary Assessment had been completed. They continued that the new 4G Communications Hubs would still utilise this process going forwards.

Solution development

An OPSG member stated that they would require new Advanced Shipment Notifications (ASNs) with any re-delivery, as the initial ones would have been processed by their systems and any duplication would be rejected. This has subsequently been specified within the business requirements.

Re-flashing Communications Hubs

A Working Group member queried if there was an overlap between this modification and the proposals around recommissioning faulty Communications Hubs, and whether these were similar activities. SECAS noted this modification is setting out the process for returning Communications Hubs for re-flashing. This approach will avoid security concerns as it reuses existing methodologies, following the guidance previously developed by the SSC, although the specifics of this would be clarified with the SSC as this modification develops. The DCC has confirmed that the Communications Hubs would be made available to the DCC User once re-flashed whereas when they are refurbished, they are not returned to the DCC User. The DCC also noted that the re-flashing service would accommodate far higher volumes of Communications Hubs.

Quantities for delivery and costs

A Working Group member questioned what the acceptable delivery sizes would be, querying whether they could use this process for individual Communications Hubs, or cartons, or if it had to be full pallets. The Proposer noted that they had initially explored this and thought it was likely that the process would be by the pallet load but asked the Working Group whether there was a preference.

A Working Group member suggested that the Working Group should determine the likely volume size they would want to return, whether that is by the unit, carton or pallet, for inclusion in the DCC Preliminary Assessment. As part of the Preliminary Assessment, the DCC considered these and has provided costs on a per Communications Hub basis.

8. Case for change

Business case

The DCC informed the Technical Architecture and Business Architecture Sub-Committee (TABASC) that the cost of scrapping the Communication Hubs was more economical once the number of Devices was below approximately 130,000, which at current rate of install would be reached by the end of 2023. The TABASC Chair noted this was a substantial cost for something which would be delivered too late for the benefit to be tangible. They noted that Users were still installing these Communications Hubs on older firmware versions alongside those on newer, which further weakened the business case. The Working Group also mirrored this view that this modification would not be able to be implemented soon enough to make it economically viable.

A SEC Party also noted that the costs of carrying out the Impact Assessment was very expensive and would be apportioned to Suppliers and Network Parties as with all modifications. all SEC Parties. The Working Group considered that the Impact Assessment should not be requested as the business case did not support the modification.

Views against the General SEC Objectives

Proposer's views

The Proposer's view is that this modification better facilitates SEC Objective (a)[1] by re-using existing Communications Hubs and not inconveniencing the consumer at installation be subjecting them to length installation times to upgrade the firmware.

Industry views

These will be gathered as part of the Refinement Consultation.

Views against the consumer areas

Improved safety and reliability

If implemented, this modification will have a neutral impact against this consumer area.

Lower bills than would otherwise be the case

If implemented, this modification will have a neutral impact against this consumer area.

[1] facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain

Reduced environmental damage

If implemented, this modification will have a positive impact against this consumer area by ensuring that Communications Hubs are used that may otherwise have been scrapped should their version not be supported.

Improved quality of service

If implemented, this modification will have a neutral impact against this consumer area.

Benefits for society as a whole

If implemented, this modification will have a neutral impact against this consumer area.

Support for Change

One Working Group member noted that Suppliers may not be installing Communications Hubs on the latest firmware as there are some defects that prevent them from using this version, citing the implementation of CRP535 onto the latest firmware versions as an example. They noted that this will cause the number of affected Communications Hubs to increase until this defect is resolved. They supported this proposal as a long-term service. It is noted this support was prior to the cost of the service being available.

Appendix 1: Progression timetable

This modification will now be issued for Refinement Consultation.

Timetable	
Event/Action	**Date**
Draft Proposal raised	18 Feb 2021
Presented to CSC for initial comment	30 Mar 2021
Presented to Operations Group for discussion	1 Jun 2021
Presented to CSC for final comment and recommendations	30 Nov 2021
Proposed Solution and business requirements developed with Proposer	Dec 2021
Business requirements discussed with Working Group	2 Mar 2022
Business requirements discussed with Operations Group	8 Mar 2022
DCC Preliminary Assessment requested	24 Mar 2022
DCC preliminary Assessment returned	15 Jun 2022
DCC Preliminary Assessment discussed with Working Group	6 Jul 2022
DCC Preliminary Assessment discussed with TABASC	7 Jul 2022
Refinement Consultation	15 Aug – 5 Sep 2022
Modification discussed with Working Group	*5 Oct 2022*
Impact Assessment costs approved by Change Board	*26 Oct 2022*

Timetable	
Event/Action	**Date**
Impact Assessment requested	*26 Oct 2022*
Impact Assessment returned	*10 Mar 2023*
Impact Assessment discussed with Working Group	*5 Apr 2023*
Impact Assessment discussed with TABASC	*6 Apr 2023*
Modification Report approved by CSC	*18 Apr 2023*
Modification Report Consultation	*19 Apr – 10 May 2023*
Change Board vote	*31 May 2023*

