

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



# MP172

## ‘Reduced CPA & CPL requirements for innovation and Device field trials’

### Modification Report

Version 0.5

15 August 2022

Corporate member of  
Plain English Campaign  
Committed to clearer  
communication

592



Managed by



## About this document

---

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

## Contents

---

1. Summary.....	3
2. Issue.....	3
3. Solution .....	5
4. Impacts.....	6
5. Costs .....	8
6. Implementation approach .....	8
7. Assessment of the proposal .....	9
8. Case for change.....	13
Appendix 1: Progression timetable .....	14
Appendix 2: Glossary .....	15

This document also has one annex:

- **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) Preliminary Assessment response

## Contact

---

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

**Kev Duddy**

020 3574 8863

[kev.duddy@gemserv.com](mailto:kev.duddy@gemserv.com)

## 1. Summary

---

This proposal has been raised by Eric Taylor from SMETS Design Ltd.

Innovation in Smart Metering relies on field trials or live usage trials. These are used to see whether the product that has been developed is providing value to the consumer and is working or being used as expected. It also helps with refinement of a product based on real world feedback. Typically, these trials happen before manufacturers commit to the full costs of final volume product, the final detailed design and certifications.

Currently, the requirements of the Smart Energy Code (SEC) are designed around the mass deployment of Devices and offer no leeway to support Minimum Viable Product (MVP) trials on the live DCC network. The biggest cost and risk blocker for the introduction of a new or modified Device type, or an innovative Device usage are the Commercial Product Assurance (CPA) arrangements.

The Proposer believes that this is preventing manufacturers from being able to invest confidently to bring innovative products to market. It is also impacting consumers where Devices have been rolled out on a mass scale with potential defects that could have been uncovered in a limited volume product trial on the live DCC network.

The Proposed Solution will be to request the Security Sub-Committee (SSC) to approve Devices for a trial in limited numbers and duration. The SSC will decide whether the security risk is acceptable to allow the trial. There is not expected to be any DCC costs associated with this modification.

This modification will impact all SEC Parties and the DCC. The implementation costs will be limited to Smart Energy Code Administrator and Secretariat (SECAS) time and effort. This modification is targeted for the February 2023 SEC Release and this will be a Self-Governance Modification.

## 2. Issue

---

### What are the current arrangements?

#### Central Products List

The DCC uses the Central Products List (CPL) to manage the Devices it can communicate with. If a Device is not listed on the CPL, the DCC cannot add it to the Smart Metering Inventory (SMI) and therefore cannot communicate with it. Only once a Device has met the requirements set out in SEC Appendix Z 'CPL Requirements Document' can it be added to the CPL. The CPL is a list of Device Models that are either:

- Smart Metering Equipment Technical Specifications (SMETS) 2 Devices which have received all relevant Assurance Certificates; or
- SMETS1 Devices which have been notified by the DCC and have been included as entries on the SMETS1 Eligible Products Combination list.

#### Smart Metering Assurance Certificates

There are three types of Assurance Certificates, each issued by a different Assurance Certification Body. The technical specifications of each product relevant to that Physical Device Type determines

which Assurance Certificates are required to add the Device to the CPL. These are Zigbee Alliance Certificates, Device Language Message Specification (DLMS) Certificates and CPA Certificates.

The Assurance Certification Body for the CPA scheme is the National Cyber Security Centre (NCSC).

## What is the issue?

Innovation in Smart Metering (or in any technical or engineering domain) relies on the use of MVP in a field trial or live usage trial. These are used to show the value of the proposal or solution and refine the product and solution designs. Typically, this happens before manufacturers commit to the full costs of final volume product, the final detailed design, and full product certifications.

The biggest cost and risk factor for the introduction of a new Device Type or innovative Device usage are the CPA requirements. It can take approximately 12 months to complete the CPA Certification process. These requirements are designed around the mass deployment of Devices and offer no leeway to support limited MVP trials on the live DCC network.

This live trial facility has always been needed in SMETS2 Smart Metering but has never been provided in a way that is required for commercially driven innovation to occur. This is the normal way that progress is made in any technology, but the SEC arrangements (listed above) require the full investment of a complete final volume product before any field trial can be undertaken.

The Proposer believes that, as well as stifling innovation, this restriction has already caused cost and problems for the Smart Metering Implementation Plan (SMIP). Devices have been deployed at high volume in the live network with issues that normally would have been easily spotted during a limited volume live field trial. These are cases where Over-The-Air (OTA) updates have not been able to resolve these issues, where a combination of OTA and Device restarts have been required, or on-site visits. The Proposer believes that had there been the opportunity to trial, then final designs would not have been committed to prior to receiving this important design feedback from real world use.

