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MP125

‘Correcting Device Information for the ESME Variant’

Modification Report

Version 1.0

20 July 2022

Corporate member of Plain English Campaign
Committed to clearer communication
592

About this document

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

Contents

1. Summary 3
2. Issue 3
3. Solution 5
4. Impacts 6
5. Costs 7
6. Implementation approach 8
7. Assessment of the proposal 9
8. Case for change 10
9. Appendix 1: Progression timetable 11
10. Appendix 2: Glossary 12

This document also has four annexes:

- **Annex A** contains the business requirements v1.0 for the solution.
- **Annex B** contains the full Data Communications Company (DCC) Impact Assessment response v0.4**.**
- **Annex C** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex D** contains the full responses received to the Refinement Consultation.
- **Annex E** contains the full response received to the Modification Report Consultation.

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1. Summary

This proposal has been raised by Roy Thompson from Utility Warehouse.

When an installing Supplier pre-notifies a Device using the DCC Device Pre-Notification Service Request (SR12.2), it includes within it updates for various Device details stored in the Smart Meter Inventory (SMI). One of these updates is the Electricity Smart Metering Equipment (ESME) Variant. However, if the Installation and Commissioning process begins for an ESME, it is no longer possible to update these details, including the ESME Variant, within the SMI. This means that any errors cannot be rectified.

In addition, if a firmware update is applied to the Device, especially if the new update results in the change to the ESME Variant (e.g. boost button functionality), the Responsible Supplier will not be able to amend this change within the SMI.

The Proposed Solution will allow the Responsible Supplier to correct the ESME Variant field in the SMI after a Device has been commissioned. The Responsible Supplier shall be able to send SR8.4 'Update Inventory' to correct the ESME Variant if the Device Status is 'Whitelisted', 'Installed Not Commissioned' or 'Commissioned'. The solution will be applied to Smart Meter Equipment Technical Specifications (SMETS2) Devices only.

This modification will affect the DCC, Suppliers and Device Manufacturers. The total cost to implement the change is approximately £81,000. If approved, this modification will be targeted for the June 2023 SEC Release. This is a Self-Governance Modification.

2. Issue

What are the current arrangements?

When Devices (such as Communications Hubs, Gas Smart Metering Equipment (GSME) or ESME) are delivered to a Supplier or a Supplier's Agent (such as a Meter Operator (MOP) or Meter Asset Provider (MAP)) from a Device Manufacturer, an Advance Shipment Notification (ASN) file is provided. This file lists the details of each Device in the shipment.

The DCC requires the Device details to be provided to it via an SR12.2. These details are then imported into the DCC SMI. No Devices can be installed or allowed to communicate with the DCC System unless they are listed on the SMI.

The ASN information is provided in either an XML file or a text file. It contains the meter asset details, including the serial number, and information about the attributes of that Device, such as the Device Variant. The Device Variant describes the functions of the Device such as if it includes a Home Area Network (HAN) Connected Auxiliary Load Control Switch (HCALCS) or boost button functionality).

DCC Users must ensure that all Devices connected to the HAN are recorded on the SMI. Suppliers or Supplier Agents acting on their behalf can use the ASN file provided by the Device manufacturer to generate the SR12.2 required for Device Pre-notification. Upon receiving the SR12.2, the DCC will update the SMI and set the SMI Status of the Device to 'Pending'.