Italics denote planned events that could be subject to change

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	**Full term**
ASN	Advanced Shipment Notifications
CH	Communications Hub
CHIMSM	CH Installation and Maintenance Support Materials
CHTS	Communications Hub Technical Specifications
CSC	Change Sub-Committee
CSP	Communications Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
GBCS	Great Britain Companion Specification
HAN	Home Area Network
IVP	Installation Validity Period
MVP	Maintenance Validity Periods
OPSG	Operations Group
OTA	Over-The-Air
PIT	Pre-Integration Testing
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator & Secretariat
SIT	System Integration Testing
SMI	Smart Metering Inventory
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee
TSAT	Technical Specifications Applicability Tables

Glossary	
Acronym	**Full term**
UIT	User Integration Testing

This document is classified as **White** in accordance with the Panel Information Policy. Information can be shared with the public, and any members may publish the information, subject to copyright.

MP155 'Communications Hub Re-Flash'

Annex A

Business requirements – version 0.4

About this document

This document contains the business requirements that support the solution(s) for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The Data Communications Company (DCC) will use this information to provide an assessment of the requirements that help shape the complete solution.

1. Business requirements

This section contains the functional business requirements. Based on these requirements a full solution will be developed.

Business Requirements	
Ref.	**Requirement**
1	Smart Energy Code (SEC) Parties shall notify DCC when they want to re-flash Communications Hubs
2	DCC shall notify SEC Parties whether their request for re-flashing has been accepted or rejected
3	DCC shall confirm to SEC Parties authorisation of Communications Hub re-flash
4	SEC Parties shall send authorised Communications Hubs to DCC
5	DCC shall accept/reject delivery of Communications Hubs sent to DCC
6	DCC shall re-flash accepted Communications Hubs
7	DCC shall notify SEC Parties of successful Communications Hub re-flashing and re-delivery
8	SEC Parties shall notify DCC of any amendments to re-delivery
9	DCC shall re-deliver re-flashed Communications Hubs to SEC Parties
10	DCC shall update the Data Service Provider (DSP) inventory systems to map the new firmware version to the Communications Hub Global Unique Identification (GUID)

2. Considerations and assumptions

This section contains the considerations and assumptions for each business requirement.

2.1 General

This solution will only be applicable to Communications Hubs that have remained within the SEC Parties stores and remain in their original packaging. Guidance on re-flashing Devices has previously been developed and approved by the Security Sub-Committee (SSC) in conjunction with industry and any 'flashing' of Communications Hubs must comply with this guidance.

2.2 Requirement 1: SEC Parties shall notify DCC when they want to re-flash Communications Hubs

The Proposed Solution will require the DCC to design a mechanism for SEC Parties to notify the DCC of the Communications Hubs they want to be re-flashed to the latest available firmware version. This notification should have relevant fields to account for how many Communications Hubs will be listed for re-flash and to specify:

- the GUID
- the firmware version
- the make and model of any such Communications Hubs
- the Delivery Location required for re-delivery.
- The Delivery Date and Delivery Window required for re-delivery.

The SEC Party shall ensure that all Communications Hubs are "Pending" in the SMI.

2.3 Requirement 2: DCC shall notify SEC Parties whether their request for re-flashing has been accepted or rejected

The Proposed Solution will require the DCC to design a mechanism for the DCC to notify the SEC Party of whether the Communications Hub re-flash request has been accepted or rejected.

- Accepted shall mean that the request will be fulfilled with no amendments to the information provided i.e. location and date
- Rejected shall mean that the request requires amendment prior to acceptance. E.g. the location or date needs amending.

Where a request has been rejected, the DCC shall set out the reasons why the request has been rejected. The SEC Party shall then send an amended notification in accordance with Business Requirement 1. The rejection reasons will include, but are not limited to:

- Communications Hub not in a 'pending' State
- Communications Hub assigned to different Service User
- Wrong Communications Service Provider (CSP) or Facility location

- Missing Data
- Delivery Address Issues (I/e not a listed location)
- Incorrect Packaging / Clear Damage

2.4 Requirement 3: DCC shall confirm to SEC Parties authorisation of Communications Hub re-flash

The DCC shall develop a mechanism to confirm authorisation of a Communications Hub re-flash. Upon acceptance of SEC Party notification, the DCC shall confirm authorisation to the submitting SEC Party providing the following information:

- A unique booking reference
- Confirmed location for delivery
- Confirmed date and timeslot for delivery
- Delivery reference number
- Any changes to the DCC contact details for the purpose of this re-flash

Along with authorisation the DCC shall send a printable label for each delivery.

2.5 Requirement 4: SEC Parties shall send authorised Communications Hubs to DCC

SEC Parties will be required to ensure that all Communications Hub sent to the DCC are in the same packaging to that in which a Communications Hub was originally packaged, not exceeding the maximum number of Communications Hubs per carton and cartons per pallet as set out in SEC Appendix H 'Communications Hub Support Materials'.