The Proposer considers that there is no test environment which can simulate the real live usage of a Device on the live network with real Users and which meets the needs of commercially led innovation. The DCC Production Proving environment only shows that the system can work. It is not a real usage environment as it is in a controlled lab and the arrangements are too restrictive for commercially led innovation.

## What is the impact this is having?

The Proposer believes the high threshold required to trial innovation on the live DCC network and prove the value of a new use cases based on the existing smart metering arrangements and the existing technical specifications is prohibiting industry-led innovation.

The Proposer believes this absence of commercially driven innovation will affect the DCC's ability to meet its second enduring General Objective<sup>1</sup>, as set out in the DCC's Licence, and find ways to re-use the smart metering systems for anything other than dual fuel metering. This denies the DCC the

---

<sup>1</sup> The Second Enduring General Objective of the Licensee is to carry on the Mandatory Business in the manner that is most likely to facilitate: (a) effective competition between persons engaged in, or in Commercial Activities connected with, the Supply of Energy under the Principal Energy Legislation; (b) such innovation in the design and operation of Energy Networks as will best contribute to the delivery of a secure and sustainable Supply of Energy under the Principal Energy Legislation; and (c) the reduction (by virtue of benefits arising from the provision of Value Added Services) of the charges payable for Mandatory Business Services.

ability to offer other revenue generating services based on such commercially driven innovation which might reduce the overall costs to DCC Users.

Manufacturers are incurring higher costs as they must develop their product to a higher threshold to evaluate their Devices in the field. There is then potential to spend again prior to mass deployment to resolve something which could have easily been spotted if normal Good Industry Practice was used as described above. This also risks reputational damage to the Device Manufacturer, the Device operator and the SMIP, which could have been avoided if a limited volume MVP live field trial were undertaken.

### **Impact on consumers**

The continued mass deployment of Devices without live field trials can lead to Devices containing issues that could have easily been spotted with this type of test. This negatively impacts the consumer by giving them a poor experience of the Devices at the start of volume deployment, as well as the inconvenience of possibly having multiple site visits.

## **3. Solution**

---

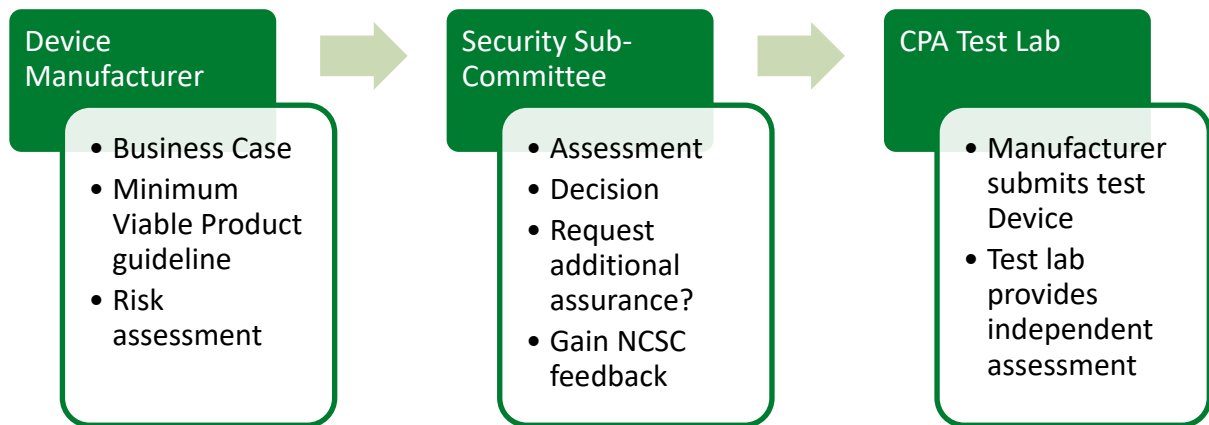
The Proposed Solution will allow Device Manufacturers to request the SSC to allow trial Devices in limited numbers onto the live DCC network without passing through CPA Certification, where that would otherwise be a requirement.

The SSC would assess whether they had the necessary assurance that the security risk from the small number of Devices was sufficiently low to allow the trial to proceed.

If the SSC is satisfied with the application, a “Trial” CPA certificate reference would be provided. The Device Manufacturer would then use this CPA certificate reference in the CPL submission sent to SECAS. If approved then Devices could be added to the CPL, with detail on existing fields to highlight it as a trial Device, but without affecting the format of the CPL to ensure no impact on DCC systems.

If the SSC requires further assurance, the Device Manufacturer would need to make a trial Device available to a CPA Test Laboratory to carry out an independent risk assessment. That would then be passed to the SSC to accompany the Device Manufacturer’s application and enable the SSC to decide. If necessary, the SSC will seek guidance from the NCSC to assist them.

