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# MP105

## ‘Sending SR11.2 to Devices in Suspended State’

### Modification Report

Version 1.0

15 February 2021

Corporate member of  
Plain English Campaign  
Committed to clearer  
communication

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## About this document

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This document is a Modification Report. It currently sets out the background, issue, solution, impacts, costs, implementation approach and progression timetable for this modification, along with any relevant discussions, views and conclusions.

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This document also has five annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex C** contains the full Data Communications Company (DCC) Impact Assessment response.
- **Annex D** contains the full responses received to the Refinement Consultation.
- **Annex E** contains the DCC statement around the costs. This annex is classified as **RED** – Parties can request a copy by emailing [sec.change@gemserv.com](mailto:sec.change@gemserv.com).

## Contact

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## 1. Summary

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This proposal has been raised by Chun Chen from the DCC.

When firmware is successfully activated on a Device, sometimes the corresponding Service Request 11.3 'Activate Firmware' does not generate a response to the Data Services Provider (DSP). Consequently, the new firmware version is not updated in the Smart Metering Inventory (SMI) and the Device remains in a 'Suspended' state, even though the new firmware has been successfully activated. This means the Device is not fully operational.

Some Supplier systems will automatically re-send SR11.3 to get a response in this scenario. However, if it returns a response with a new firmware version, it will not update the status of the Device as the firmware is already activated. Currently the DSP only updates the firmware version in the SMI if the response is 'success'.

The Proposed Solution is to add SR11.2 'Read Firmware Version' to the exception list for the E5 'Failed Authorisation – Invalid Device Status' authorisation check. This would allow the DCC Service User to read the new firmware version on the Device whilst 'Suspended' and subsequently update this information in the SMI based on the SR11.2 response. In addition, the response to a Service User's automated re-attempt of SR11.3 will be used to update the SMI with the new firmware version and subsequently the status of the Device. Both cases would result in the Device status being restored to the status it held immediately prior to its suspension.

This modification will impact the DCC and is expected to cost approximately £230,000 to implement. This modification will also have positive impact for Supplier Parties. The Smart Energy Code Administrator and Secretariat (SECAS) recommends this is a Self-Governance Modification and the targeted implementation date is 4 November 2021 (November 2021 SEC Release).

## 2. Issue

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### What are the current arrangements?

#### Activating Device firmware

When a Supplier wishes to activate firmware on a Device, it will send SR11.3 'Activate Firmware'. The 'ActivateImageResponseCode' field in the SR11.3 Response can hold one of the following values:

- 'success'
- 'activationFailure'
- 'noImageHeld'
- 'hashMismatch'

The Response to SR11.3 will always contain the active firmware version on the Device regardless of the outcome of the processing within the Smart Metering Equipment Technical Specifications 2 (SMETS2) Device. However, currently the DSP will only recognise and update the firmware version in the SMI if the response is 'success'.

If the new firmware is successfully activated, the DSP will receive a 'success' Response containing the new firmware version which will subsequently restore the Device status to the status it held immediately prior to its suspension. However, there are cases where the SR11.3 response for successful firmware activation is not received by the DSP or Supplier. If the response is not received, the Device will remain in the 'Suspended' state even though the new firmware is now activated on the Device.

Some Supplier systems have an automated SR11.3 retry if it does not receive the SR11.3 response for successful firmware activation. The SR11.3 response will always include the Device firmware version. However, this does not update the SMI status for the Device as the DSP only actions a Response from a Device when the 'ActivateImageResponseCode' is 'success'. A 'success' response will not be returned if the firmware is already activated and therefore the 'firmware version' attribute will not be validated and used to update the SMI.

### **Sending Service Requests to Suspended Devices**

Once a firmware entry is removed from the Central Products List (CPL), the SMI status for the impacted Devices will be set to be in a 'Suspended' state. While the Device is in a 'Suspended' state, only a Critical Service Request can be sent to those Devices, and any Non-Critical Service Requests will be rejected by the DSP with an E5 error.

As an exception, the following Non-Critical Service Requests will be allowed if the Device is 'Suspended':

- SR11.1 'Update Firmware'
- SR6.23 'Update Security Credentials (CoS)'
- SR2.2 'Top Up Device' with a Command Variant value of 2 (only for SMETS1 Devices)

This means SR11.2 'Read Firmware Version' will be rejected by the DSP E5 validation when the Device is in a 'Suspended' state.

### **What is the issue?**

If the SR11.3 'Activate Firmware' response for successful firmware activation is not received by the DSP the Device will remain in the 'Suspended' state even though the new firmware is now activated on the Device. There is no other recoverable method unless another firmware update takes place.

The loss of the SR11.3 response could occur due to DSP system failures (e.g. unplanned outage of gateway, heavy network traffic, data misdirection in SMI) or DCC Service User failures (e.g. incorrect Device specified, failure to request firmware update in a timely manner).

### **How does this issue relate to the SEC?**

What Service Requests a Service User can and cannot send is governed by SEC Appendix AD 'DCC User Interface Specification' (DUIS), including for Devices which are in a 'Suspended' state. In addition, the DUIS also states how the response to SR11.3 is handled by the DCC/DSP.

Therefore, any changes to Service Requests or DSP processing of these Service Requests will require a modification to change the DUIS and the DCC/DSP Systems.

### What is the impact this is having?

#### What is the impact of doing nothing?

If nothing is done about this issue, there will be a small percentage of Devices that cannot be recovered from the 'Suspended' state if the SR11.3 response is not received by the DSP. Currently the only way to resolve this is for a Service User to carry out another firmware update, which requires additional time and effort and places extra traffic on the DCC System.

A Supplier noted that around 20% of all SR11.3 responses are "lost".

#### What Device types are impacted?

SECAS notes that Electricity Smart Metering Equipment (ESME), Gas Smart Metering Equipment (GSME), Prepayment Meter Interface Device (PPMIDs) and Home Area Network (HAN) Connected Auxiliary Load Control Switches (HCALCSs) could all be suspended on the CPL.

However, PPMIDs and HCALCSs will only be over-the-air (OTA) upgradeable once the second phase of [SECMP0007 'Firmware updates to IHDs and PPMIDs'](#) is implemented. This phase is targeted to be implemented from June 2022.

#### Impact on consumers

If nothing is done about this issue, more Devices will be wrongfully 'suspended' due to the risk of SR11.3 not generating a response even though the firmware has been activated. Suppliers may not be able to communicate with the Device and therefore not able to read consumption values. They will instead have to estimate consumption and therefore bills for consumers. In addition, if a Device is 'Suspended' and is in prepayment mode, the Supplier cannot send down emergency credit, set up emergency credit or send top-ups.

## 3. Solution

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### Proposed Solution

#### Updating the Device status using SR11.2

The Proposed Solution is for SR11.2 to be added to the exception list for the E5 authorisation check. This would allow the DCC Service User to read the new firmware version on the 'Suspended' SMETS1 or SMETS2 Device and subsequently update the firmware version in the SMI. Subsequently the Device status will be restored to the status it held immediately prior to its suspension. DCC Alert N29 'Device Restored from Suspension' will then be sent to the Responsible Import Supplier and to the Responsible Network Operator. This behaviour is the same as that of processing the Response to SR11.3 'Activate Firmware' from a 'Suspended' Device.

#### *SR11.2 GPF behaviour unchanged*

Note, the behaviour for a Gas Proxy Function (GPF) responding to SR11.2 will remain unchanged and will not be impacted by this modification. The existing functionality is to send the DCC Alert N52

'GSME Firmware Version Mismatch' to the Service Users, if the received GSME firmware version, returned by the GPF, is different from the corresponding GSME's firmware version available in the SMI.

### Updating the Device status using SR11.3

If a response is not received after the first attempt of SR11.3, yet the firmware has been activated, a Supplier may re-attempt to send the Service Request to gain a response. However, if it then responds with the correct new firmware version, the SMI status for the Device will not be updated. This is due to the firmware having already been activated on the Device and therefore not generating a response containing a value of 'success' in the 'ActivateImageResponseCode'.

The DCC will address this by using the firmware version in the Response to update the SMI, instead of basing this on the value in the 'ActivateImageResponseCode'. If the firmware version in the Response is different to the value held in the SMI, the SMI will be updated with the new firmware version. Subsequently the Device status will be restored to the status held immediately prior to its suspension.

The DSP will achieve this by modifying the processing of SR11.3 such that the value of 'ActivateImageResponseCode' in the Response (including in the Firmware Activation Alert for future dated SR) will no longer be considered as criteria for determining whether to update the SMI. If the Device Response contains a valid firmware version (CPL status "Current") which is different to the value currently held in the SMI for that Device, the DSP will update the 'DeviceFirmwareVersion' and Device Status (that it held immediately prior to its Suspension) in the SMI, irrespective of the value in the SR11.3 response held by 'ActivateImageResponseCode'.

SECMP0007 will implement the functionality to update firmware on Prepayment Meter Interface Devices (PPMIDs) and Home Area Network (HAN) Auxiliary Load Control Switch (HCALCS), which cannot currently be performed. This will also mean that these Devices will be in scope for SR11.2. HCALCS will also be in scope for SR11.3. Both Device types will be subject to the same modified rules for these SR(s).

## 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

## Suppliers

Suppliers will be impacted by this modification as they will have the capability to send SR11.2 when a Device is in a 'Suspended' state in the SMI, instead of it being rejected by the DCC E5 authorisation check.

Therefore, if upon a successful firmware update the SR11.3 response is not received by the DSP, the Supplier can rectify the SMI status without having to attempt another firmware update.

In addition, if a Supplier has an automated retry on SR11.3 in place and it produces a response, this response will be used to update the Device status in the SMI, further preventing wrongfully suspended Devices.

## DCC System

This modification will only impact the DSP. The DSP will need to facilitate the processing SR11.2 where a Device has a SMI Status of 'Suspended' as well as use the firmware version in the response to the automated retry of SR11.3 to update the Device status on the SMI.

No changes are needed to the DUIS or SEC Appendix AF 'Message Mapping Catalogue' (MMC) Extensible Markup Language (XML) Schema. However, DUIS documentation will need to be updated to describe the change in behaviour to SR11.2 and SR11.3 processing.

This modification will require Pre-Integration Testing (PIT), Systems Integration Testing (SIT) and User Integration Testing (UIT).

The full impacts on DCC Systems and the DCC's proposed testing approach can be found in the DCC Impact Assessment response in Annex C.

## SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Schedule 11 'TS Applicability Tables'
- Appendix AD 'DCC User Interface Specification'

This will be a text-only change to the DUIS. No changes are required for the XML Schema.