SEC Parties shall be required to produce a document along with the Communications Hubs that contains a minimum of the following information:

- Booking reference as supplied by the DCC in authorisation
- Sent date and delivery time
- Party signifier
- List of all GUIDs being sent
- (where one or more pallets are to be sent) the pallet identifiers for each pallet

SEC Parties shall also attach the printable label provided by the DCC along with the authorisation on each pallet and each carton (where a carton is not part of a pallet).

Where SEC Parties cannot meet the agreed delivery time, they shall notify the DCC of their expected time of arrival. The DCC shall then confirm to the Party that the DCC is either able, or unable, to accept the late delivery. Where the DCC is unable to accept the delivery, the DCC shall notify the Party of the full range of available delivery dates and times.

Liability of the Communications Hubs shall transfer to the DCC on commencement of unloading (where unloading by the DCC) or on completion of unloading (where unloaded by the SEC Party).

2.6 Requirement 5: DCC shall accept/reject delivery of Communications Hubs sent to DCC

The Proposed Solution requires the DCC to review the delivery of Communications Hubs. The DCC shall be able to carry out the following:

- Assessment of pallets against those recorded under the re-flash request
- Checks between the GUIDs received against those listed under the re-flash request
- Check that the number of Communications Hubs returned matches the number of GUIDs listed in the re-flash request

Where the DCC rejects the delivery in whole or part, the Party shall submit a new request and rearrange delivery following the procedure set out above.

The DCC shall be required to develop a mechanism to notify Parties of an accepted or rejected delivery in whole or in part.

2.7 Requirement 6: DCC shall re-flash accepted Communications Hubs

The Proposed Solution requires the DCC to develop a mechanism to re-flash accepted Communications Hubs to the latest version of firmware available for the Communications Hub.

The DCC shall also develop a process for Communications Hubs that cannot be re-flashed. This process shall require the DCC to complete Fault Analysis on the Communications Hubs and provide a Fault Analysis Report to the SEC Party. Where Communications Hubs are damaged in such a way that a Fault Analysis Report is not possible, a manual report shall be provided.

SEC Parties will be credited for any Communications Hubs that are accepted at delivery but are not able to be reflashed. It will not be possible for the DCC to provide replacement Communications Hubs. It is expected that this scenario will happen at such low volume that it will not affect the ability to redeliver in the same carton or pallet.

2.8 Requirement 7: DCC shall notify SEC Parties of successful Communications Hub re-flashing and re-delivery

The Proposed Solution requires the DCC to develop a mechanism to notify the SEC Party of the successful re-flashing of sent Communications Hubs and the proposed re-delivery of those assets. The DCC should be required to re-deliver within a defined SLA (to be agreed as part of Refinement).

The notification shall include:

- The number of successful re-flashed Communications Hubs and the corresponding GUIDs
- The number of unsuccessful Communications Hubs (if any) and the corresponding GUIDs
- The Delivery Date and associated Delivery Window that is within Working Hours
- The Delivery Location as per the one specified in the re-flash notification.

2.9 Requirement 8: SEC Parties shall notify DCC of any amendments to re-delivery

The Proposed Solution requires SEC Parties to notify the DCC of any amendments required to the proposed Delivery Date, Delivery Window, and/or Delivery Location as notified in the re-delivery notification. This will need to be notified within a defined SLA (to be agreed as part of Refinement).

2.10 Requirement 9: DCC shall return re-flashed Communications Hubs to SEC Parties

The Proposed Solution requires DCC to develop a process to return Communications Hubs to the same SEC Party that requested the re-flash. The DCC will confirm the following delivery details with the SEC Party:

- The Delivery Date and associated Delivery Window that is within Working Hours
- The Delivery Location as per the one specified in the re-flash notification.

The DCC will provide new Advanced Shipment Notifications (ASNs) for all deliveries through SharePoint.

Liability of the Communications Hubs shall transfer to the SEC Party on commencement of unloading (where unloading by the SEC Party) or on completion of unloading (where unloaded by the DCC).

2.11 Requirement 10: DCC shall update the DSP inventory systems to map the new firmware version to the Communications Hub GUID

Prior to redelivery of the Communications Hubs the DCC will update the DSP to reflect that the Communications Hubs have been updated onto a new firmware version.

3. Solution options

This section outlines the solution options for this Modification Proposal. It provides detailed information on the variants of the proposed solution for the business requirements contained in Section 1 of this document.

3.1 Delivery sizes

It is expected that any returns of Communications Hubs will be in their original packaging. However, SEC Parties have queried whether deliveries must be made as a full pallet, or whether smaller quantities could be returned, such as at a carton level. Options and capability for different delivery sizes should be considered within the DCC Preliminary Assessment.

4. Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	**Full term**
ASN	Advanced Shipment Notification
CSP	Communications Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
GUID	Global Unique Identification
SEC	Smart Energy Code
SLA	Service Level Agreement
SMI	Smart Meter Inventory
SSC	Security Sub-Committee

Data Communications Company

SEC Modification Proposal, MP155

DCC CR4639

Communications Hub Re-flash

DCC Preliminary Impact Assessment

Version:	**1.1**
Date:	**28 June 2022**
Author:	**DCC**
Classification:	**DCC PUBLIC**

Contents

1 Executive Summary 4
2 Introduction 6
2.1 Revision History 6
2.2 Associated Documents 6
2.3 Document Information 6
3 Context and Requirements 7
3.1 Problem Statement 7
3.2 Business Requirements 7
4 Benefits 9
5 Impacted Domains 9
6 Impact on DCC's Systems, Processes and People 11
6.1 Description of Solution 11
6.2 Solution Option A 11
6.2.1 Impact on CSP North 11
6.2.2 Impact on CSP Central and South 12
6.2.3 DSP Solution 13
6.2.4 Impact on DCC 13
6.2.5 Impact on SEC Parties 13
6.2.6 Technical Specifications 14
6.2.7 Impact on the SEC 14
6.2.8 Impact on Security 14
6.3 Solution Option B 14
6.3.1 Impact on CSP North 14
6.3.2 Impact on CSP Central and South 14
6.3.3 DSP Solution 14
6.3.4 Impact on DCC 14
6.3.5 Impact on SEC Parties 14
6.3.6 Technical Specifications 15
6.3.7 Impact on the SEC 15
6.3.8 Impact on Security 15
7 Testing Considerations 15
7.1 Pre-integration Testing 15
7.2 Systems Integration Testing 15
7.2.1 Option A 15

7.2.2 Option B 15
7.3 User Integration Testing 16
8 Implementation Timescales and Releases 16
8.1 Solution Option A 16
8.2 Solution Option B 16
9 DCC Costs and Charges 17
9.1 Cost Impact 17
9.1.1 Details for Option A 18
9.1.2 Details for Option B 18
9.2 Impact on Charges 18
10 RAID 20
Risks 20
Assumptions 20
Issues 22
Dependencies 22
Appendix A: Glossary 22

1 Executive Summary

MP155 proposes a process and associated system changes to facilitate re-flashing of Communications Hubs that are held in stock by SEC Parties to upgrade them to the latest Firmware Version, without relying on Over The Air (OTA) updates at the point of installation. Re-flashing is a procedure carried out by the Communications Hub manufacturer to update the Firmware on the device via an out-of-band mechanism that doesn't utilise the SMWAN.

DCC has identified two potential solution options. In both options, DCC and the CSPs will implement processes and system changes to support the return, re-flashing and re-delivery of batches of Communications Hubs. The options differ in terms of how updates to the Smart Metering Inventory (SMI) are initiated:

- Option A – the relevant CSP updates the SMI using current DSP interfaces to record the new Firmware Version; and
- Option B – DCC Logistics updates the SMI using a new file interface provided by DSP to record the new Firmware Version.

The DSP, CSP North, CSP Central and South are impacted by this change.

The Change Board are asked to approve one of the following options for Full Impact Assessment:

Option A

- Total cost to complete the Full Impact Assessment of £225,159;
- The timescales to complete the Full Impact Assessment of 90 working days; and
- ROM costs for MP155, for setup up to the end of Pre-Integration Testing (PIT) and for year 1 of operations of £3,730,000.

Option B

- Total cost to complete the Full Impact Assessment of £237,970;
- The timescales to complete the Full Impact Assessment of 90 working days; and
- ROM costs for MP155, for setup up to the end of Pre-Integration Testing (PIT) and for year 1 of operations of £3,730,000 to £3,880,000.

SECAS' MP155 Modification Report indicates that there is a preference for costs to be recovered via an Explicit Charge. As an illustration, based on the ROM costs above, DCC estimates an Explicit Charge of between £7.60 and £12 per Communications Hub.

Benefits

The main beneficiaries of the change are SEC Parties, who will gain the ability to utilise aged Communications Hub stock without encountering delays during installation while waiting for OTA updates to complete. A further benefit to SEC Parties is the avoidance of potential charges associated with scrapping Communications Hubs that are not installed by the relevant Installation Validity Period end date.

Maximising the potential for Communications Hubs already supplied to be installed also contributes to mitigating current supply shortages.

2 Introduction

2.1 Revision History

Revision Date	Revision	Summary of Changes
13/06/2022	1.0	Issued to SECAS
28/06/2022	1.1	Minor update following review

2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP155 Business Requirements v0.4	SECAS	
2	MP155 Modification Report v0.3	SECAS	

References are shown in this format, [1].

2.3 Document Information

The proposer for this Modification is Tom Rothery of DCC.

This Preliminary Impact Assessment was requested of DCC on 24 March 2022.

3 Context and Requirements

3.1 Problem Statement

There are two issues associated with re-flashing Communications Hubs firmware:

1. Communications Hubs already in the Supply Chain i.e., with the CSPs ready for distribution to DCC Users may be on a previous Firmware Version to the latest of Communications Hub firmware. Currently there is no mechanism for the CSP to “re-flash” the Communications Hubs to uplift the firmware to the latest available before delivering to the User.

2. Communications Hubs on older Firmware Versions are currently being held in volume by DCC Users, with Users tending to install the Communications Hubs on the latest versions first so these numbers are not reducing at speed. There are no current provisions that accommodates the process of returning a Communications Hub to the DCC for the purpose of re-flashing the Device and then retaking delivery of that Device once the re-flashing process has been complete. Furthermore, there is not currently an Explicit Charge that could be used for this service, meaning the costs for this would be spread across all Parties.