The DCC will provide extracts of the SMI to the SSC to enable them to monitor trial Devices that are in the field. This SSC will use the CPL alongside the SMI extract to identify the Trial Devices. It is envisaged that the Trial Device Models will be made identifiable on the CPL by having the Certificate reference prefixed with a “[T]”.



## 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

Suppliers and Network Operators will be impacted by the potential for Devices that have not been through full CPA Certification to be installed on their networks at consumer properties.

Device Manufacturers will be able to apply for Devices to be installed on a trial basis without the need for passing CPA Certification.

The DCC will need to issue the SSC with a monthly extract of the SMI to allow the SSC to monitor the Trial Devices.

## DCC System

The DCC System will not be impacted by this modification as they already provide a suitable extract of the SMI to the SSC that will meet the requirements of them.

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

## SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Section F 'Smart Metering System Requirements'
- Appendix Z 'CPL Requirements Document'

The changes to the SEC required to deliver the proposed solution can be found in Annex B.

## 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

Device behaviour is not impacted by the modification, however any Device that would usually require CPA Certification would be eligible for this process.

## Consumers

Consumers will only be impacted if they choose to be involved in a trial to have a Device placed at their premises.

## Other industry Codes

There will be no impact on other Codes from this modification.

## Greenhouse gas emissions

There will be no impact to greenhouse gas emissions due to this modification.

## 5. Costs

---

### DCC costs

There are no DCC costs to implement this modification.

The DCC carried out an initial Preliminary Assessment which can be found in the DCC Preliminary Assessment response in Annex C. However, based on feedback from the Working Group they have investigated an alternate solution whereby the DCC solely submits extracts of the SMI to the SSC. The DCC will not apply an additional cost for this.

### SECAS costs

The estimated 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.
- Updating the CPL Guidance Notes to reflect the new process

### SEC Party costs

It is not expected that there will be any SEC Party costs from this modification. However, applicants would have to cover the costs of the CPA Test Lab assessment should it be required as part of the application. There are potential cost savings for Device Manufacturers who can identify fixes to Devices in field without the need to go through full CPA Certification initially.

## 6. Implementation approach

---

### Recommended implementation approach

SECAS is recommending an implementation date of:

- **23 February 2023** (February 2023 SEC Release) if a decision to approve is received on or before 23 January 2023; or
- **29 June 2023** (June 2023 SEC Release) if a decision to approve is received after 22 January 2023 but on or before 29 May 2023.

This is a document only modification so can be implemented in the February 2023 SEC Release. The SSC will need to develop their internal documentation to manage the Device Trial applications and SECAS will need to update the CPL Guidance Notes to reflect a new process. It is estimated those items would require one month lead times to ensure they are ready in advance of implementation.



## 7. Assessment of the proposal

### Areas for assessment

#### Sub-Committee input

SECAS engaged with the Chairs from the Operations Group (OPSG), the Technical Architecture and Business Architecture Sub-Committee (TABASC), the Security Sub-Committee (SSC) and the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) to confirm what input is required from these forums. SECAS believes the following Sub-Committees will need to provide the following input to this modification:

Sub-Committee input	
Sub-Committee	Input sought
OPSG	None
SMKI PMA	None
SSC	Engage throughout to agree process and delivery
TABASC	Gain views on architecture impact

### Observations on the issue

#### Change Sub-Committee

Change Sub-Committee (CSC) members noted that any increase in security risk would likely not be supported by industry. It advised that the SSC and the NCSC must be fully engaged with the development of the modification.

One CSC member highlighted that the DCC has a test network, and they believe this could be utilised with Devices that are installed in the field already. Upon further investigation this was found not to be the case and the Devices are not installed at consumer premises.

Finally, the CSC felt that the business case will need more development before the modification is progressed to decision.

#### Security Sub-Committee

The SSC was presented with the issue. Members agreed that this was an area that should be explored further and noted that a lack of innovation within Devices was a growing concern.

One member highlighted that any solution should ensure that situations of Change of Supplier should be accounted for. They also noted there must be a mechanism for removal or upgrade of the Device once any limited numbers trial was finished.

The SSC noted that there are currently limited Device field trials ongoing in conjunction with the Department for Business, Energy & Industrial Strategy (BEIS).

#### Views of a SEC Party

One Other SEC Party provided feedback on the initial Draft Proposal. It acknowledged that whilst CPA Certification causes some innovation to go at a slightly slower pace it disagreed that this had

prevented bringing new products to market. In the current climate of cyber security issues, it believes the current CPA arrangements provides a vital layer of protection to the SMIP.