The changes to the SEC required to deliver the Proposed Solution can be found in Annex B.

## Technical specification versions

SECMP0007 will introduce new Service Request as well as amend existing Service Requests. Consequently, a new Principal Version of the of the DUIS will be introduced by the DCC in the November 2021 SEC Release (expected to be v5.0). The version numbering of the DUIS has no impact on DCC Users. If approved in time, MP105 will be implemented in the same DUIS uplift.

## Consumers

Enabling Suppliers to use the response from SR11.2 and SR11.3 to update the Device status will have indirect consumer benefits. Devices will be prevented from being wrongfully 'suspended' and therefore more likely to have full functionality and be working as they should.

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All eight respondents to the Refinement Consultation agreed that consumers would be positively impacted by this modification. They advised that this modification would make it easier for Suppliers to rectify Device status and restore the Device functionality for consumers to benefit from.

### Other industry Codes

This modification will not have any impacts on other industry Codes.

### Greenhouse gas emissions

This modification will not cause any greenhouse gas emissions.

## 5. Costs

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### DCC costs

The estimated DCC implementation cost to implement this modification is £230,331. The breakdown of these costs is available in Annex E which will be available upon request from SECAS for SEC Parties by emailing [sec.change@gemserv.com](mailto:sec.change@gemserv.com).

### SECAS costs

The estimated SECAS implementation costs to implement this modification is one day of effort, amounting to approximately £600. The activities needed to be undertaken for this are:

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

### SEC Party costs

Parties did not indicate that they would incur any costs as a result of this modification during Working Group meetings.

The majority of Refinement Consultation respondents advised they would not incur any costs in implementing MP105. However, two respondents believed they would incur costs. One noted that they would incur costs if MP105 is implemented as part of a new version of the DUIS but expected the cost of this change to be minimal.

Another Party advised its overall costs are impacted by all changes made by the DCC. However, it would not incur any direct costs in needing to change its system as it can already utilise the Service Requests in question.



## 6. Implementation approach

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### Approved implementation approach

The Panel has agreed an implementation date of:

- **4 November 2021** (November 2021 SEC Release) if a decision to approve is received on or before 1 May 2021; or
- **30 June 2022** (June 2022 SEC Release) if a decision to approve is received after 4 February 2021 but on or before 22 December 2020.

This modification will impact the DUIS and, for efficiency, should therefore be implemented in a scheduled SEC Release in which other DUIS changes will be implemented. This would minimise SEC Party costs as well. The DCC has advised that it will need a six month lead time to implement this modification. This would provide enough lead time to implement this modification in the November 2021 SEC Release.

## 7. Assessment of the proposal

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### Observations on the issue

#### Views of SEC Parties

A Large Supplier expressed its support for the proposed change as this will enable better management of Devices to avoid unnecessary removal and/or inconvenience to the customer.

#### Views of the Change Sub-Committee

The Change Sub-Committee agreed that the issue identified under this proposal is clearly defined and understood. It had no other comments.

### Solution development

#### What Devices are in scope?

##### *SMETS1 Devices (SR11.2 solution)*

Security Sub-Committee (SSC) Members queried whether the SR11.2 solution would be applicable to SMETS1 Devices. They noted that the need to raise another modification specific to SMETS1 Devices would cause unnecessary delay to provide a solution to the issue at hand. The DCC confirmed that the same SR11.2 solution/process will apply to both SMETS1 and SMETS2 Devices so there is no need for a further modification to address SMETS1.

##### *SMETS1 Devices (SR11.3 solution)*

A retry of SR11.3 is handled differently by SMETS1 Service Providers and a failed activation response does not contain firmware version if the status is not 'success'. This is because for most

SMETS1 Devices, firmware updates are not a two-step process (as with SMETS2 Devices where firmware distribution is carried out by SR11.1 and activation by SR11.3). Where the Device does not support two-step activation, the firmware update is triggered on SR11.3 instead of SR11.1 and the retry of SR11.3 may not generate a response with the latest firmware version. Therefore, the Response processing of SR11.3 for SMETS1 will remain unchanged as it is today (i.e., update the SMI only if the status is 'success').

### **PPMIDs and HCALCSs**

SECAS advised that only ESME and GSME are in the scope of this modification. A Supplier queried whether GSME is in scope due to the note about the GPF in the DCC's Preliminary Assessment (explained below). The DCC confirmed that GSME is in scope and the solution would work the same as it would for ESME. However, SR11.2 must be sent directly to the GSME and not the GPF.

The solution could also be applied to PPMIDs and HCALCSs, but this depends on the implementation of SECMP0007 which has since been approved and will be implemented two phases. The phase that provides the OTA functionality to these Devices will be delivered from June 2022. Therefore, PPMIDs and HCALCSs are in scope of the SR11.2 solution.

SECAS confirmed IHDs are not in scope as they are not listed on the CPL and are not in scope of SECMP0007.

### **Will the solution be automated?**

The DCC initially proposed adding SR11.2 to the exception list of Non-Critical Service Requests that can be used whilst a Device is 'Suspended'. This would allow the SMI status to be updated based on the SR11.2 response while the Device is in the 'Suspended' state. Later, the solution was extended to utilise the firmware version in the SR11.3 response to update the SMI and subsequently the Device status.

A Working Group member questioned whether the resulting update in the Device SMI status would require manual intervention from Users. The DCC confirmed that the Device status would update automatically in the SMI and that no manual intervention is required from Users.

### **GPF/GSME firmware version mismatches**

The DCC noted that the modification does not propose changes to GPF behaviour. If the response to a SR11.2 sent to a GPF indicates a firmware version mismatch with the GSME, DCC Alert N52 'GSME Firmware Version Mismatch' will be sent to the Service User and the SMI will not automatically be updated. Therefore, to update the Device status of the GSME, a User would have to send SR11.2 directly to the GSME and not the GPF.

### **Utilising the SR11.3 response**

Working Group members queried whether the Proposed Solution could be expanded to utilise SR11.3 in addition to SR11.2.

Members noted that Supplier systems have an automated SR11.3 retry if it does not receive the SR11.3 response for successful firmware activation. The SR11.3 response will always include the Device firmware version. However, this does not update the SMI status for the Device as the DSP

only actions a Response from a Device when the 'ActivateImageResponseCode' is 'success'. A 'success' response will not be returned if the firmware is already activated and therefore the 'firmware version' attribute will not be validated and used to update the SMI.

Therefore, the Working Group asked the DCC to investigate if the firmware version in the SR11.3 response could be used to update the SMI status in the same way in which the DCC is proposing to do with SR11.2.

Members noted that the advantage with this method is that for "lost" SR11.3 responses, the firmware version would be aligned to the SMI not only for 'Suspended' Devices, but all Devices. A Supplier noted that around 20% of all SR11.3 responses are "lost" and so this is a significant issue for Suppliers.

The DCC subsequently investigated this and confirmed in its second Preliminary Assessment that it would be possible to update the SMI using the firmware version in the SR11.3 response, as well as utilising SR11.2 as originally proposed.

### **DUIS legal text comments**

SECAS received feedback from the DCC and a Refinement Consultation respondent on the DUIS legal text. This feedback sought the following:

- To add clarity to a missed section of the DUIS showing that SR11.2 would not be subject to the DSP's E5 validation check when targeted at a 'Suspended' Device
- Highlight for SR11.3 that the DSP is only expected to update the SMI if the firmware version is included i.e. this is not always the case for SMETS1 Devices as noted on page 9 of this report

Both areas were addressed and reflected in the latest version of the legal text. Both the DCC and the consultation respondent agreed the changes addressed their comments and reflected the intent of the modification.

## **Support for Change**

### **Working Group views**

The Working Group agreed with the benefits noted by SECAS and was supportive of this modification. Ultimately it would prevent Users' Devices from becoming wrongfully 'Suspended' upon a firmware update.

### **SSC views**

The SSC noted that this modification would be of benefit to Users as it would provide more assurance for Devices remaining in an operational state after a firmware update.

### **TABASC views**

The Technical Architecture and Business Architecture Sub-Committee (TABASC) reviewed the Proposed Solution and implementation costs following the return of the DCC's Impact Assessment. It had no comments on the solution itself but questioned whether the changes to the processing of

SR11.3 were cost effective. It added that if the increase in cost is minimal it did not have an issue. SECAS advised that changes to the processing of SR11.3 had been added at the request of Suppliers on the Working Group and that it had received positive feedback from the Refinement Consultation that followed this.

## Business case assessment

The DCC Preliminary Assessment for the initial solution, which only sought to allow SR11.2 to be sent to 'Suspended' Devices and did not include any changes to the processing of SR11.3, quoted £75,000 for Design, Build and PIT.

During refinement, a Supplier noted that around 20% of all SR11.3 responses are "lost" and that this is a significant issue for Suppliers. As a result, the Working Group proposed, and the Proposer agreed, to add changes to the processing of SR11.3 to the Proposed Solution. A second DCC Preliminary Assessment was then carried out which showed an increased cost by £50,000 to £125,000 for Design, Build and PIT. The Refinement Consultation was issued following this.

Noting the costs and benefits of this modification, all eight respondents to the Refinement Consultation believed this modification should be approved. Respondents noted that the associated implementation costs are low and are outweighed by the benefits of this modification which include extending the life of Devices. This modification will also ensure fully functioning Devices for consumers, allowing them to access the benefits of smart metering.

One Party added that this modification is needed in order to help Suppliers maintain meters and keep them compliant when carrying out firmware updates.

## Views against the General SEC Objectives

### Proposer's views

The Proposer believes that MP105 will better facilitate SEC Objective (a)<sup>1</sup>. The Proposed Solution will enable Service Users to recover their Devices when they are wrongfully 'Suspended' and bring them back into an operational state benefiting Suppliers, Network Parties and consumers.

### Industry views

All eight respondents to the Refinement Consultation agreed with the Proposer's view that this modification would better facilitate SEC Objective (a). They agreed with the Proposer's rationale with one Party adding that it could be argued that SR 11.2 should always have been classed as an exception to the Non-Critical Service Request validation.

## Views against the consumer areas

### Improved safety and reliability

There are indirect but foreseeable safety risks associated with the management of Device firmware. This is due to issues that could arise if firmware is not correctly activated on ESME and GSME, both

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<sup>1</sup> To facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain.

of which are load controlling Devices and could unintentionally cut-off a consumers supply. This modification would provide a positive impact in this area by providing mitigation for the following safety risks:

- If a Service User is unable to read the firmware version on a 'Suspended' Device because the Device fails to send a Service Response, then they would not be able to retrieve its firmware details and subsequently restore the Device status.
- If there is an inconsistency between the firmware version held in the SMI and the actual version on the Device, this could lead to problems in communicating with that Device.