N.B. The above problem statement is drawn from the SECAS MP155 Modification Report and alludes to re-flashing Communications Hubs that are in the DCC supply chain, however the SECAS MP155 Business Requirements, repeated below, refer only to Communications Hubs that have already been delivered to DCC Users. There are currently approximately 350,000 Communications Hubs with a Firmware Version of N-4 or older held in stock by SEC Parties.

3.2 Business Requirements

Ref.	Requirement
1	Smart Energy Code (SEC) Parties shall notify DCC when they want to re-flash Communications Hubs
2	DCC shall notify SEC Parties whether their request for re-flashing has been accepted or rejected
3	DCC shall confirm to SEC Parties authorisation of Communications Hub re-flash
4	SEC Parties shall send authorised Communications Hubs to DCC
5	DCC shall accept/reject delivery of Communications Hubs sent to DCC
6	DCC shall re-flash accepted Communications Hubs
7	DCC shall notify SEC Parties of successful Communications Hub re-flashing and re-delivery
8	SEC Parties shall notify DCC of any amendments to re-delivery
9	DCC shall re-deliver re-flashed Communications Hubs to SEC Parties
10	DCC shall update the Data Service Provider (DSP) inventory systems to map the new Firmware Version to the Communications Hub Global Unique Identification (GUID)

For the avoidance of doubt, the scope of this PIA is restricted to SMETS2 Communications Hubs that have been delivered to DCC Users and are in a Pending state.

DCC Public

4 Benefits

The Benefits associated with various Parties are noted following.

Organisation	Benefit
DCC	Re-flashing of Communications Hubs that have already been delivered but not installed may result in reduced demand for new orders, which contributes to mitigating current supply issues.
Service Providers	As above.
SEC Parties	Deploy older Communications Hubs that have remained in warehouse stock for months or years. Avoid delays during Installation of older Communications Hubs while firmware is updated OTA. Avoid Explicit Charges associated with scrapping Communications Hubs for which the Installation End Date has passed and which have to be returned to the DCC. If the approximately 300,000 Communications Hubs with N-4 or older firmware (and therefore are at risk of becoming obsolete) held in stock at the time of the PIA being requested were to be scrapped, the total cost to DCC Users would be £9.26 million.

Table 1 – Benefits

The Business Case will be elaborated as part of the Final Impact Assessment.

5 Impacted Domains

The impacted domains have been identified as follows:

Domain	Impact Summary (Option A)	Impact Summary (Option B)
CSP North	Business Support Systems Communications Hub manufacturer Communications Hub Management Logistics/ Asset Management Service & Operations Legal & Commercial	Business Support Systems Communications Hub manufacturer Communications Hub Management Logistics/ Asset Management Service & Operations Legal & Commercial

Domain	Impact Summary (Option A)	Impact Summary (Option B)
CSP Central and South	Business Support Systems	Incident Management Logistics/ Asset Management
DSP	N/A	Self-Service Management Interface
DCC	Logistics Legal & Commercial	Logistics Legal & Commercial
SEC Parties	Logistics/ Asset Management	Logistics/ Asset Management

Table 2

6 Impact on DCC's Systems, Processes and People

This section describes the overall solution and the impact of MP155 on DCC's Services and Interfaces that impact Users and/or Parties.

6.1 Description of Solution

DCC has identified two solution options, which a differ only in terms of who (DCC Logistics or the relevant CSP) initiates an update to the SMI to record the new Firmware Version against each Communications Hub that has been re-flashed. From the perspective of the SEC Parties who would use the service, the options are indistinguishable. The options are:

Option A – following successful re-flashing of a Communications Hub, the new Firmware Version is recorded first in CSP systems and then the CSP initiates an update to DSP systems (i.e. the SMI) using the existing CSP Management Interface (N3 web service); and

Option B – following successful re-flashing of a Communications Hub, the new Firmware Version is recorded first in CSP systems and, once DCC is notified of successful completion of the re-flashing, DCC Logistics initiates an update to DSP systems (the SMI) using a new file interface accessed through the Self-Service Management Interface (SSMI).

Both options have the following features in common:

- DCC will implement a process to manage requests from SEC Parties to re-flash Communications Hubs;
- the relevant CSP will update each Communications Hub returned to it for re-flashing to the latest production Firmware Version for that Device Model and re-deliver the Communications Hub to the SEC Party who requested the re-flashing service;
- requests to re-flash batches of Communications Hubs will be recorded as Work Orders in the DCC Service Management System and assigned to the relevant CSP;
- the relevant CSP will update each Communications Hub that is returned to it for re-flashing to the latest production Firmware Version for that Device Model and redeliver it to the SEC Party that requested the service;
- communication between DCC and SEC Parties will be via email.

In both options, it is expected that the cost of providing the Communications Hub re-flashing service be passed on to the SEC Parties that make of the service by means of an Explicit Charge.