The Proposer agrees that the Security Characteristics are vital but believes there should be an option to have the Device verified independently, likely through the SSC, in this specific circumstance. This would help to reduce costs and timescales for Device development and promote innovation within the industry.

### **Working Group**

Working Group members noted that they were supportive of the principle of the change, but that it must be counterbalanced against the security implications of not having CPA Certification.

### **Solution development**

The CSC highlighted that any solution must be developed in consultation with Other SEC Parties to ensure that any solution is developed that works for a wide audience. To achieve this the Proposer chose to develop the initial business requirements for the modification with the Working Group. The modification has also been discussed with the Technical Architecture and Business Architecture Sub-Committee (TABASC) and the SSC.

### **Who is eligible to submit a Device for a trial part?**

To add in a security control as to who is eligible to submit a Device for a trial, the Proposer suggested that only Device Manufacturers that already have a CPA certified product would be eligible. They noted that part of the CPA certification involves the company demonstrating that it has the quality, security, and engineering processes and systems in place to ensure that secure development can take place. A Working Group member disagreed, saying that a company is not approved by CPA as they can produce one Device that is compliant but another that they produce may not be.

The DCC suggested it may be more appropriate to make the requirement specific to the Device type that the Manufacturer wishes to put through a trial, not just any SMETS 2 Device. They stated that the development of a new Device type for that manufacturer would have an increased likelihood of defect than if they had produced that Device type before.

The Proposer commented that placing that limitation would stifle the innovation of a Device Manufacturer who wished to develop a new Device type to their business.

A Working Group member questioned whether the requirement for the Device Manufacturer to have another CPA Certified Device Model was necessary. They noted that this modification seeks to improve innovation and limiting those who can apply to current Manufacturers could prohibit this. They continued to ask whether it would be better to not include that within the legal text, even if the SSC currently saw it as a requirement, as that thinking could change in the future. The SSC Chair confirmed that the SSC has discussed this modification at length, and it is an absolute requirement, however agreed that this could change in the future. The legal text will not include this clause to futureproof the modification.

### **Limitations of the trial**

Previous BEIS trials have been limited in terms of duration and quantity of Devices. These have previously been limited to a 12-month period and 100 Devices. The Proposer noted that experience from these trials showed that 12 months was too short to obtain the data required to validate the Device and suggested 18 months would be more appropriate.

A Working Group member suggested that the requirement could be left ambiguous, allowing different Device types to have different trial numbers. This would allow the SSC or BEIS to make final decisions that could consider a wider range of variables that may be subject to change over time.

The SSC agreed that the trial should be limited in terms of duration and quantity and have left the specifics undefined in their suggested process. The SSC also noted that any trial must be about proving technology and not used as a shortcut testing route to live.

### **What does the Device Manufacturer need to do?**

The primary goal of the modification is to remove the requirement of CPA certification for trial Devices, so all other certifications would still be required. Great Britain Companion Specification (GBCS) and SMETS both follow a self-certifying methodology and evidence of this would be expected to be provided to the SSC.

The SSC's formal position includes a requirement for the Device Manufacturer to provide supporting MVP guideline, a Use Case with business rationale i.e., what the trial is trying to achieve and a risk assessment. All trials are expected to have been previously tested (with evidence provided) with DCC systems prior to submission of the MVP, Use Case and business rationale.

A Working Group member suggested that the Distribution Network Operator (DNO) would need to be informed of any trial Devices on the live network as the Devices would need DNO and Supplier Smart Metering Key Infrastructure (SMKI) Certificates added. They added that the post-Commissioning obligations would also need to be met. The Proposer agreed that all existing SEC obligations would need to be met, except for the CPA Certification.

### **End of the trial**

DCC Users operating these trial Devices must have processes in place to enable trial Devices to be removed, or to have the firmware updated to a CPA certified version. These processes should account for situations where the consumer chooses to change Supplier during the trial. The SEC states the requirements for Devices whereby CPA Certification has expired to be upgraded and as part of this modification the SEC must be updated to state that these trial Devices will follow the same processes.

The SSC Chair stated that the Proposed Solution must be explicit that the Device should be "fully" upgraded, meaning it must be fully CPA Certified or removed from the premise. This can be achieved either by physical Device exchange, or OTA firmware upgrade if the hardware variant has passed CPA Certification.

A Working Group member requested clarification on what would happen to Devices at the end of the trial. The SSC Chair confirmed the exact outcome would be determined by the SSC as is the case for other CPL entries. However, the Devices could either be 'suspended' by the DCC if the CPL entry was marked as removed or could be allowed to remain pending the CPA Certification subject to the perceived security risk.