Overall, the management of Device firmware will be improved by this modification and mitigate any indirect issues that could arise from firmware updates.

### Lower bills than would otherwise be the case

This modification would provide a positive impact in this area. Consumers will benefit from more accurate bills as if the Device is 'Suspended' the Supplier would have to estimate their bills.

### Reduced environmental damage

This modification will be neutral against this consumer benefit area.

### Improved quality of service

This modification would provide a positive impact in this area by lowering the risk of Devices being wrongfully 'suspended' and losing functionality. Overall, this increases the quality of service for the consumer as it lowers the risks of consumer Devices not operating as they should be and providing estimated bills.

### Benefits for society as a whole

This modification will be neutral against this consumer benefit area.

## Appendix 1: Progression timetable

We will present the Modification Report to the Panel on 12 February 2021. If approved, we will propose issuing an expedited five working day Modification Report Consultation. A Change Board vote will then be held on 24 February 2021 under Self-Governance. If this modification is approved, the expedited consultation will give more lead time for the DCC to implement this change in the November 2021 SEC Release.

Timetable	
Action	Date
Draft Proposal raised	18 Dec 2019
Presented to CSC for final comment and recommendations	2 Jan 2020

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Timetable	
Action	Date
Panel converts Draft Proposal to Modification Proposal	17 Jan 2020
Business requirements developed with DCC	23 Mar 2020 – 3 Apr 2020
First Preliminary Assessment requested	6 Apr 2020
First Preliminary Assessment returned	4 May 2020
Modification discussed with the SSC	27 May 2020
Modification discussed with Working Group	3 Jun 2020
Second Preliminary Assessment requested	17 Jul 2020
Second Preliminary Assessment returned	27 Aug 2020
Refinement Consultation	14 Sep 2020 – 5 Oct 2020
Impact Assessment costs approved by Change Board	21 Oct 2020
Impact Assessment requested	21 Oct 2021
Impact Assessment returned	13 Jan 2021
Modification discussed with the TABASC	4 Feb 2021
Modification Report approved by Panel	12 Feb 2021
Modification Report Consultation	15 Feb 2021 – 5 Mar 2021
Change Board Vote	24 Mar 2021

## 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
CoS	Change of Supply
CPL	Central Products List
CSC	Change Sub-Committee
DCC	Data Communications Company
DSP	Data Services Provider
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
GBCS	GB Companion Specification
GSME	Gas Smart Metering Equipment
GPF	Gas Proxy Function
HAN	Home Area Network
HCALCS	Home Area Network Connected Auxiliary Load Control Switch
IHD	In-Home Display

Glossary	
Acronym	Full term
CoS	Change of Supply
MMC	Message Mapping Catalogue
PIT	Pre-Integration Testing
PPMID	Prepayment Meter Interface Device
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	System Integration Testing
SMETS	Smart Metering Equipment Technical Specifications
SMI	Smart Metering Inventory
SR	Service Request
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee
UIT	User Integration Testing
XML	Extensible Markup Language



# MP105 ‘Sending SR11.2 to Devices in Suspended State’

## Annex A

### Business requirements – version 1.1

#### About this document

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This document contains the business requirements that support the solution for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The 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	The DCC shall process Service Request (SR) 11.2 'Read Firmware Version' where a Device has a Smart Metering Inventory (SMI) Status of 'Suspended'.
2	Upon a Service Users automated second attempt of SR 11.3 'Activate Firmware', the response shall update the SMI with the new firmware version and subsequently the status of the Device.

This document contains requirements for multiple solution options, and an assessment for each option is to be provided. The table below summarises the requirements that make up each solution option:

Solution Options		
Option	Req. 1	Req. 2
Option 1	✓	
Option 2	✓	✓

## 2. Considerations and assumptions

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

### 2.1 Requirement 1: The DCC shall process SR11.2 'Read Firmware Version' where a Device has a SMI Status of 'Suspended'

It is possible for the DCC not to receive the SR11.3 'Activate Firmware' response for successful firmware activation even if firmware has been successfully activated on a Device. This is also the case with future activated firmware, where the Service User may not receive the Alert for successful activation. In this scenario the Device will remain in the 'Suspended' state in the SMI, even though the new firmware is now activated on the Device.

There is currently no other recoverable method unless another new firmware update takes place.

SR11.2 needs to be added to the exception list for the E5 authorisation check. This would allow the DCC Service User to read the new firmware version on the Device and subsequently update this information in the SMI. The SMI status would then be updated based on the SR11.2 response while the Device is in the 'Suspended' state.

### 2.2 Requirement 2: Upon a Service Users automated second attempt of SR 11.3 'Activate Firmware', the response shall update the SMI with the new firmware version and subsequently the status of the Device.

Some Supplier systems have an automated retry of SR 11.3 if it does not receive the SR 11.3 response for successful firmware activation.

Currently, if the retry of SR 11.3 responds with the correct new firmware version, it does not update the SMI status for the Device. Therefore, the DCC is asked to investigate if the response to the automated retry of SR 11.3 could be used to update the SMI status in the same way in which the DCC is proposing to do with SR 11.2.

Members noted that the advantage with this method is that for “lost” SR 11.3 responses, the firmware version would be aligned to the SMI not only for ‘Suspended’ Devices, but all Devices. A Supplier noted that around 20% of all SR11.3 responses are “lost” and so it is a big issue for Suppliers.

### 3. Glossary

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

Glossary	
Acronym	Full term
CPL	Central Products List
DCC	Data Communications Company
SMI	Smart Metering Inventory
SR	Service Request

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# MP105 ‘Sending SR11.2 to Devices in Suspended State’

## Annex B

### Legal text – version 1.0

#### About this document

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This document contains the redlined changes to the SEC that would be required to deliver this Modification Proposal.

## Appendix AD ‘DCC User Interface Specification’

These changes have been redlined against Appendix AD version 4.0.

### Amend Table 22 ‘Authorisation checks’ as follows:

#### 3.2.4 Authorisation

The DCC shall verify that the User has permission to send the Service Request or Pre-Command as per the following steps and where authorisation checks are failed the following Response Code shall be added by the DCC to the Service Response that is sent to the sending User;

Authorisation Check	Process	Response Code
Validate the User Role	The sending organisation (User) as determined from the Business Originator ID and their associated User Role are checked to confirm it is a valid SEC party / User Role combination	E1
Verify that the User Role is allowed to use the Service Request or Signed Pre-Command	This is a User Role based check for the mapping between Service Requests and User Roles (see clause 3.1 – Service Request Matrix) i.e. that the User Role is that of a User within an Eligible User Role for that Request.	E2
Verify the status of the User	This is a status based check to find out if the User is suspended (not allowed to run that Service Request or Signed Pre-Command) at the time when the Service Request or Signed Pre-Command is received	E3
Verify that the User, in the User Role defined in the Service Request is an Eligible User for the Device	<p>This check is based on the Registration Data associated with the Device via MPxN lookup. Check that the User is an Eligible User in respect for that Device for the period that the Service Request pertains to.</p> <p>The checks for eligibility are as follows :</p> <ul style="list-style-type: none"> <li>Confirm (using the Registration Data) that the User ID used to send the Request is that of a User that is an Eligible User for the Request.</li> <li>Authorisation is performed using the Device specified in the BusinessTargetID except for Non-Device Service Requests, where the BusinessTargetID is specified in the Service Request itself.</li> </ul> <p>Note that this check is not applied for Critical Service Requests or Critical Signed Pre-Commands or for a limited number of specific Service Requests as documented in the Service Request Processing Document and stated explicitly within each Service Request definition in clause 3.8.</p> <p>Requests from a User that had ceased to be a registered Party more than 24 months ago will be rejected by the DCC Systems.</p>	E4

Authorisation Check	Process	Response Code
Verify that the Service Request or Signed Pre-Command is applicable to the Device status	<p>This is a check to confirm that the target Device has a status within the Smart Metering Inventory that enables the User to send it the particular Service Request or Signed Pre-Command</p> <p>This check is not applicable to Service Requests 8.2 (Read Inventory) and 12.1 (Request WAN Matrix) or to Critical Service Requests or Signed Pre-Commands. With the exception that it is applied for Signed Pre-Commands when the Device Status is 'Recovery'.</p> <p>Devices can only be communicated with in response to a Request if they are in a status of 'Commissioned', 'InstalledNotCommissioned', 'Whitelisted', 'Pending' or 'Recovered' in the Smart Metering Inventory.</p> <p>The DCC shall, where the Device has a Smart Metering Inventory (SMI) Status of 'Suspended' prevent any Non-Critical Service Requests from being processed with the exception of, Service Requests 11.1 (Update Firmware), <a href="#">11.2 (Read Firmware Version)</a> and 6.23 (Update Security Credentials (CoS)).</p> <p>The DCC shall, where a Device has a Smart Metering Inventory (SMI) Status of 'Recovery' prevent any Service Requests relating to that Device from being processed with the exception of Non-Device Service Requests (subject to their specific validation). Note that where a Device has an SMI Status of 'Recovered' the Device's SMI Status immediately prior to it having the SMI Status of 'Recovery' shall be used in validation.</p>	E5

Authorisation Check	Process	Response Code
Verify that the Service Request or Signed Pre-Command is available for Local Command Services	<p>This is a check to confirm that a Service Request or Signed Pre-Command is available to Users for local delivery to a Device using Local Command Services including additional reference to the requesting User Role and SMI Status combination.</p> <p>A Service Request or Signed Pre-Command is not available to Users for local delivery using Local Command Services where the Service Request or Signed Pre-Command is one of the following;</p> <ul style="list-style-type: none"> <li>• A Service Reference Variant of 8.1.1 – Commission Device</li> <li>• A Future Dated Service as defined by clause 2.6.3</li> </ul> <p>In addition, a Service Request or Signed Pre-Command can only be delivered locally in the following combinations of requesting User Role and SMI Status of the target Device:</p> <ul style="list-style-type: none"> <li>• Where the User Role of the sender is either IS, ES or GS, the target Device within the request must have an SMI Status of either “Pending”, “Whitelisted”, “InstalledNotCommissioned” or “Commissioned”.</li> <li>• Where the User Role of the sender is either ED, GT, RSA or OU, the target Device within the request must have an SMI Status of either “InstalledNotCommissioned” or “Commissioned”.</li> </ul> <p>Note that where a Device has an SMI Status of ‘Recovered’ the Device’s SMI Status immediately prior to it having the SMI Status of ‘Recovery’ shall be used in validation.</p>	E17
Verify that the Device exists	<p>This is a check to confirm that the target Device within the Service Request or Signed Pre-Command exists</p> <p>Note that this check is only applicable to Service Requests and Signed Pre-Commands that are addressed to a specified Device.</p> <p>For Non-Device Service Requests this Response Code (E19) shall be returned if the BusinessTargetID is not the DCC Access Control Broker ID.</p>	E19

**Table 22 : Authorisation checks**

If any of these checks fails at the point the Service Request or Signed Pre-Command is received by the DCC Systems or prior to execution for DCC Scheduled Services, the Service Request or Signed Pre-Command is rejected, no further checks are carried out and a Service Response is generated with the appropriate Response Code to inform the User of the issue identified. See clause 3.5.10 for Response Code details.