6.2 Solution Option A

6.2.1 Impact on CSP North

The following items are considered within the scope supply for CSP North for delivery of this Modification:

- Implement a capability to re-flash Communications Hubs at scale, including provision of additional secure facilities to store and process the forecast volumes of Communications Hubs. Communications Hub supporting documents to be updated to reflect the process, including initiating an update to the SMI to record the new Firmware Version using the existing CSP Management Interface (N3 web service).

- Implement processes for unlocking Communications Hubs outside of the current returns process.

- Implement new Service Processes and Service Operations, logistics etc. Ordering / Returns Team would require new process for returning to the Communications Hub manufacturer, tracking and managing issues.

- Design, build, and system test modifications to the CSP North solution to implement Data and Structure changes to Ordering and Logistics, Billing and Financials, performance measures and service reporting within the CSP North Business Support Systems;

- Testing up to the end of PIT.

6.2.2 Impact on CSP Central and South

The following items are considered with the scope of supply by CSP Central and South for delivery of this Modification:

The following items are considered within the scope supply for CSP Central and South for delivery of this Modification:

- Re-flashing of Communications Hubs that have been delivered to SEC Parties (SEC Parties) and are in a pending state;

- Setup of a new service catalogue item to handle Communications Hub re-flashing requests. There will be a charge for this service catalogue item which will require an approved purchased order from DCC before CSP Central and South can provide the services requested for each individual request (as per the usual process);

- Design, build and system test modifications to the CSP Central and South CSP solution to support the process of handling the following key activities:

    - Requesting a batch of Communications Hubs for re-flashing via the establishment of a new service catalogue item;

    - If approved, the return of the Communications Hubs to the third party logistics partner;

    - Re-flashing of Communications Hubs to the latest Firmware Version;

    - Updating the Communications Hub Firmware Version recorded in the SMI using the existing CSP Management Interface (N3 web service); and

    - Sending the Communications Hubs back to the service user;

- Set up or expansion of secure dedicated area at the third party logistics partner premises (covers a one off setup activity and ongoing monthly rental/maintenance of this dedicated area);

- Updates to the third party logistics partner processes and IT systems to support the Communications Hub re-flash activities

- Updates to the third party logistics partner processes and IT systems to support the Communications Hub re-flash activities;

- Design, build and system test updates to the Test Bench software to perform firmware upgrade only, reducing the processing time;

- Development of a 'multi-jig' solution to perform firmware upgrades on a 'one to many' ratio as opposed to the 1-to-1 ratio currently used for refurbishment. This will mean that firmware updates can occur on multiple Comms Hubs in parallel. This is being designed to handle up to 8 hubs in parallel for the re-flash activity; re-flash activity;

- Provision of 3 'multi-jig' units to enable the processing of multiple units in parallel and therefore increase the throughput of the number of Communications Hubs re-flashed;

- Ongoing maintenance of these 'multi-jig' units, including periodic checks of the units, replacement of consumables and warranty fixes;

- Testing of the CSP Central and South solution up to and including the PIT test phase.

6.2.3 DSP Solution

Under Option A, after the Communications Hub device has been uplifted to the latest available firmware via a re-flash, CSPs will update their asset records with the new Firmware Versions and then notify DSP using the existing Communications Hub Pre-Notification (CSPM-N3) interface within the CSP Management Gateway.

On receipt of the notification from the CSP, DSP will update the SMI with the new information received on the CSPM-N3 interface, including any updates to the Firmware Version. Note that all parameters are mandatory on the CSPM-N3 interface and, therefore, all of them must be provided. This is existing functionality within the DSP solution and, therefore, no additional development effort is required.

6.2.4 Impact on DCC

Design, build and test the tools and templates to support administration of the process by which SEC Parties will make requests re-flashing of Communications Hubs.

6.2.5 Impact on SEC Parties

There is no impact on User Systems as a result of this change, save to the extent that SEC Parties requiring re-flashing of Communications Hubs will need to:

- Interact with DCC via email; and

- Provide lists of Communications Hubs for re-flashing in a format specified by DCC.

6.2.6 Technical Specifications

No changes to DUIS or GBCS will be required.

6.2.7 Impact on the SEC

This will be provided as part of the Full Impact Assessment.

6.2.8 Impact on Security

A detailed Security impact will be carried out as part of the Full Impact Assessment.

6.3 Solution Option B

6.3.1 Impact on CSP North

As for Option A, with the exception that CSP North systems will not initiate an update to the SMI to record the new Firmware Version using the existing CSP Management Interface (N3 web service).

6.3.2 Impact on CSP Central and South

As for Option A, with the exception that CSP North systems will not initiate an update to the SMI to record the new Firmware Version using the existing CSP Management Interface (N3 web service).

6.3.3 DSP Solution

Under Option B, the CSPs will not notify DSP following re-flashing of Communications Hubs. Instead, after a Communications Hub has been uplifted to the latest Firmware Version available via a re-flash, DCC Logistics will share the details of the Firmware Version with DSP.

A new file upload interface will be provided within SSMI for the purpose of re-flashing a list of identified Communications Hubs. This interface and the subsequent processing will be built in accordance with the existing processing patterns for file upload. The file will contain the list of Communications Hub IDs and the new Firmware Versions.