## **Managing Supplier churn**

SECAS asked for feedback from the Working Group on how the process would manage Supplier churn and consumer contracts for premises to be included within any trial. The Working Group heard that with a previous BEIS trial for Home Area Network (HAN) Connected Auxiliary Load Control Switches (HCALCS) and Electric Vehicle (EV) Chargers, the Devices were not planned to be removed following the trial and had no specific project considerations of Supplier churn, other than the normal industry processes that protect consumers. The Proposer also highlighted that there have been over 2 million consumers affected by the Supplier of Last Resort (SoLR) process in the last few months and that possible churn in a trial of 100 Devices should relatively not even be considered an issue.

The Proposer noted that any trial would require a Supplier to sponsor the trial and they would provide a consumer base that was not likely to churn during the trial. Therefore, there is a very low element of risk and impact from this happening.

## **Will Guidance be provided?**

A Device Manufacturer questioned whether there would be guidance provided to clearly set out the specific requirements and formats to cover the initial application to the SSC, and for the SSC to have a framework for what would be deemed acceptable to be trialled. The Proposer's view is that the legal text should be sufficient to deliver the agreed process between the SSC and Device Manufacturers. They also noted that it would not be plausible to deliver guidance that would cover every scenario that the SSC would need to determine and therefore was deemed not practicable or necessary to develop guidance.

## **DCC System impacts**

The Proposer's view is that if the CPL is left unaffected then there should be no change to functionality to the DCC System. During the Working Group, and the Requirements Workshop with the DCC Service Providers this view was challenged.

The DCC questioned the impact the Devices have on the Data Science and Analytics (DS&A) reporting and noted that issues with Devices would affect the DCC Operational Performance Regime (OPR) or internal processes. They suggested that consideration to how that would be managed, possibly with a system flag, would be required. The DCC highlighted that 100 Devices could be the difference between them passing/failing a Service Level Agreement (SLA) and highlighted that the "noisy meters" on the network are currently removed from these metrics.

The TABASC Chair noted that there is no change to business as usual and the smart metering architecture can accommodate the Modification. The DCC stated that further analysis would need to be carried out by them to agree there was no impact.

As part of the SSC's formal position, it has requested that reporting be provided on the trial Devices. The DCC was therefore requested to provide a Preliminary Assessment to confirm impacts on Systems.

The DCC returned an initial Preliminary Assessment which indicated a cost of £85,000 - £115,000 for Design, Build and PIT. The initial DCC solution would involve the DCC team receiving a list of Trial

Device Models once confirmed as part of a CPL update. The DCC would then pass the information to the Data Service Provider (DSP) who would update a back-end table with the information. This will then be referenced by Service Reference Variants (SRVs) 12.2 & 8.4 to apply a 'Trial flag' in the SMI.

A Working Group member questioned why the DSP needed to be aware of the Device, noting that the bulk of the costs for this solution appear to be from adding a Trial flag to the Devices. The SSC Chair also noted that the SSC currently receives reports from the DCC that are used to identify Devices on the SMI that have a Device Model due for expiry.

The DCC highlighted that the requirement is for DCC to provide these reports, and the CPL identifier is not currently held within the DSP System which is why the DSP changes are required.

SECAS advised that they currently receive an extract of the SMI on behalf of the SSC that can then be filtered down to monitor Devices that have a CPA Certificate expired. SECAS noted this same process could be mirrored. The DCC confirmed this would be a suitable approach, but the business requirement would need to be redrafted to reflect this. SECAS has confirmed that Business Requirement 7 has been redrafted as such. Considering this, the DCC has returned confirmation that their solution to provide extracts of the SMI can be carried out at no additional cost. The SSC will then combine these extracts with the CPL to identify Trial Devices.

## 8. Case for change

---

### Business case

There are no DCC implementation costs from this modification and therefore the cost to industry is limited. Parties have raised the concern of increased security risk from the ability to place Devices on the live network that have not gone through CPA Certification. However, the SSC has agreed a process whereby Devices will only be approved subject to the security risk being tolerable and this will be assessed on a trial-by-trial basis.

It is envisaged that this modification will aid the development of innovative Devices that will ultimately benefit consumers and the wider industry by improving efficiency.

### Views against the General SEC Objectives

#### Proposer's views

The Proposer believes that this modification better facilitates SEC Objective (a)<sup>2</sup> and (e)<sup>3</sup> by allowing Device Manufacturers to drive innovation and develop products that would benefit consumers and industry.

---

<sup>2</sup>Facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain

<sup>3</sup>Facilitate such innovation in the design and operation of Energy Networks (as defined in the DCC Licence) as will best contribute to the delivery of a secure and sustainable Supply of Energy;

## Industry views

Views on this will be gained during the Refinement Consultation.