**Amend DCC Alert Codes N50 and N51 within Table 41 'DCC Alert Codes' as follows:**

### 3.6.3.4 DCC Alert Codes

DCC Alert Code	Alert Name	Event	Trigger	DCC Alert Recipient	SMETS Version Applicability
N50	Firmware Version no longer valid on the CPL	Device's Firmware Version updated in the Smart Metering Inventory, but Device Status not set to 'Suspended'	<p>Upon successful completion of Service Request 11.2 Read Firmware Version where the target Device is an ESME, GSME, CHF or SMETS1 PPMID and the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Removed"</p> <p>OR</p> <p>Upon <del>successful</del> completion of Service Request 11.3 Activate Firmware where the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Removed"</p> <p>OR</p> <p>Future Dated Firmware Activation Alert (Alert Code 0x8F66 <del>or</del> 0x8F67 and Message Code 0x00CA) received by the DCC Systems where the Firmware Version returned by the Device is different from that in the SMI and it matches an entry on the CPL with a status of "Removed"</p>	IS GS	All
N51	Invalid Firmware Version	<p>Device's Firmware Version is unknown (not in the CPL)</p> <p>Device's Firmware Version not updated in the Smart Metering Inventory</p>	<p>Upon successful completion of Service Request 11.2 Read Firmware Version where the target Device is an ESME, GSME, CHF or SMETS1 PPMID and the Firmware Version returned by the Device is different from that in the SMI and it doesn't match an entry on the CPL</p> <p>OR</p> <p>Upon <del>successful</del> completion of Service Request 11.3 Activate Firmware where the Firmware Version returned by the Device is different from that in the SMI</p>	IS GS	All

Managed by

			and it doesn't match an entry on the CPL OR Future Dated Firmware Activation Alert (Alert Code 0x8F66 <u>or 0x8F67</u> and Message Code 0x00CA) received by the DCC Systems where the Firmware Version returned by the Device is different from that in the SMI and it doesn't match an entry on the CPL		
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## Amend Section 3.8.124 'Read Firmware Version':

### 3.8.124 Read Firmware Version

#### 3.8.124.1 Service Description

<b>Service Request Name</b>	ReadFirmwareVersion
<b>Service Reference</b>	11.2
<b>Service Reference Variant</b>	11.2
<b>Eligible Users</b>	Import Supplier (IS) Export Supplier (ES) Gas Supplier (GS) Registered Supplier Agent (RSA) Electricity Distributor (ED) Gas Transporter (GT) Other User (OU)
<b>Security Classification</b>	Non Critical
<b>BusinessTargetID</b> - <b>Device Type applicable to this request</b>	Electricity Smart Meter(ESME) Gas Smart Meter (GSME) Gas Proxy Function (GPF) Communications Hub Function (CHF)
<b>Can be future dated?</b>	DSP
<b>On Demand?</b>	Yes
<b>Capable of being DCC Scheduled?</b>	No
<b>Command Variants applicable to this Request (Only one populated)</b>	1 - Send (Non-Critical) 2 - Return for local delivery (Non-Critical) 3 - Send and Return for local delivery (Non-Critical)
<b>Common Header Data Items</b>	See clause 3.4.1.1
<b>Data Items Specific to this Service Request</b>	See Specific Data Items Below
<b>Possible responses from this Service Request</b>	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns <ul style="list-style-type: none"> <li>Acknowledgement</li> </ul>

	<ul style="list-style-type: none"> <li>Service Response from Device – GBCSPayload</li> <li>Response to a Command for Local Delivery Request – LocalCommand Format</li> </ul> <p>Also see Response Section below for details specific to this request</p>	
<b>Response Codes possible from this Service Request</b>	See clause 3.5.10 for Common Response Codes	
<b>GBCS Cross Reference</b>	Electricity and Communications Hub	Gas
<b>GBCS MessageCode</b>	0x0059	0x0084
<b>GBCS Use Case</b>	ECS52	GCS38

### 3.8.124.2 Specific Data Items for this Request

#### ReadFirmwareVersion Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	<p>A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time.</p> <p>The UTC date and time the User requires the command to be executed on the Device ID</p> <ul style="list-style-type: none"> <li>Date-time in the future that is either <math>\leq</math> current date + 30 days or the date = '3000-12-31T00:00:00Z'</li> </ul>	xs:dateTime	No	None	UTC Date-Time

**Table 256 : ReadFirmwareVersion (sr:ReadFirmwareVersion) data items**

### 3.8.124.3 Specific Validation for this Request

~~No specific validation is applied for this Request, s~~See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Execution Date Time validation.

For this Service Request and as an exception, the Authorisation Check associated to E5 allows the Device's SMI Status to be 'Suspended'.

### 3.8.124.4 Additional DCC System Processing

Upon receipt of a Response to this Service Request containing a Firmware Version value:

- if the Target Device Type is ESME, GSME or CHF and the Firmware Version returned by the Device matches an entry on the -CPL for that Device Model, but is different from that stored in the SMI, the DCC Systems shall update the Firmware Version in the SMI to the value returned by the Device. Note that updating the Firmware Version may also update the Device's GBCS Version in the SMI.
  - If the target Device is CHF, the associated GPF Firmware Version shall also be updated.

- If the Firmware Version entry on the CPL for that Device Model has a status of “Current” and the Read Firmware Version Service Request was not submitted by the Responsible Supplier, DCC Alert N49 shall be sent to the Responsible Supplier.
- If the Firmware Version entry on the CPL for that Device Model has a status of “Removed”, the SMI Firmware Version shall be updated, but the Device Status shall not be set to ‘Suspended’. In this case DCC Alert N50 shall be sent to the Responsible Supplier as a warning.
- Where the DeviceFirmwareVersion for the specified Device is now the current valid version, and the Device Status was ‘Suspended’ and the Firmware Version returned by the Device matches an entry on the CPL for that Device Model with a status of “Current”, the DCC Systems shall update the Device Status to the status it held immediately prior to its “Suspension” and DCC Alert N29 will be sent to the Responsible Supplier and to the Electricity Distributor or Gas Transporter.
- if the Target Device Type is ESME, GSME or CHF and the Firmware Version returned by the Device does not match an entry on the -CPL for that Device Model, DCC Alert N51 will be sent to the Responsible Supplier as a warning and the SMI Firmware Version will not be updated.
- if the Target Device Type is GPF and the GSME Firmware Version returned by the GPF is different from that stored in the SMI, DCC Alert N52 will be sent to the Responsible Supplier as a warning and the SMI Firmware Version will not be updated.

### Amend Section 3.8.125 ‘Activate Firmware’:

#### 3.8.125 Activate Firmware

3.8.125.1	Service Description
<b>Service Request Name</b>	ActivateFirmware
<b>Service Reference</b>	11.3
<b>Service Reference Variant</b>	11.3
<b>Eligible Users</b>	Import Supplier (IS) Gas Supplier (GS)
<b>Security Classification</b>	Critical
<b>BusinessTargetID</b> - <b>Device Type</b> <b>applicable to this</b> <b>request</b>	Electricity Smart Meter (ESME) Gas Smart Meter (GSME)
<b>Can be future dated?</b>	Device
<b>On Demand?</b>	Yes

<b>Capable of being DCC Scheduled?</b>	No	
<b>Command Variants applicable to this Request (Only one populated)</b>	For Service Request 4 – Transform  For Signed Pre-Commands, choice of: 5 - Send (Critical) 6 - Return for local delivery (Critical) 7 - Send and Return for local delivery (Critical)	
<b>Common Header Data Items</b>	See clause 3.4.1.1	
<b>Data Items Specific to this Service Request</b>	See Specific Data Items Below	
<b>Possible responses from this Service Request</b>	These are the possible responses applicable to this Service Request. Please see clause 3.5 for more details on processing patterns <ul style="list-style-type: none"> <li>• Acknowledgement</li> <li>• Response to Transform Request - PreCommand Format</li> <li>• Service Response from Device – GBCSPayload</li> <li>• Service Response (from Device) - FutureDatedDeviceAlertMessage</li> <li>• Response to a Command for Local Delivery Request – LocalCommand Format</li> </ul> Also see Response Section below for details specific to this request	
<b>Response Codes possible from this Service Request</b>	See clause 3.5.10 for Common Response Codes	
<b>GBCS Cross Reference</b>	Electricity	Gas
<b>GBCS MessageCode</b>	0x0012	0x0012
<b>GBCS Use Case</b>	CS06	CS06

### 3.8.125.2 Specific Data Items for this Request

#### ActivateFirmware Definition

Data Item	Description / Allowable values	Type	Mandatory	Default	Units
ExecutionDateTime	A User shall only add this Data Item to the Service Request where they require the Service Request to be executed at a future date and time. The date and time at which the firmware will be activated <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = '3000-12-31T00:00:00Z'</li> </ul>	xs:dateTime	No	None	N.A
FirmwareHash	Hash calculated over the Manufacturer Image part of the FirmwareImage as defined by GBCS.  The Firmware Hash as held in the CPL and presented in the format XX..XX (64 characters) where each X is one of the characters 0 to 9 or A to F.  This data item must align with the value on the CPL (excluding the colon separator between octet values).  Note that a hexBinary value of length 32 is defined as 32 octets; an octet is represented as 2 characters.	Restriction of xs:hexBinary (minLength = 32, maxLength = 32)	Yes	None	N/A

**Table 257 : ActivateFirmware (sr:ActivateFirmware) data items**

### 3.8.125.3 Specific Validation for this Request

No specific validation is applied for this Request, see clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Execution Date Time validation.

### 3.8.125.4 Additional DCC System Processing

The DCC Systems shall monitor all Responses received to this Service Request.

Where the DCC identifies any Response ~~which indicates the successful processing of the activate firmware Command (executionOutcome = Success) on a Device and where~~ the current Firmware Version returned by the Device matches an entry on the CPL for that Device Model and that Firmware Version is different to the value currently held in the Smart Metering Inventory for that Device, an update to the Smart Metering Inventory shall be made by the DCC.