DSP will update the SMI with the new Firmware Version(s) for the list of Communications Hubs. Only Communications Hubs with an SMI status of ‘Pending’ will be eligible for re-flashing and this will be enforced by way of validation checks within SSMI.

6.3.4 Impact on DCC

Design, build and test the tools and templates to support administration of the process by which SEC Parties will make requests re-flashing of Communications Hubs.

6.3.5 Impact on SEC Parties

There is no impact on User Systems as a result of this change, save to the extent that SEC Parties requiring re-flashing of Communications Hubs will need to:

- Interact with DCC via email; and

- Provide lists of Communications Hubs for re-flashing in a format specified by DCC.

6.3.6 Technical Specifications

No changes to DUIS or GBCS will be required.

6.3.7 Impact on the SEC

This will be provided as part of the Full Impact Assessment.

6.3.8 Impact on Security

A detailed Security impact will be carried out as part of the Full Impact Assessment.

7 Testing Considerations

This section outlines the testing required to complete the Design, Build and Test phases for this SEC Modification.

7.1 Pre-integration Testing

During Pre-Integration Testing (PIT), each Service Provider tests its own solution to agreed standards in isolation of other Service Providers.

The design, implementation, Early Automated System Testing (EAST), System Testing, Performance Testing and Factory Acceptance Testing (FAT) phases will operate as a single phase of activity with a single drop into DSP's SIT-B environment.

FAT will consist of a defined subset of EAST tests being observed by DCC within the final one week of testing. The Schedule 6.2 exit criteria and defect mask will apply for the Pre-Integration Process.

7.2 Systems Integration Testing

Systems Integration Testing (SIT) is the testing of the DCC Total System, which brings together the components, e.g., DSP and CSP Systems, to allow testing of the end-to-end solution by DCC. SIT is carried out for every DCC System release and incorporates the test and integration of multiple changes.

7.2.1 Option A

The system changes involve the CSPs only as the updates to the SMI will be achieved via current functionality and therefore separate Service Provider integration testing will not be required.

7.2.2 Option B

If Option B is selected, MP155 will be tested in SIT with support from the CSPs. The change affects SMETS2 only. The proposed SIT scope is:

- CSP pre-notifies one SBCH Communications Hub for each Communications Hub manufacturer;
- The Communications Hubs are re-flashed, with DCC providing the SSMI upload file to update the SMI;

- There will be limited negative testing of the SSMI upload;
- CSP births each Communications Hub and SR11.2 is sent to confirm the firmware version present on the Communications Hub.

The testing will be executed for each Communications Hub manufacturer. This does not include any 4G Communications Hubs.

7.3 User Integration Testing

As the changes described under Options A and B do not impact the DCC User Interface or any of the Technical Specifications, DCC does not expect that User Integration Testing will be required as part of the implementation of this SEC Modification.

8 Implementation Timescales and Releases

8.1 Solution Option A

The system changes for this option will need to be packaged as part of a wider release, the timing of which will be dependent on the priority of this SEC Modification relative to other changes also awaiting scheduling for release.

For the purposes of this Preliminary Assessment, a prudent planning assumption would be that DCC requires a lead time of **12 months** from the date of approval, (in accordance with Section D9 of the SEC) to implement the changes up to and including the PIT complete stage.

Implementation timescales will be confirmed as part of the Full Impact Assessment.

8.2 Solution Option B

The system changes for this option will need to be packaged as part of a wider release, the timing of which will be dependent on the priority of this SEC Modification relative to other changes also awaiting scheduling for release.

For the purposes of this Preliminary Assessment, a prudent planning assumption would be that DCC requires a lead time of **12 months** from the date of approval, (in accordance with Section D9 of the SEC) to implement the changes up to and including the PIT complete stage.

Implementation timescales will be confirmed as part of the Full Impact Assessment.

9 DCC Costs and Charges

9.1 Cost Impact

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

Implementation costs, MP155							
Phase:	**Design**	**Build**	**PIT**	**SIT**	**UIT**	**Implementation to Live**	**Total**
Solution Option A	£3,730,000 including setup and year 1 operation for the volumes estimated			*Not applicable in PIA*			**£3,730,000**
Solution Option B	£3,730,000 – £3,880,000 including setup and year 1 operation for the volumes estimated			*Not applicable in PIA*			**£3,730,000 to £3,880,000**

Implementation costs – supplementary information	
Implementation cost assumptions	*A. Costs are exclusive of VAT and any applicable finance charges* *B. 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. Costs will be refined during future assessments.*
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 design 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.* • *System 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 Costs: 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.*

Note that any transport costs will need to be quoted separately as this needs to be evaluated on a case by case basis based on the volume of Communications Hubs needing to be re-flashed and the delivery location.

9.1.1 Details for Option A

The fixed price cost for a Full Impact Assessment is £225,159 and would be completed in 90 working days.

CSP Central and South have indicated that they can provide a Full Impact Assessment within 30 working days.

CSP North has indicated that they can provide a Full Impact Assessment within 90 working days.