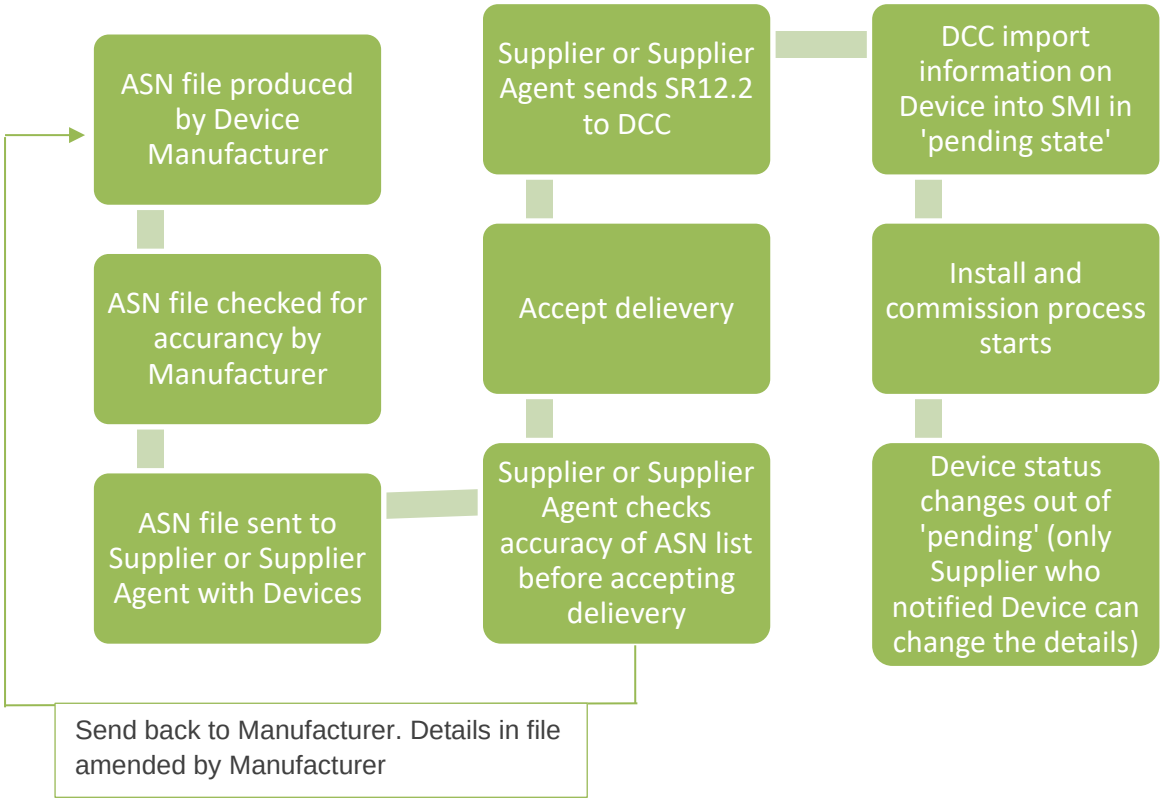
What is the issue?

Once the Installation and Commissioning process has started and the Device leaves the 'Pending' state then it is no longer possible for any Supplier to update these details in the SMI. This means that:

- any errors cannot be rectified;
- following a Change of Supplier (CoS) the 'ESME Variant' field cannot be changed by the gaining Responsible Supplier; and
- when a firmware upgrade takes place to add functionality such as activating the boost button facility this information on the change of EMSE Variant cannot be updated by the Responsible Supplier.

How does an incorrect ESME Variant occur?

Where incorrect details are provided in the ASN file the incorrect information about the Device will be recorded on the SMI. Suppliers, Supplier Agents and Device manufacturers should therefore be taking precautions and using 'best practice' to validate this information at every stage of the process.



Pending state

An error in the EMSE Variant information may be identified by the installing Supplier when it performs a quality control check on the ASN files. If the Device has a status of 'Pending' the installing Supplier may update details of that Device or delete that Device from the SMI by sending an SR8.4 'Update

Inventory'. This functionality is only available to the installing Supplier and only when the Device is in 'Pending' state.

Firmware Upgrades

When the Responsible Supplier performs a firmware upgrade on Devices the upgrade can cause a change to the EMSE Variant. The Responsible Supplier is not currently able to update the SMI to reflect these changes.

What is the impact this is having?

Not resolving the issue will mean errors identified in the SMI will not be corrected. In July 2020, the DCC confirmed 719,543 commissioned ESMEs have a potentially wrong ESME variant code, and the volume of Devices with the incorrect ESME Variant will likely continue to increase. Additionally, the implementation of firmware upgrades could mean a Device's functionality may change. A change of functionality would mean there could be a discrepancy with the Device Variant as listed at the very outset. Consumers may not be offered the correct tariffs attributed to a particular Device type if the wrong ESME Variant is recorded in the SMI.