## Views against the consumer areas

### Improved safety and reliability

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

### Lower bills than would otherwise be the case

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

### Reduced environmental damage

If implemented, this modification will have a positive impact against this consumer area by enabling Device Manufacturers to fine tune their products before they are required to be mass produced.

### Improved quality of service

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

### Benefits for society as a whole

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

## Appendix 1: Progression timetable

This modification will now be issued for Refinement Consultation.

Timetable	
Event/Action	Date
Draft Proposal raised	18 Jun 2021
Presented to CSC for initial comment	29 Jun 2021
Modification discussed with SSC	28 Jul 2021
CSC converts Draft Proposal to Modification Proposal	31 Aug 2021
Modification discussed with the Working Group	4 Oct 2021
Modification discussed with the Working Group	3 Nov 2021
Business requirements developed with the Proposer	Nov – Dec 2021
Business requirements discussed with SSC	12 Jan 2022
Business requirements discussed with TABASC	3 Feb 2022

Managed by

Timetable	
Event/Action	Date
SSC developed its formal position	Jan – Mar 2022
DCC Preliminary Assessment requested	26 Apr 2022
Modification discussed with the Working Group	6 Jul 2022
Refinement Consultation	15 Aug – 5 Sep 2022
<i>Refinement Consultation responses discussed with Working Group</i>	<i>5 Oct 2022</i>
<i>Modification Report approved by CSC</i>	<i>18 Oct 2022</i>
<i>Modification Report Consultation</i>	<i>19 Oct – 9 Nov 2022</i>
<i>Change Board vote</i>	<i>23 Nov 2023</i>

*Italics denote planned events that could be subject to change*

## Appendix 2: Glossary

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

Glossary	
Acronym	Full term
BEIS	Department for Business, Energy and Industrial Strategy
CPA	Commercial Product Assurance
CPL	Central Products List
CSC	Change Sub-Committee
DCC	Data Communications Company
DLMS	Device Language Message Specification
DNO	Distribution Network Operator
DS&A	Data Science & Analytics
DSP	Data Service Provider
EV	Electric Vehicle
GBCS	Great Britain Companion Specification
HAN	Home Area Network
HCALCS	HAN Connected Auxiliary Load Control Switch
MVP	Minimum Viable Product
NCSC	National Cyber Security Centre
OPR	Operational Performance Regime
OPSG	Operations Group
OTA	Over-The-Air
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SLA	Service Level Agreements

Managed by



Glossary	
Acronym	Full term
SMETS	Smart Metering Equipment Technical Specifications
SMI	Smart Metering Inventory
SMIP	Smart Metering Implementation Plan
SMKI	Smart Metering Key Infrastructure
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SoLR	Supplier of Last Resort
SRV	Service Request Variant
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee



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

# MP172 ‘Reduced CPA & CPL requirements for innovation and Device field trials’

## Annex A

## Business requirements – version 0.5

### About this document

---

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	Device Manufacturers, that have previously produced a Smart Metering Device that has Commercial Product Assurance (CPA) certification shall be able to place limited numbers of trial Devices on the Data Communications Company (DCC) Network without that Device going through CPA certification.
2	Trial Devices shall undergo all other certification required under the SEC and Device Manufacturers shall provide statements of compliance of this, with evidence made available upon request.
3	All trials shall be limited in terms of duration, Device quantity and frequency which shall be determined by the Security Sub-Committee (SSC).
4	The Central Products List (CPL) format must be unaffected.
5	At the end of the trial period Devices shall either be removed or receive firmware update to CPA certified firmware.
6	All relevant organisation Smart Metering Key Infrastructure (SMKI) certificates shall be placed on the trial Devices, and those organisations notified.
7	The DCC shall provide an extract of the SMI to enable the SSC to monitor the number of Trial Devices on the DCC network.

## 2. Considerations and assumptions

---

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

### 2.1 General

This solution will be applied where Device Manufacturers wish to undertake a trial of any Device that would usually require CPA certificates. All trials will be subject to approval by the SSC.

### 2.2 Requirement 1: Device Manufacturers, that have previously produced a Smart Metering Device that has Commercial Product Assurance (CPA) certification shall be able to place limited numbers of trial Devices on the Data Communications Company (DCC) Network without that Device going through CPA certification.

Part of the CPA certification requires a Device Manufacturer's to show that it has the quality, security, and engineering processes and systems in place to ensure that secure development can take place. This is covered in the CPA Build Standard requirements. Therefore, to be eligible for a trial, the Device Manufacturer must have previously brought a SMETS2 Device product to market that had achieved CPA certification.

### 2.3 Requirement 2: Trial Devices shall undergo all other certification required under the SEC and Device Manufacturers shall provide statements of compliance of this, with evidence made available upon request.