9.1.2 Details for Option B

The fixed price cost for a Full Impact Assessment is £237,970 and would be completed in 90 working days.

DSP and CSP Central and South have indicated that they can provide a Full Impact Assessment within 30 working days.

CSP North has indicated that they can provide a Full Impact Assessment within 90 working days.

9.2 Impact on Charges

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

The SECAS MP155 Modification Report indicates that there is a preference for the costs associated with the provision of the Communications Hub re-flashing service to be recovered from the SEC Parties who make use of the service, via a new Explicit Charge for each Communications Hub that is re-flashed.

There are many factors that will affect the final value of that Explicit Charge that is added to the DCC Charging Statement, should this Modification be implemented, such as:

- the fixed setup, fixed ongoing and variable ongoing costs for each Service Provider, which are option dependent and will be confirmed as part of the Full Impact Assessment;
- the period over which the fixed charges are recovered;
- the number of Communications Hubs for which SEC Parties request the re-flashing service.

Based on the costs presented in this Preliminary Assessment, for the volume of Communications Hubs included in assumption MP155-A-003, DCC has estimates that Explicit Charge would be approximately £7.60 per Communications Hub.

Were the service as sized for this Preliminary Assessment to be provided, but the forecast demand for Communications Hub re-flashing be revised down by 50% at the time of setting the Explicit Charge, then that Charge per Communications Hub would increase to approximately £12.

Note that the above figures are illustrative only. As part of the Full Impact Assessment, DCC will model a range of different scenarios for cost recovery and demand for the Communications Hub re-flashing service and provide estimates of the Explicit Charge in those scenarios.

10 RAID

The risks, assumptions, issues and dependencies below are applicable to both solution options.

Risks

Ref.	Risk Description	Status
MP155-R-001	There is a risk that, if the Communications Hub re-flashing fails, the affected device will need to be scrapped and cannot be re-delivered to the SEC Party.	Open
MP155-R-002	There is a risk that, if this service is made available, then SEC Parties will be less incentivised to manage their stock holding and install to First in First Out principles.	Open

Assumptions

Ref.	Description	Status
MP155-A-001	It is assumed that any Communications Hubs sent in by SEC Parties for re-flashing will be sent back to the same SEC Parties. This process will not support any transfer of ownership of Communications Hubs between SEC Parties.	Open
MP155-A-002	It is assumed that any monthly charges associated to Communications Hubs, which are triggered on delivery acceptance by SEC Parties, will continue to be charged regardless of the fact that Communications Hub has been returned for re-flashing.	Open
MP155-A-003	It is assumed that there will be restrictions in the volumes of Communications Hubs returned and frequency of initiating the Communications Hub returns process for re-flashing in order for CSPs to appropriately support the DCC. The final volumes and frequency of Communications Hubs returned for re-flashing will be determined at the FIA stage. For this PIA, the solution will be sized based on the following estimated volumes:	Open

Ref.	Description	Status
	• approximately 160,000 Communications Hubs requiring re-flashing by CSP Central and South over 12 months; and • approximately 140,000 CSP North Communications Hubs requiring re-flashing by CSP Central and South over 12 months, at a rate of up to 2 pallets (1,792 Communications Hubs) per month.	
MP155-A-004	It is assumed that there will be no change to the unlock command which is used to unlock the Communications Hub prior to conducting the re-flashing activity.	Open
MP155-A-005	It is assumed that the scope of this Modification only applies to Communications Hubs that have been delivered to SEC Parties and are in a pending state.	Open
MP155-A-006	It is assumed that the scope of this Modification only applies to Communications Hubs that have remained within the SEC Parties stores and remain in their original sealed packaging.	Open
MP155-A-008	It is assumed that re-flashing applies to Communications Hub that have not been installed. Communications Hub's that have been installed will follow the existing returns process.	Open
MP155-A-009	CSP North assumes that the re-flashing facility will be sized to store a maximum of 5 pallets of Communications Hubs.	Open
MP155-A-010	It is assumed that re-delivering re-flashed comms hubs to SEC Parties will be excluded from CHSMM order delivery regulations.	Open
MP155-A-011	It is assumed that there will be no change to existing performance measures.	Open

Ref.	Description	Status
MP155-A-012	It is assumed that there will be no SLA for this service, and it will not impact existing returns SLAs.	Open

Issues

None identified at this time.

Dependencies

Ref.	Description	Status
MP155-D-001	SEC Parties will provide a 6 monthly forecast on predicted re-flash volumes.	Open

Appendix A: Glossary

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

Acronym	Definition
CR	DCC Change Request
CSP	Communications Services Provider
DCC	Data Communications Company
DSP	Data Service Provider
FIA	Full Impact Assessment
I&C	Installation and Commissioning
OTA	Over the Air
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing

RAID	Risks, Assumptions, Issues and Dependencies
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SLA	Service Level Agreement
SMETS	Smart Metering Equipment Technical Specification
SMI	Smart Metering Inventory
SSI	Self Service Interface
SSMI	Self Service Management Interface
UIT	User Integration Testing