Impact on consumers

Consumers may be offered wrong tariffs or will be limited to certain tariff options. This modification will ensure consumers are being offered the correct tariff for the type of meter that they have.

3. Solution

Proposed Solution

The Proposed Solution is to allow the Responsible Supplier to be able to correct the ESME Variant field in the SMI after the Device has been commissioned. The Responsible Supplier will be able to send SR8.4 'Update Inventory' to correct the ESME Variant if the Device Status is 'Whitelisted', 'Installed Not Commissioned' or 'Commissioned'.

The business requirements for this solution can be found in Annex A.

4. Impacts

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

SEC Parties

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

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

This modification will benefit Suppliers, Electricity Network Operators and Other SEC Parties as it will allow the Responsible Supplier the ability to amend the ESME Variant code, in the instance the details incorrect. The Modification will allow the Responsible Supplier to be able to correct the ESME Variant in the SMI for the Devices with an incorrect Variant after the Devices has been commissioned.

DCC System

This modification will impact the DCC System. The Data Service Provider (DSP) will modify the validation rule associated with SR8.4 'Update Inventory' to meet the business requirement. Currently, only the DCC Service User who pre-notified the Device details is allowed to update the Device details. This behaviour will be changed to allow the Responsible Supplier to submit SR8.4 for the purpose of updating the ESME Variant of a Device.

Full details can be found in the DCC's Impact Assessment in Annex B.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Appendix AD 'DCC User Interface Specification' (DUIS)
- Schedule 11 'Technical Specification Applicability Tables'

The DCC has provided the legal text with the DUIS documentation changes as part of the DCC Impact Assessment. Although this change will affect the DUIS there are no changes to the DUIS Schema. The DCC User Gateway Interface Design Specification (DUGIDS) documentation will also need to be updated to describe the revised behaviour of SR8.4.

The full redlined changes to the SEC can be found in Annex C.

Devices

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

The solution for this modification relates to ESMEs. Installing Suppliers pre-notify Devices to the DCC using Device Pre-Notification Service Request (SR12.2) which provides various Device details, including the ESME Variant, to be stored in the Smart Meter Inventory SMI.

Consumers

Consumers will be impacted if these changes are not made as they could be offered wrong tariffs or be limited to certain tariff options. This modification will help to ensure consumers are being offered the correct tariff for the type of meter that they have.

Other industry Codes

No other industry Codes are impacted by this proposal.

Greenhouse gas emissions

This proposal will have no effects on greenhouse gas emissions.

5. Costs

DCC costs

The total cost to the DCC to implement the proposed solution is £80,995. The breakdown of these costs are as follows:

Breakdown of DCC implementation costs	
Activity	**Cost**
Design, Build and Pre-Integration Testing (PIT)	£51,593
Systems Integration Testing (SIT and UIT)	£24,938
Implement to Live	£4,464

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

SECAS costs

The estimated Smart Energy Code Administrator and Secretariat (SECAS) implementation cost to implement this as a stand-alone modification is two days of effort, amounting to approximately £1,200. This cost will be reassessed when combining this modification in a scheduled SEC Release. The activities needed to be undertaken for this are:

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

SEC Party costs

One Large Supplier confirmed the costs they will incur in implementing MP125 would range between £100k-£250k if it was required to upgrade to the new version of DUIS. There would be no cost incurred from the remainder of the Refinement Consultation respondents.

6. Implementation approach

Agreed implementation approach

The Change Sub-Committee (CSC) agreed an implementation date of:

- **29 June 2023** (June 2023 SEC Release) if a decision to approve is received on or before 29 December 2022; or
- **2 November 2023** (November 2023 SEC Release) if a decision to approve is received on or before 2 February 2023.

This modification will have a six-month lead time. This modification impacts the DUIS and should therefore be implemented in a SEC Release with other DUIS impacting changes for efficiency.