The DCC Systems shall update the DeviceFirmwareVersion data item within the Smart Metering Inventory to record the new DeviceFirmwareVersion value for the specified Device ID received in the Response. Where the DeviceFirmwareVersion for the specified Device is now the current valid version, and the Device Status was ‘Suspended’ and the Firmware Version returned by the Device matches an entry on the CPL for that Device Model with a status of “Current” the DCC Systems shall update the Device Status to the status it held immediately prior to its Suspension” and DCC Alert N29 will be sent to the Responsible Supplier and to the ~~Electricity~~ Distributor or Gas Transporter.-

If the Firmware Version returned by the Device matches an entry on the CPL for that Device Model with a status of “Removed”, the SMI Firmware Version will be updated, but the Device Status will not be set to ‘Suspended’. In this case DCC Alert N50 will be sent to the Responsible Supplier as a warning.

Note that if the Firmware Version returned by the Device is invalid ~~-(doesn’t match an entry on the CPL for that Device Model)~~ DCC Alert N51 will be sent to the Responsible Supplier as a warning and the Smart Metering Inventory Firmware Version will not be updated.



# **SEC Modification Proposal, SECMP0105**

## **Sending SR11.2 to Devices in Suspended State**

### **Full Impact Assessment (FIA), DCC CR1397**



**Version:**

**0.26**

**Date:**

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**Author:**

**DCC**

**Classification:**

**Public**

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# 1 Executive Summary

The Change Board are asked to approve the following:

- Total cost to implement SECMP0105 of £230,331 (see the Code Red Annex for a breakdown) as a standalone release.
- The timescale to complete the implementation of six (6) months
- Include SECMP0105 as part of the November 2021 SEC Systems Release

## Problem Statement

Once a firmware entry is removed from the Central Products List (CPL), the Smart Metering Inventory (SMI) status for the Devices is set to a 'Suspended' state. While the Device is 'Suspended', only a Critical Service Request (SR) can be sent to it, and any Non-Critical SRs are rejected by the Data Services Provider (DSP) with an E5 error.

The E5 validation causes an issue is when the SR11.3 'Activate Firmware' response for successful firmware activation is not received by the DSP. In this case the Device remains 'Suspended' even though the new firmware is now activated on the Device.

This Modification solution proposes:

- a) the DCC shall process SR11.2 'Read Firmware Version' where a Device has a Smart Metering Inventory (SMI) Status of 'Suspended'.
- b) upon a Service User's automated second attempt of SR11.3, the response shall update the SMI with the new firmware version and subsequently the status of the Device.

Without the proposed changes,

- i. there will be a small percentage of Devices that cannot be recovered from the 'Suspended' state, if the SR11.3 Response is not received by the DSP.
- ii. The firmware version on the SMI could be out-of-sync with the actual version of the firmware on the Device
- iii. The only way recover such a Device is to repeat and resend a firmware update

## Benefit Summary

The benefits of delivering this change include recovering Devices from 'Suspended' state where firmware activation Response is not received by the DSP and synchronisation of firmware version between SMI and Devices. This would result in:

- Reduction in firmware activation related failure. One Supplier noted that currently around 20% of all SR11.3 responses are "lost" and so it is a big issue for Suppliers.
- Delivery of improved services to Customer

## 2 Document History

### 2.1 Revision History

Revision Date	Revision	Summary of Changes
11/01/2021	0.1	Initial compilation from Service Provider
12/01/2021	0.2	Updated following DCC Internal review
13/01/2021	0.25	DCC internal review completed
27/01/2021	0.26	Cost updated following reduced cost submission from the Service Provider

### 2.2 Associated Documents

This document is associated with the following documents:

#	Title and Originator's Reference	Source	Issue Date
1	MP105 Business Requirements	SECAS	17/07/2020
2	SECMP0105 CR1397 - PIA - Sending SR11.2 to Devices in Suspended State v0.25	DCC	27/08/2020

### 2.3 Document Information

The Proposer for this Modification is Chun Chen of Data Communications Company (DCC). Here are the timelines of this Modification.

December 2019	Proposal submitted
April 2020	Preliminary Impact Assessment (PIA) requested of DCC
May 2020	PIA submitted by DCC (DCC Change Request 1338)
June 2020	Additional requirement included following Working Group Meeting
July 2020	Revised PIA with additional requirement requested of DCC
August 2020	Revised PIA submitted by DCC (DCC CR 1397)
October 2020	Full Impact Assessment (FIA) requested of DCC
January 2021	FIA submitted by DCC (DCC Change Request 1397)

*Table 1: SECMP0105 Timeline*

## 3 Solution Requirements and Overview

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

### 3.1 Current Arrangements

Once a firmware entry is removed from the CPL, SMI status for the impacted Devices is set to a 'Suspended' state. While the Device is in a 'Suspended' state, only a Critical SR can be sent to those Devices, and any Non-Critical SRs will be rejected by the DSP with an E5 error, "Failed Authorisation – Invalid Device Status".

As an exception, the following Non-Critical SRs will be allowed if the Device is 'Suspended':

- SR11.1 'Update Firmware';
- SR6.23 'Update Security Credentials ()';
- SR2.2 'Top Up Device' with a Command Variant value of 2 (only for Smart Metering Equipment Technical Specifications (SMETS) 1 Devices).

This means SR11.2 'Read Firmware Version' will be rejected by the DSP E5 validation when the Device is in a 'Suspended' state.

### 3.2 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	The DCC shall process Service Request (SR) 11.2 'Read Firmware Version' where a Device has a Smart Metering Inventory (SMI) Status of 'Suspended'.
2	Upon a Service Users automated second attempt of SR 11.3 'Activate Firmware', the response shall update the SMI with the new firmware version and subsequently the status of the Device.

*Table 2: Business Requirements for SECMP0105, CR1397*

#### 3.2.1 Requirement 1 Solution Constraints

It is possible for the DCC not to receive the SR11.3 'Activate Firmware' response for successful firmware activation even if firmware has been successfully activated on a Device. This is also the case with future activated firmware, where the Service User may not receive the Alert for successful activation. In this scenario the Device will remain in the 'Suspended' state in the SMI, even though the new firmware is now activated on the Device.

There is currently no other recoverable method unless another new firmware update takes place.

SR11.2 needs to be added to the exception list for the E5 authorisation check. This would allow the DCC Service User to read the new firmware version on the Device and subsequently update this information in the SMI. The SMI status would then be updated based on the SR11.2 response while the Device is in the 'Suspended' state.

#### 3.2.2 Requirement 2 Solution Constraints

Some Supplier systems have an automated retry of SR 11.3 if it does not receive the SR 11.3 response for successful firmware activation.

Currently, if the retry of SR11.3 responds with the correct new firmware version, it does not update the SMI status for the Device. Therefore, the solution should respond to the automated retry of SR 11.3 to update the SMI status in the same way as SR11.2.

The advantage with this method is that for “lost” SR 11.3 responses, the firmware version would be aligned to the SMI not only for ‘Suspended’ Devices, but all Devices. A Supplier noted that around 20% of all SR11.3 responses are “lost” and so it is a big issue for Suppliers.

### 3.3 Business Case

The Modification looks to address the following issues:

1. If the SR11.3 ‘Activate Firmware’ response for successful firmware activation is not received by the DSP from a Device in ‘Suspended’ state, the Device will remain in the ‘Suspended’ state even though the new firmware is now activated on the Device.
2. When a Response to a SR11.3 is not received, some of the Service Users may send another SR11.3 to the Device using an automatic retry implementation. Since the Device has already activated the new firmware using the previous request, the SMETS2 Device will create the Response with ‘ActivateImageResponseCode’ as ‘ActivationFailure’. However, the ‘Firmware Version’ attribute in the Response will hold the current active firmware version of the Device. Currently DSP actions a Response from a Device for updating the firmware version in the SMI only when the ‘ActivateImageResponseCode’ is ‘success.’ This would cause the version held in the SMI to become out-of-sync with the actual version of firmware on the Device.

Currently there is no other recoverable method unless another new firmware update takes place and successful firmware activation response is received by the DSP – which is a waste of time and effort.

This impact the following SEC Parties as follows:

<b>Suppliers</b>	<p>Suppliers be able to send SR11.2 when a Device is in a ‘Suspended’ state in the SMI instead of it being rejected by the DCC E5 authorisation check.</p> <p>If upon a successful firmware update the SR 11.3 response is not received by the DSP the Supplier can rectify the SMI status without having to attempt another firmware update.</p> <p>Additionally, if a Supplier has an automated retry on SR 11.3 in place and it produces a response this response will be used to update the Device status in the SMI.</p>
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In summary, this modification would reduce the firmware activation related failure and improve the efficiency of recovering devices from ‘Suspended’ state for Energy Suppliers.



## 4 Solution Overview

This modification only impacts the DSP component of the DCC Total System.

### 4.1 DSP Solution Overview

#### Solution for Requirement 1

DCC Data Systems will modify the E5 validation check so that an SR11.2 - "Read Firmware Version", targeted at a 'Suspended' Device, is not rejected by the DCC Data Systems.

If the Response to SR11.2 from a 'Suspended' Device indicates that new firmware has been activated, then the Device will be unsuspended by updating the status in SMI to the status it held immediately prior to its suspension. DCC Alert N29 (Device Restored from Suspension) will also be sent to the Responsible Import Supplier and to the Responsible Network Operator. This behaviour is the same as that of processing the Response to SR11.3 (Activate Firmware) from a 'Suspended' Device.

It should be noted that the Response to SR11.2 received from a Gas Proxy Function (GPF) would not be treated as a valid input for restoring the associated Gas Smart Metering Equipment (GSME) from the 'Suspended' state. The existing functionality is to send the DCC Alert N52 (GSME Firmware Version Mismatch) to the Service Users if the received GSME firmware version, returned by the GPF, is different from the corresponding GSME's firmware version available in SMI. This behaviour will remain unchanged.

#### Solution for Requirement 2

DCC Data Systems will modify the processing of Service Request 11.3 Activate Firmware such that the value of `ActivateImageResponseCode` in the Response (including in the Firmware Activation Alert for future dated SR) will no longer be considered as criteria for determining whether to update the SMI. If the Device Response contains a valid version (CPL status "Current") of the firmware which is different from the value currently held in the SMI for that Device, DSP will update the `DeviceFirmwareVersion` and `Device Status` (that it held immediately prior to its Suspension) in the SMI, irrespective of the value held by `'ActivateImageResponseCode'`.