The SEC specifies the certification that each Device Type needs. Manufacturers of trial Devices would need to demonstrate compliance with all certifications specified in the SEC except for CPA certification.

It is noted that Great Britain Companion Specification (GBCS) and Smart Metering Equipment Technical Specifications (SMETS) both follow a self-certifying methodology, the Device Manufacturer would need to provide statements of compliance with these specifications and be able to provide evidence of compliance if requested.

### 2.4 Requirement 3: All trials shall be limited in terms of duration, Device quantity and frequency which shall be determined by the SSC.

Individual trials should be planned to be limited to 100 Devices over a period not exceeding 18 months. Device Manufacturers should also only be eligible to be involved in one Device trial per Device Type (e.g. ESME, GSME, HCALCS) and Device Variant (e.g. ESME Single Phase, ESME Polyphase) at any one time. However, it is noted there may be circumstances where defining specific limits could be prohibitive and the SSC should have the ability to approve trials of differing limits if there is a justified reason to do so. This would allow the SSC to make final decisions that could consider a wider range of variables that may be subject to change over time.

## **2.5 Requirement 4: The Central Products List (CPL) format must be unaffected.**

The CPL is used by the DCC to verify the Devices that can be used on the DCC Network. It is envisaged that the Device Manufacturer, supported by the Device Operator (e.g., Energy Supplier) would apply to the SSC for approval to use a Device in a trial. If the SSC is satisfied with the application, a “Trial” CPA certificate reference would be provided. The Device Manufacturer would then use this CPA certificate reference in the CPL submission sent to the Smart Energy Code Administrator and Secretariat (SECAS). If approved then Devices could be added to the CPL, with detail on existing fields to highlight it as a trial Device, but without affecting the format of the CPL to ensure no impact on DCC systems.

## **2.6 Requirement 5: At the end of the trial period Devices shall either be removed or receive firmware update to CPA certified firmware.**

DCC Users operating these trial Devices must have processes in place to enable trial Devices to be removed, or to have the firmware updated to a CPA certified version. These processes should account for situations where the consumer chooses to change Supplier during the trial. The SEC states the requirements for Devices whereby CPA Certification has expired to be upgraded and as part of this modification the SEC must be updated to state that these trial Devices will follow the same processes.

## **2.7 Requirement 6: All relevant SEC Party’s Smart Metering Key Infrastructure (SMKI) certificates shall be placed on the trial Devices, and those organisations notified.**

All trial Devices must have the same configuration as non-trial Devices of the same Device Type. Therefore, any relevant Network Party and Supplier SMKI Certificates must be added to the Device, as well as all Post-Commissioning obligations would also need to be met. Notification of these trial Devices will be via reference to the newly updated CPL and not by Device Manufacturer to Network Party as and when trial Devices get installed at consumer premises.

## **2.8 Requirement 7: The DCC shall provide an extract of the SMI to enable the SSC to monitor the number of Trial Devices on the DCC network.**

The SSC has requested that the DCC provide them with a report to enable them to track the trial Devices on the network. The DCC currently provides a full extract of the SMI to the SSC to allow them to monitor the Device volumes across the estate. It is envisaged that this report will meet this requirement. The SSC will use this in combination with the CPL extract to identify and monitor the Trial Devices. It is not expected that there will be any further development of new functionality or changes outside of this reporting as this would not be required as part of this modification.

### 3. Solution options

---

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

#### 3.1 General

It is proposed that the solution to deliver these business requirements will be by request to the SSC. The SSC would be responsible for notifying the Department of Business, Energy and Industrial Strategy (BEIS) of ongoing trials. The DCC and other Parties would be informed of a new Device trial via the usual notification of updates to the CPL which would indicate a trial device has been added.

It was noted during the Working Group discussions that this process could impact the DCC's Operational Performance Regime (OPR) or internal processes and these would need to be considered. The Proposer noted that they were keen for there to be no impacts required to the DCC's total system or processes to ensure the modification incurred as little cost as possible.

It is envisaged that the Device Manufacturer would send a CPL submission to the SSC for approval, instead of SECAS, and that prior notification of Devices via an updated CPL sent on to the DCC should be sufficient for awareness. The Trial Device Models are likely to be identifiable by prefixing a "[T]" on the CPA Certificate Identifier on the CPL. It is noted that this data is not currently, or planned to be, held in the SMI.