All Refinement Consultation respondents agreed with the proposed implementation approach, however one Large Supplier highlighted it would need to upgrade to the new version of DUIS to be able to operate the change if this was required. Four respondents advised a small amount of time would be required from point of approval for their organisation to implement the change with one Large Supplier highlighting it will require 12 months, if it was to upgrade to a new version of DUIS to implement the change.

7. Assessment of the proposal

Observations on the issue

SECAS's observations

SECAS's investigations identified that, as an example, if an 'AD' ESME was wrongly notified as an 'A' ESME, there would be a chance it could be validated within the Central Products List (CPL) incorrectly. However, SECAS considered the chance of this happening to be highly unlikely as there should be two validation checks as 'best practice' to ensure the Device type is recorded accurately:

- at the point the Device manufacturer provides the ASN file; and
- at the point the Responsible Supplier performs Quality checks on the ASN file.

Supposing that an ESME was not checked by the two validation checks mentioned above and was incorrectly identified, the DUIS explicitly forbids the gaining Supplier to correct the details of a commissioned meter.

Change Sub-Committee's views

Change Sub-Committee (CSC) members confirmed that whilst the volume of incorrect entries at the time was low, this could become an increasing problem. CSC members asked for confirmation as to how many incorrect ESMEs are in the inventory. In July 2020, the DCC confirmed 719,543 commissioned ESMEs have a potentially wrong ESME variant code.

Members highlighted the importance of considering other data elements on the SMI and what impact these could have on functionality if they were incorrect. The CSC asked that the Working Group consider other data elements on the SMI that may also require correction. The CSC also agreed the modification should be progressed to the Report Phase.

Solution development

Technical Architecture and Business Architecture Sub Committee (TABASC) members queried the statement in that following a CoS event, the gaining Supplier would be unable to update Device Firmware if the ESME variant was incorrect in the SMI. SECAS advised this information was incorrect and the issue was not that Firmware could not be updated, rather that a Firmware upgrade could change properties of a Device and therefore add new functionalities. Without the proper Variant being recorded, new functionality may not be visible to the responsible Supplier associated with an ESME. SECAS amended the statement in the Modification Report accordingly and this is now resolved.

The TABASC asked the Working Group to consider whether any other Service Requests that only the installing Supplier can send should be made available to the current Supplier in sending. SECAS advised it had not received any further feedback from Parties for any additional Service Requests to be included under this modification.

The Working Group enquired how the DCC captures figures for Devices which have an incorrectly labelled ESME Variant in the SMI. The DCC advised that the figures are generated by the DCC Technical Operations Centre (TOC) report on ESME Variants. There were also discussions to investigate the feasibility of amending the CPL, so it displays ESME Variant. SECAS advised this request was investigated and due to the complexity of the CPL system and the way it is set up this was not technically feasible. The Working Group also requested the DCC to provide a report on

ESME Variants listed in the SMI against CPL data. The DCC provided this information to SECAS and, it reported there were around 719,543 ESME Devices which the DCC estimated to be listed under an incorrect ESME Variant in the SMI.

Previously the Proposer and the Working Group had considered expanding the scope to include other variants such as Device Model and Device Manufacturer, as considered by the CSC. SECAS presented this suggestion to the TABASC and the Security Sub-Committee (SSC) for feedback. Both Sub-Committees agreed there would be an increased Security risk in allowing access for Users to amend Device Model and Device Manufacturers. The SSC also advised it would require a risk assessment to be carried out if the modification was to include Device Model and Device Manufacturers. As a result, the TABASC and the SSC were supportive of progressing the modification forward to allow the gaining responsible Supplier the ability to update the ESME Variant only. The Proposer and the Working Group noted these views and concluded that the scope should just cover the ESME Variant to prevent creating any potential security risk. The Working Group requested that all ESME Variant codes be included in the modification.

8. Case for change

Business case

The CSC, the Working Group and Sub-Committees were all supportive of this change to improve the data quality in the SMI.

There was a unanimous agreement and support from Refinement Consultation respondents for the solution put forward to resolve the issue for MP125. Respondents agreed that the solution provides a means for correcting incorrect the ESME Variant so that consumers can receive the correct functionality and tariff offered by the meter variant installed.