The field `ActivateImageResponseCode` can hold the values 'success', 'activationFailure', 'noImageHeld' or 'hashMismatch'. It is assumed that the Response to SR11.3 will always contain the active firmware version on the Device regardless of the outcome of the processing within the SMETS2 Device. This assumption had been validated with the GBCS Working Group.

With the recent approval of SECMP0007, HCALCS are now in scope for SR11.3 and will be subject to the same modified rules for SR11.3 as ESME and GSME.

A retry of SR 11.3 is handled differently by SMETS1 Service Providers (S1SP) and a failed activation response does not contain firmware version if the status is not 'success'. Hence the Response processing of SR11.3 for SMETS1 will remain unchanged as it is today (i.e. update the SMI only if the status is 'success').

### 4.2 SEC Changes

The DCC and Service Providers have reviewed and approved the legal text changes by SECAS in SEC Appendix AD - DCC User Interface Specification (DUIS) as summarised in Table 3.

Requirement	Changes on SEC Appendix AD	Comments
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1	Section 3.2.4 Table 22 – addition of SR “11.2 ( <i>Read Firmware Version</i> )” for the Response Code E5	Agreed
	Section 3.8.124.3 – specific validation indicating SR11.2 is in exception list for E5.	Agreed
	Section 3.8.124.4 – Addition of the fourth sub bullet points under the first main bullet point. <ul style="list-style-type: none"> <li>“If the Firmware Version entry on the CPL for that Device Model has a status of “Current” and the Device Status in the SMI was ‘Suspended’, the DCC Systems shall update the Device Status to the status it held immediately prior to its Suspension. In this case DCC Alert N29 will be sent to the Responsible Supplier and to the Electricity Distributor or Gas Transporter. “</li> </ul>	Changes proposed
2	Section 3.6.3 Table 41: Removal of the ‘successful’ and addition of Alert Code ‘0x8F67’ for DCC Alert Code N50 and N51.	Agreed
	Section 3.8.125.4 – DCC proposes to the following modification to the existing paragraph. <p>“Where the DCC identifies any Response <del>which indicates the successful processing of the activate firmware Command (execution Outcome = Success) on a Device and</del> where the current Firmware Version returned by the Device matches an entry on the CPL for that Device Model and that Firmware version is different to the value currently held in the Smart Metering Inventory for that Device, an update to the Smart Metering Inventory shall be made by the DCC”</p>	Changes proposed

Table 3: SEMP0105 legal text changes review summary

There will not be any changes in DUIS XML schema or MMC XML schema for this Modification.

## 4.3 Deliverables

The deliverables of this Modification are described in the table below.

Phase Deliverables	Deliverable	Changes Required
<b>Design</b>	SD2.1.1 Functional Specification - Instant Energy	Update to additional processing for SR 11.2 and SR 11.3
	SD4.1 DCC User Gateway Interface Design Specification (DUGIDS)	The existing description of SR11.2 does not state that the Service Request Variant (SRV) will be rejected if the target Device is suspended. Therefore, no change is required to the narrative for SR11.2.

		The narrative of SR11.3 needs to be changed.
	SD2.2.1.2 CDS - Request Manager	Request Management requires a modification to both Southbound and Northbound processing of the Service Request 11.2.  The Northbound processing of Service Request 11.3 will also require modification as described above.
	SD2.2.1.4 CDS - Data Management - SCHED-INV-MSQ	Data Management requires changes for DCC Alert N29 (Device Restored from Suspension) to handle the special case involving GPF (DCC Alert N52).
	SD2.2.1.6 CDS - Security	To be created
<b>PIT Completion</b>	System Test and FAT Completion Report	
<b>Safety</b>	DQ.0019, DSP Failure Modes, Effects and Criticality Analysis	
	DQ.0005, DSP System Hazard Analysis Report	
	DQ.0007, DSP Hazard Log	

## 4.4 Impact on DSP Components

The following sub-systems and components of the DSP are impacted by this change.

### 4.4.1 Request Management

Request Management requires a modification to both Southbound and Northbound processing of the Service Request 11.2.

The Northbound processing of Service Request 11.3 will also require modification as for the second requirement of this Modification.

### 4.4.2 Data Management

Data Management requires changes for DCC Alert N29 (Device Restored from Suspension) to handle the special case involving GPF (DCC Alert N52).

## **5 Impact on DCC Systems, Processes, and People**

This section describes the impact of SECMP0105 on DCC Services and Interfaces that impact Users and/or Parties.

### **5.1 Impact on DSP Services**

Change in Response processing of SR 11.2 and 11.3 require a change in Request Management and Data Management components at DSP.

### **5.2 Technical Specifications**

There will be changes in DUIS (no change in the XML schema) as shown in section 4.2 and corresponding changes in DUGIDS for the changes in DUIS. No other changes required in any Technical Specification.

### **5.3 Impact on Security**

The DSP Security Assurance team has reviewed this change. There is no material impact on the DSP security implementation. The Security Assurance team will provide general security oversight of the implementation throughout its implementation in accordance with DSP's contractual requirements:

- Provide design time guidance through the review of design documentation to maintain alignment with contractual requirements and minimise security risks;
- Review test artefacts and outcomes where there is a potential security consideration;
- Attend meetings where required by the implementation teams;
- Liaise with DCC as necessary on any security related concerns.

No additional Penetration Testing will take place as a result of this change on the basis that:

- there are no material changes to DSP interfaces;
- there are no material changes to the security implementation;
- there is no new infrastructure being introduced.

As a result of the above, there is no requirement to update the Protective Monitoring implementation.

### **5.4 Impact on Processing, Storage or transmission of DCC Data**

This change does not materially increase processing, data storage or data exchange within the DSP solution. Therefore, it is not thought that the change on its own warrants the procurement of additional infrastructure.

Note that the aggregated impact of many such changes to the DSP solution will ultimately result in a reduction of the available processing headroom assumed as part of the original DSP agreement. As such, DSP reserves the right to raise a Change Request for the provision of additional infrastructure should the DCC Data System experience performance problems that are the direct result of such changes.

### **5.5 Impact on Safety**

There are indirect but foreseeable systems safety risks associated with management of device firmware. If a firmware image is not activated when required or an incompatible firmware version is activated, this could impact all communications with the device and the supply of energy to

consumers. DUIS SRVs 11.2 and 11.3 are assessed as safety related (ref. DQ.0005, DSP System Hazard Analysis Report).

Implementation of SECMP0105 would provide mitigation for foreseeable safety risks:

- If a Service User is unable to process SR11.2 on a suspended device because the device fails to send a Service Response, then they would not be able to retrieve its firmware details (Requirement 1 provides mitigation).
- If there is inconsistency between the firmware version held in SMI and the actual version on the SME device this could lead to problems in communicating with that device (Requirement 2 provides mitigation).

These risks could be caused by DSP system failures (e.g. unplanned outage of gateway, heavy network traffic, data misdirection in SMI) or DCC Service User failures (e.g. incorrect device specified, failure to request firmware update in a timely manner). DSP discharges its safety risk assessment and management responsibilities through maintenance of the S&E Case, and implementation of suitable and sufficient mitigations in its solution to reduce the risks to acceptable levels. DSP expects that suitable and sufficient external mitigations will be implemented by DCC, SME device manufacturers and Service Users in line with their legal and licensed safety obligations, to ensure safe operation of the DSP solution in its wider energy supply business environment.

DSP is required to perform safety risk assessment of the functional design at Use Case level via the DSP SHAR and its supporting FMECA, with the resulting hazards managed via the Hazard Log. Depending on the option selected by DCC, this change will impact DUGIDS and the functional design for several DSP components (e.g. Request Management, Data Management). CGI will review the FMECA, SHAR and Hazard Log, in line with the updated DUGIDS and DSP components designs and safety test evidence.

The DSP S&E Case deliverables are required to be updated and reissued for each major DSP release (at least once annually) as agreed with the DCC (ref. DQ.0004, Safety and Environmental Management Plan). This change is expected to be implemented as part of a DSP interim maintenance release. DSP will update and reissue these deliverables to the DCC prior to release go-live consultation for the next major release following implementation of this change to allow for stakeholder review and approval prior to go-live.

## **5.6 Impact on Performance and Infrastructure**

DSP does not expect that there will be a material impact on system performance or infrastructure as a result of this change. Therefore, no performance assurance activities are included in this SEMP0105 FIA. Consideration of the impact of multiple similar changes is given in section 5.4.

## **5.7 Impacts on Resilience and Disaster Recovery**

There will be no change to Resilience, the Disaster Recovery solution or BCDR procedures as a result of this Modification.

## **5.8 Impacts on Interfaces**

This Modification does not change the interface definitions.

## **5.9 Transition to Operations (TTO) Approach**

No TTO-specific charges related to the DSP have been included in this FIA on the basis that it is relatively small. It is assumed that other larger or more complex Change Requests will include partial provision for TTO and that the overall release CR will address any collective shortfall.

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## 5.10 Application Support

The Application Management Support team is responsible for the provision of application level support for the DCC Data System application. This change provides additional functionality that will be subject to support until the end of the DSP contract.

The new functionality could result in calls from Service Users as they become familiar with the new functionality and the potential increase in N29's and also as a result of the SRVs not performing the SMI update due to an invalid version of the firmware in the device response. Calls are likely to request clarification in data content and need investigation as to why the SRV has not been processed as expected.

As a result, DSP has made a conservative estimate that the change will result in four (4) low complexity calls per month that need to be assimilated, investigated, resolved and monitored over the life of the contract.

The Service team will need to be prepared to support the change from the day it goes into live operation. As such, the team must review the functional solution and its technical implementation, ensuring a comprehensive understanding of the solution. The team must understand any configurable options and develop procedures to enable its support. This information must also be shared across the team.



## 6 Testing Considerations

This Full Impact Assessment includes the cost to develop, fully test and deliver this SEC Modification.

### 6.1 Pre-Integration Testing

Pre-Integration Testing (PIT) will be required to align DSP functionality and the functionality described above. The PIT phase of implementation will be subject to standard test phases and level of DCC assurance as defined in previous releases. Specifically, the development team will carry out unit testing and the build will be subject to continuous build and automated testing to identify build issues at the earliest opportunity. The implementation team will carry out system testing consisting of positive and negative path testing which will culminate in a short period of Factory Acceptance Testing (FAT), witnessed by DCC test assurance at DSP offices. The FAT tests will be a subset of System Tests.

Acceptance will be defined by:

1. An agreed set of design documentation.
2. DCC approving the Factory Acceptance Testing outcome in accordance with pre-agreed criteria, which shall not be unreasonably delayed or withheld.
3. Meeting Schedule 6.2 PIT exit criteria.
4. Approval for a MAC to be issued will be authorised by DCC's Test Assurance Board.