Views against the General SEC Objectives

Proposer's views

The Proposer believes that this modification better facilitates General SEC Objective (a)[1] as it would ensure accurate information was held in the SMI and consumers will be offered the correct tariff.

Industry views

Five responses were received to the Refinement Consultation. All five respondents agreed MP125 better facilitated SEC objective (a) for the same reasons as the Proposer.

The full Refinement Consultation responses can be found in Annex C.

[1] Facilitate the efficient provision, installation, operation and interoperability of smart metering systems at energy consumers premises within Great Britain.

Views against the consumer areas

Improved safety and reliability

This modification will ensure details in the SMI are reflected accurately and up to date.

Lower bills than would otherwise be the case

This modification will ensure consumers are being offered the correct tariff for the type of meter that they have.

Reduced environmental damage

This modification will ensure that meters which are prevented from receiving a successful firmware upgrade are not replaced prematurely.

Improved quality of service

This implementation will have a positive impact to Suppliers as it will allow them to provide more accurate information to consumers and aid in offering consumer more accurate and prosperous Smart Energy tariffs.

Benefits for society as a whole

This modification will ensure the smart metering programme can operate efficiently and offer the best service to consumers.

Final conclusions

The Working Group discussed the benefits of implementing this modification advising that not resolving the issue will mean errors identified in the SMI will not be corrected and the volume of incorrect Devices will increase. A member advised this modification will also benefit the work being conducted in the Market Half Hour Settlement (MHHS) programme which asks that the integrity and accuracy of the Device Variant remains consistent. Being able to change the ESME Variant, if found incorrect, will be a useful function. In addition, a Firmware upgrade may take place and change the properties of a Device adding new functionalities. Without the proper Variant being updated the new functionality may not be visible to the Responsible Supplier associated with an ESME.

TABASC members advised this modification will not just correct errors made by previous Suppliers but will also help where firmware versions have been deployed, to validate updates to variant cases.

9. Appendix 1: Progression timetable

Following the Modification Report Consultation (MRC) the modification will be presented to the Change Board for vote under Self-Governance on 24 August 2022.

Timetable	
Event/Action	**Date**
Draft Proposal raised	7 May 2020
Presented to CSC for initial comment and recommendations	26 May 2020
Panel converts Draft Proposal to Modification Proposal	19 Jun 2020
Business requirements developed with the Proposer and DCC	22 Jun 20 – 6 May 2021
Business requirements discussed with SSC	24 Feb 2021
Business requirements discussed with TABASC	4 Mar 2021
Working Group meeting	7 Jun 2021
Preliminary Assessment requested	9 Aug 2021
Preliminary Assessment returned	1 Sep 2021
Working Group meeting	6 Oct 2021
Refinement Consultation	9 Nov 2021 – 22 Nov 2021
Working Group meeting	1 Dec 2021
Impact Assessment costs approved by Change Board	13 Dec 2021
Impact Assessment requested	3 Jan 2022
Impact Assessment returned	21 Feb 2022
Working Group meeting	2 Apr 2022
Impact Assessment discussed with TABASC	5 May 2022
Working Group meeting	6 Jul 2022
Modification Report approved by CSC	19 Jul 2022
Modification Report Consultation	20 Jul 2022 – 10 Aug 2022
Change Board Vote	24 Aug 2022

10. Appendix 2: Glossary

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

Glossary	
Acronym	**Full term**
ASN	Advance Shipping Notification
CoS	Change of Supplier
CSC	Change Sub-Committee
CPL	Central Products List
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

Glossary	
Acronym	**Full term**
FIA	Full Impact Assessment
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
HCALCS	HAN Connected Auxiliary Load Control Switch
MAP	Meter Asset Provider
MHHS	Market Half Hour Settlement
MOP	Meter Operator Provider
PIT	Pre-Integration Testing
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	System Integration Testing
SMI	Smart Metering Inventory
SR	Service Request
SSC	Security Sub Committee
TABASC	Technical Architecture and Technical Business Architecture Sub Committee
TTO	Implementation to live
TOC	Technical Operations Centre
UIT	User Integration Testing