### 6.2 System Integration Testing and User Integration Testing

The SIT phase of testing will be aligned with other Modifications and Change Requests in the November 2021 release.

This Modification impacts both SMETS1 and SMETS2. However, the new functionality does not need to be tested against each Device Model Combination (DMC) or repeated for each CSP or S1SP.

SMETS2 testing will include

- Upon successful execution of SR11.2 against ESME, GSME, CHF, HCALCS and PPMID which are in a "Suspended" state, verify that the device's SMI status is updated to that prior to status of "Suspended". Verify alert N29 (Device restored from suspension) sent to the responsible Import Supplier and to the Network Operator.
- Execute SR11.1 followed by SR11.3 update Firmware for ESME, GSME and HCALCS. Where the response from the northbound SR11.3 contains an updated valid firmware version and the response field ActivateImageResponseCode holds one of either 'activationFailure', or 'noImageHeld' or 'hashMismatch' and verify that the SMI is updated. To be executed for all CSPs and SBCH and DBCH.
- Execute SR11.2 against the GPF for a suspended GSME and if there is a mismatch between the F/W returned and the SMI alert N52 is sent to the SU.

For SMETS1

- Upon successful execution of a SR11.2 against ESME, GSME, CHF and PPMID which are in a "Suspended" state, the device's SMI status is updated to that prior to status of "Suspended" verify alert N29 (Device restored from suspension) sent to the responsible Import Supplier and to the Network Operator.
- Execute SR11.2 against the GPF for a suspended GSME and if there is a mismatch between the F/W returned and the SMI alert N52 is sent to the SU.

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The scope of this testing will be detailed in a heatmap and Solution Test Plan associated to the release that this will be delivered against, as SIT completes Solution Test Plans for a SEC Release, and not for individual CRs. This will be included as part of the November 2021 SEC Release.

There is no perceived testing that can be carried out in UIT beyond that which will be covered by SIT.



## 7 Implementation Timescales and Releases

This Modification was expected to be included in a SEC release in November 2021. Implementation timescales will be finalised as part of the relevant SEC Release Change Request.

### 7.1 Change Lead Times and Timelines

From the date of approval (in accordance with Section D9 of the SEC), to implement the changes proposed DCC requires a lead time of approximately **6 months**.

The broad breakdown of the testing regime is shown in the following table in months after an approval decision date (D).

Phase	Duration
SECAS agreement on scope of release	
CAN signature	D + 1 Month
Design, Build and PIT Phase	4 Months
SIT Phase (functional changes only), aligned with Release Sit Dates	1 Month
Transition to Operations and Go Live	D + 6 Months

### 7.2 SEC Release Allocation and Other Code Impacts

The allocation to any release may be dependent on other Modification timings and the suitability of a release. No functionality overlaps with other Modifications has been identified.

### 7.3 Costs and Charges

This section indicates the quote for all phases of application development stage for this Modification. Note these costs assume a standalone release of just this SEC Modification without any other Modifications or Change Requests in the release, which is not truly reflective of what the test costs or programme duration will look like. A calculation of those costs will be carried out when the contents of the future Release are finalised, and the post-PIT costs determined through a "Grouping CR" also referred to as a "Release CR".

Design, Build, Test (PIT)	Post PIT	Application Support
£150,000 - £200,000	£50,000-£100,000	£10,000-£15,000

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## 7.4 Impact on Contracts and Schedules

Contract updates will be required for this change. The detailed updates will be determined as part of the resulting Contract Amendment Note (CAN). Updates will be required to the following schedules:

- Schedule 4.1: Solution Design documents will need to be updated as per section 4.3 Deliverables;
- Schedule 6.1: Inclusion of three new milestones referencing completion of Design, PIT and SIT for this change as detailed in section **Error! Reference source not found.**;
- Schedule 7.1: Update to include a payment against the Schedule 6.1 milestones and the Operational charge uplift.

There will be no change to Schedule 2.2 SLAs due to this Modification.

## Appendix A: Risks, Assumptions, Issues, and Dependencies

The tables below provide a summary of the Risks, Assumptions, Issues, and Dependencies (RAID) observed during the production of the Full Impact Assessment. DCC requests that the Working Group considers this section and considers any material matters that have been identified. Changes may impact the proposed solution, implementation costs and/or implementation timescales.

### 7.5 Risks

None at this time.

### 7.6 Assumptions

These assumptions have been used in the creation of this Full Impact Assessment. Any changes to the assumptions may require DCC to undertake further assessment, prior to the contracting and implementation of this change.

Ref	Description	Status/Mitigation
D105-A1	This Modification will form part of the November 2021 release. It is assumed that implementation completes prior to the end of March 2021 such that a reduced cost of expenses is achieved (noting that the reduced expenses rate may be extended if travel restrictions persist beyond end of March 2021).	Accepted
D105-A2	It is assumed that no UIT/UTS testing is required for the change. Please refer section 6.2 for details.	Accepted
D105-A3	There is no requirement for a penetration test and no change to the DSP's Protective Monitoring solution	Accepted
D105-A4	For SMETS1 Devices, the implementation within S1SPs are different for firmware download and activation than SMETS2 device behaviour. The second attempt of SR11.3 are not expected to contain the current Firmware Version in the Response to SR11.3 if the status is not 'success'. Hence DSP has been asked to retain the Response processing of SR11.3 for SMETS1 as it is today (i.e. update the SMI only if the status is 'success')	Accepted following the analysis of the SR11.3 implementation at SMETS1 Service Providers.

### 7.7 Issues

None at this time.

### 7.8 Dependencies

None at this time.

## Appendix B: Glossary

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

<b>Acronym</b>	<b>Definition</b>
CAN	Contract Amendment Note
CPL	Central Products List
CR	DCC Change Request
CSP	Communication Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
DUGIDS	DCC User Gateway Interface Design Specification
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
FAT	Factory Acceptance Testing
FIA	Full Impact Assessment
GPF	Gas Proxy Function
GSME	Gas Smart Metering Equipment
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMI	Smart Metering Inventory
SMETS	Smart Metering Equipment Technical Specification
SP	Service Provider
SR	Service Request
SRV	Service Request Variant
S1SP	SMETS1 Service Provider
UIT	User Integration Testing
UTS	User Testing Services

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# MP105 ‘Sending SR11.2 to Devices in Suspended State’

## Annex D

## Refinement Consultation responses

### About this document

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This document contains the full collated responses received to the MP105 Refinement Consultation.

## Question 1: Do you agree with the solution put forward?

Question 1			
Respondent	Category	Response	Rationale
<b>Electricity North West Limited</b>	Network Party	Yes	We agree that this modification will better facilitate SEC Objective (a). The Proposed Solution will enable Service User to recover their Devices when they are wrongfully 'Suspended' and bring them back into an operation state
<b>Western Power Distribution</b>	Network Party	Yes	We agree that the solution proposed is the best solution to address the issue that has been highlighted.
<b>Utilita</b>	Large Supplier	Yes	Utilita supports the proposed solution and believes MP105 delivers the following benefits: <ul style="list-style-type: none"> <li>Increased efficiency in comparison to current workaround - there is potential that Firmware updates to devices have been successful, but no response has been received by DSP. On these occasions, having the ability to send SR 11.2 to a device that is in a 'suspended' state to update the status on the Smart Metering Inventory (SMI) is more logical.</li> <li>Allowing SR 11.2 to be sent and subsequently update the SMI will eradicate the time delay of the current workaround.</li> <li>Improves the overall accuracy of the SMI.</li> </ul>
<b>E.ON Energy Solutions Limited</b>	Large Supplier	Yes	This proposal is sensible. Energy Suppliers need to be able to read the active / current firmware version on a meter in the 'suspended' state in order to determine the firmware upgrade path to make the meter SEC compliant, in addition to using this SR to update SMI.
<b>EDF</b>	Large Supplier	Yes	We agree with the proposed solution.
<b>British Gas</b>	Large Supplier	Yes	The ability send an SR 11.2 appears to be a sensible solution to allow suppliers to ascertain the current firmware version on a suspended device. This would be of particular use in the

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Question 1			
Respondent	Category	Response	Rationale
			scenario where firmware has been activated but the successful notification has not been sent / received and the device has remained as 'suspended' due to the mismatch in firmware version with that recorded in the SMI.
<b>OVO</b>	Large Supplier	Yes	The omission in the solution design to enable the SRVs to be processed is an error and needs to be addressed. We have not had any industry wide issues facing us in relation to managing suspended devices but, in case this does happen, we should have all the SRVs in place to do so. The solution proposed addressed that.
<b>Scottish Power Energy Retail Limited</b>	Large Supplier	Yes	We agree with the proposer that, if implemented, MP105 will better facilitate Objective (a).



## Question 2: Will there be any impact on your organisation to implement MP105?

Question 2			
Respondent	Category	Response	Rationale
Electricity North West Limited	Network Party	No	-
Western Power Distribution	Network Party	No	-
Utilita	Large Supplier	-	-
E.ON Energy Solutions Limited	Large Supplier	No	-
EDF	Large Supplier	Yes	<p>We do not always get a success response after sending SR 11.3, and sending SR 11.2 to check whether the firmware on the device has been updated is part of our BAU processes. This change should reduce the number of unnecessary firmware upgrades we send to devices that have been upgraded but that information has not been updated in the Smart Metering Inventory.</p> <p>We assume that this change would be implemented as part of a new version of DUIS, the main impact will be upgrading our systems to that new version of DUIS as and when we do so. We would welcome clarity as to whether this change will only be made in a new version of DUIS or whether this new behaviour might also be made available in other current versions. As the solution would involve sending an existing alert it we would hope it would be possible to extend the benefits of this change to all current DUIS versions.</p>
British Gas	Large Supplier	No	SR 11.2 is an existing SR so there is no implementation effort for suppliers. If we choose to use this SR for suspended devices, we would need to adjust our processes, however, this

Question 2			
Respondent	Category	Response	Rationale
			would be minimal effort. There is no impact on suppliers that choose not to use SR 11.2 for suspended devices.
<b>OVO</b>	Large Supplier	No	Other than being able to manage our devices adequately in the case of a suspension, any impact created by this Mod will be positive and beneficial to us.
<b>Scottish Power Energy Retail Limited</b>	Large Supplier	Yes	We note that the DCC's costs to implement are suggested as being somewhere between £0 and £150k. The impact on us is effectively limited to our market share of these costs.

### Question 3: Will your organisation incur any costs in implementing MP105?

Question 3			
Respondent	Category	Response	Rationale
Electricity North West Limited	Network Party	No	-
Western Power Distribution	Network Party	No	-
Utilita	Large Supplier	-	-
E.ON Energy Solutions Limited	Large Supplier	No	SR11.2 & SR11.2 are service requests already supported and in use. Minimal costs are foreseen to test this change, provided this small change is delivered as part of a larger release as is planned for November 2021.
EDF	Large Supplier	Yes	<p>If this change is implemented as part of a new version of DUIS we will incur the costs of upgrading to that new version of DUIS – it is not possible to separate the impact of this change out from the overall cost of that DUIS upgrade. We would expect the cost of this specific change to be minimal as there are no changes to the SRs that we currently send, and no process changes would be required.</p> <p>It is hard to estimate the level of benefit as this would depend on the number of suspended devices that might exist where the Smart Metering Inventory is not updated correctly following a firmware upgrade. The incremental cost of sending one firmware upgrade is very low.</p>
British Gas	Large Supplier	No	There is no associated implementation effort and hence no costs.

Question 3			
Respondent	Category	Response	Rationale
<b>OVO</b>	Large Supplier	Yes	All changes made by the DCC impact us in our overall costs. We will not incur any direct costs in needing to change our solution though as we can already transmit the SRV's in question, the DCC will just reject them without these changes being in place.
<b>Scottish Power Energy Retail Limited</b>	Large Supplier	No	-

## Question 4: Do you believe that MP105 would better facilitate the General SEC Objectives?

Question 4			
Respondent	Category	Response	Rationale
<b>Electricity North West Limited</b>	Network Party	Yes	We agree that this modification will better facilitate SEC Objective (a). The Proposed Solution will enable Service User to recover their Devices when they are wrongfully 'Suspended' and bring them back into an operation state
<b>Western Power Distribution</b>	Network Party	Yes	We believe that this modification better facilitates SEC Objective (a) by ensuring that Smart Metering Systems at Consumers' premises are not wrongfully 'Suspended' on a successful firmware update.
<b>Utilita</b>	Large Supplier	Yes	Better facilitates SEC objective (a) as the improvements would allow users to bring devices wrongfully in a 'suspended' state into operation faster than current processes - this will provide better efficient provisions and enhance the operation of Smart Metering Systems.
<b>E.ON Energy Solutions Limited</b>	Large Supplier	Yes	It could be argued that SR11.2 should have been classed as an exception to the non-critical service request permitted for communicating with suspended devices in the original DUIS v1 specification.
<b>EDF</b>	Large Supplier	Yes	We agree that MP105 will better facilitate SEC Objective (a) as it will enable Service Users to be able to 'unsuspend' their Devices when they are operating on a valid version of firmware without sending additional upgrades unnecessarily.
<b>British Gas</b>	Large Supplier	Yes	We believe implementation would better facilitate general SEC Objective (a) to facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain. This would be achieved by allowing suppliers improved processes and ability to manage suspended devices and return them to an operational state.

Question 4			
Respondent	Category	Response	Rationale
OVO	Large Supplier	Yes	Yes, we agree with the rationale presented in the Modification Report for SEC Objective (a).
Scottish Power Energy Retail Limited	Large Supplier	Yes	We agree with the proposer that, if implemented, MP105 will better facilitate Objective (a).

## Question 5: Noting the costs and benefits of this modification, do you believe MP105 should be approved?

Question 5			
Respondent	Category	Response	Rationale
Electricity North West Limited	Network Party	Yes	-
Western Power Distribution	Network Party	Yes	-
Utilita	Large Supplier	Yes	The benefits (outlined in Question 1) of the modification outweigh the associated costs.
E.ON Energy Solutions Limited	Large Supplier	Yes	Energy Suppliers need to be able to read the active / current firmware version on a meter in the 'suspended' state in order to determine the firmware upgrade path to make the meter SEC compliant, in addition to using this SR to update SMI.
EDF	Large Supplier	Yes	-
British Gas	Large Supplier	Yes	Estimated implementation costs are "low" and our outweighed by the benefits to suppliers.
OVO	Large Supplier	Yes	We agree this should be approved as the costs of having to manage this outside the proposed solution far outweigh the costs stated.
Scottish Power Energy Retail Limited	Large Supplier	Yes	We agree with the proposer that, if implemented, MP105 will better facilitate Objective (a).

## Question 6: How long from the point of approval would your organisation need to implement MP105?

Question 6			
Respondent	Category	Response	Rationale
<b>Electricity North West Limited</b>	Network Party	-	-
<b>Western Power Distribution</b>	Network Party	N/A	We do not have any additional changes to make and therefore do not require any lead time.
<b>Utilita</b>	Large Supplier	-	It is noted within the MOD report a lead time of 3 months with proposed implementation of release to be November 2021, this would provide Utilita with enough time to make the necessary changes.
<b>E.ON Energy Solutions Limited</b>	Large Supplier	3 months	No changes are foreseen in our backend systems to accommodate the change. The change will be tested as part of the larger release intended e.g. November 2021.
<b>EDF</b>	Large Supplier	6 months	A lead time of at least 6 months is required to enable any changes to be included in a new version of DUIS.
<b>British Gas</b>	Large Supplier	We do not require any implementation lead time.	No implementation effort.
<b>OVO</b>	Large Supplier	ASAP	We can already transmit the SRVs in question, so no changes are needed to our solution.



Question 6			
Respondent	Category	Response	Rationale
Scottish Power Energy Retail Limited	Large Supplier	N/A	We should not require any specific lead time, but would support the working group's recommendation that the Modification be incorporated in the November 2021 Release.

## Question 7: Do you agree with the proposed implementation approach?

Question 7			
Respondent	Category	Response	Rationale
Electricity North West Limited	Network Party	Yes	-
Western Power Distribution	Network Party	Yes	We agree that this modification should be implemented in the next available SEC Release that updates the DUIS. We cannot see any need for an adhoc release earlier than this.
Utilita	Large Supplier	Yes	Utilita agrees with the implementation approach.
E.ON Energy Solutions Limited	Large Supplier	Yes	E.ON would encourage the change to be delivered as soon as possible.
EDF	Large Supplier	Yes	We agree that this change should be included in the November 2021 SEC Release.
British Gas	Large Supplier	Yes	The implementation approach appears sensible given the impact on DCC systems.
OVO	Large Supplier	Yes	We agree with the proposed approach as set out.
Scottish Power Energy Retail Limited	Large Supplier	Yes	-

## Question 8: Do you agree that the legal text will deliver MP105?

Question 8			
Respondent	Category	Response	Rationale
Electricity North West Limited	Network Party	-	-
Western Power Distribution	Network Party	Yes	-
Utilita	Large Supplier	Yes	-
E.ON Energy Solutions Limited	Large Supplier	Yes	-
EDF	Large Supplier	No	<p>The legal text changes do not reflect the solution as detailed in section 3 of the report. Section 3 states that:</p> <p>“If the Response to SR 11.2 from a ‘Suspended’ Device indicates that a new firmware has been activated, then the Device needs to be “unsuspended”; this is done by updating the status in SMI to the status it held immediately prior to its suspension. DCC Alert N29 ‘Device Restored from Suspension’ will also be sent to the Responsible Import Supplier and to the Responsible Network Operator. This behaviour is the same as that of processing the Response to SR 11.3 ‘Activate Firmware’ from a ‘Suspended’ Device.”</p> <p>However the changes made to section 3.8.120.4 of the DUIS in the legal text only relate to SR 11.3 (Activate Firmware). Changes also need to be made to the relevant section for SR 11.2 (so section 3.8.119.4 of DUIS) to make it clear that if the response to SR 11.2 updates</p>

Question 8			
Respondent	Category	Response	Rationale
			the Smart Metering Inventory and the status of the device is Suspended, that the DCC Systems shall update the Device Status and that a DCC Alert N29 will be sent to the Responsible Supplier and to the Electricity Distributor or Gas Transporter. Similar text to that shown for section 3.8.120.4 should be included in section 3.8.119.4
<b>British Gas</b>	Large Supplier	Yes	The legal text implements the intent of the modification proposal
<b>OVO</b>	Large Supplier	Yes	The legal text aligned to the proposed change.
<b>Scottish Power Energy Retail Limited</b>	Large Supplier	Yes	-

## Question 9: Do you believe there will be any impacts on or benefits to consumers if MP105 is implemented?

Question 9			
Respondent	Category	Response	Rationale
Electricity North West Limited	Network Party	Yes	-
Western Power Distribution	Network Party	Yes	Consumers will benefit from devices no longer being left incorrectly in a 'Suspended' state after a successful firmware upgrade. This means that they would be able to benefit from all Smart Metering benefits from Suppliers, Network Operators and other Users as expected.
Utilita	Large Supplier	Yes	A large portion of our customers actively use our mobile application to track their energy usage and balances. To relay this information to the customer we require use of both critical & non-critical SRs. Implementation of this mod will reduce the time lag of the current workaround and allow us to send the necessary SRs to display relevant information to our application/customers in a timelier manner.
E.ON Energy Solutions Limited	Large Supplier	Yes	If the change is implemented as designed, suspended meters once upgraded to compliant firmware will be removed from suspended state faster, restoring the smart experience for consumers in a timely manner aligned to the firmware upgrade plan of the responsible party performing the upgrades.
EDF	Large Supplier	Yes	Where a device is shown as being 'Suspended' on the Smart Metering Inventory incorrectly this will impact communications with the device for all DCC Users. Enabling this to be more easily rectified will enable communications to devices to be re-established more effectively, which then benefits the consumers that have those devices installed.

Question 9			
Respondent	Category	Response	Rationale
<b>British Gas</b>	Large Supplier	Yes	Implementation should ensure that devices are correctly registered within the SMI and, where no longer suspended, this will allow suppliers to continue operation of smart services for customers – a clear benefit.
<b>OVO</b>	Large Supplier	Yes	As already described, we believe the ability to manage any devices that have been suspended on the CPL needs to be end to end. The fact we're unable to send all SRVs in this scenario will lead to devices needing to be physically addressed and managed. The costs for which could be avoided by this Mod.
<b>Scottish Power Energy Retail Limited</b>	Large Supplier	Yes	We agree with the proposer that, if implemented, MP105 will better facilitate Objective (a).

## Question 10: Please provide any further comments you may have

Question 10		
Respondent	Category	Comments
Electricity North West Limited	Network Party	-
Western Power Distribution	Network Party	-
Utilita	Large Supplier	-
E.ON Energy Solutions Limited	Large Supplier	-
EDF	Large Supplier	-
British Gas	Large Supplier	n/a
OVO	Large Supplier	Not at this time.
Scottish Power Energy Retail Limited	Large Supplier	N/A