## 4. Glossary

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

Glossary	
Acronym	Full term
BEIS	Department of Business, Energy and Industrial Strategy
CPA	Commercial Product Assurance
CPL	Central Products List
DCC	Data Communications Company
DNO	Distribution Network Operator
ESME	Electricity Smart Metering Equipment
GBCS	Great Britain Companion Specification
GFI	GBCS for Industry
GSME	Gas Smart Metering Equipment
OPR	Operational Performance Regime
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications
SMI	Smart Metering Inventory
SMKI	Smart Metering Key Infrastructure
SSC	Security Sub-Committee
UIT	User Integration Testing

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

# MP172 ‘Reduced CPA & CPL requirements for innovation and Device field trials’

## Annex B

### Legal text – version 0.5

#### About this document

---

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

## Section A ‘Definitions and Interpretation’

---

These changes have been redlined against Section A version 28.0.

Add the following definitions to Section A1.1 in alphabetical order as follows:

**Trial Device Approval** has the meaning given to that expression in Section F2.18 (Device Trials).

**Trial Device Certificate** has the meaning given to that expression in Section F2.25 (Device Trials).

**Trial Device Model** has the meaning given to that expression in Section F2.18 (Device Trials).

**Trial Device Remedial Plan** has the meaning given ~~into~~ that expression in Clause 6.3(b) of Appendix Z (CPL Requirements Document).



## Section F 'Smart Metering System Requirements'

These changes have been redlined against Section F version 11.0.

### Amend Section F2 as follows:

#### Device Trials

F2.18 The Security Sub-Committee shall consider applications from Manufacturers for SMETS2+ Device Models to be added to the Central Products List, on a limited trial basis, without a CPA Certificate needing to be issued by the NCSC. If approved by the Security Sub-Committee, the relevant SMETS2+ Device Model will be known as a "Trial Device Model" for the duration set out in the approval (the "Trial Device Approval"). The Security Sub-Committee shall have sole discretion in deciding whether to grant a Trial Device Approval.

F2.19 In its application for Trial Device Approval, the applicant Manufacturer must evidence that the SMETS2+ Device Model for which it is seeking approval has all Assurance Certificates other than a CPA Certificate issued by the NCSC.

F2.20 The Security Sub-Committee shall require a business rationale to support the application and a security risk assessment, and may (at its sole discretion) set additional requirements that must be evidenced in an application.

F2.21 Where a Trial Device Approval is granted, the Security Sub-Committee shall set out in a written notice to the Manufacturer and the Panel:

- (a) A detailed description of the Trial Device Model;
- (b) a summary of why the Trial Device Approval is being granted and the assessment undertaken by the Security Sub-Committee in considering the application;
- (c) the start date and expiry date of the Trial Device Approval;
- (d) the maximum number of Devices of the Trial Device Model that may be deployed; and
- (e) any other conditions applied to the Trial Device Approval.

F2.22 The Security Sub-Committee shall determine the appropriate level of detail to be provided in the Trial Device Approval notice and shall not be required to disclose any information it considers sensitive.

F2.23 If one or more of the conditions applicable to the Trial Device Model are breached, then the Trial Device Approval may be withdrawn or cancelled by the Security Sub-Committee.

F2.24 Where an application is not approved, the Security Sub-Committee shall set out in a written notice to the Manufacturer and the Panel a summary of why approval has not been granted and

the assessment undertaken in considering the application. The Security Sub-Committee shall determine the appropriate level of detail to be provided in the summary and shall not be required to disclose any information it considers sensitive.

F2.25 A Trial Device Model will be deemed to have a valid CPA Certificate for the duration of the Trial Device Approval. The Security Sub-Committee shall issue a trial certificate (the "**Trial Device Certificate**") for the duration of the trial in lieu of the CPA Certificate that would ordinarily be issued by the NCSC. The Trial Device Certificate will include an identifier code which is unique to the Trial Device Model and the Trial Device Approval as well as an expiry date which matches the expiry date of the Trial Device Approval. The Trial Device Certificate will be provided to the Manufacturer and the Panel.

F2.26 In respect of a Trial Device Model, this Code will be construed such that any requirement for a SMETS2+ Device Model to have a CPA Certificate shall be deemed satisfied by a valid Trial Device Certificate. Where necessary, the requirements of this Code applicable to a CPA Certificate will be construed so as to not inhibit the use of a Trial Device Model in accordance with a Trial Device Approval and Sections F2.18 to F2.32.

F2.27 With effect from the start date set out in the Trial Device Approval, the Panel shall add the Trial Device Model to the Central Products List. The Central Products List must show that the relevant SMETS2+ Device Model is a Trial Device Model, identify the specific Trial Device Approval that applies to the Trial Device Model, and include the expiry date for such approval.

F2.28 On a monthly basis, the DCC shall provide the Security Sub-Committee with a copy of the Smart Metering Inventory so that the Security Sub-Committee can extract details of Trial Device Models.

F2.29 The Manufacturer of a Trial Device Model may apply to the Security Sub-Committee to request an amendment to its Trial Device Approval. The Security Sub-Committee may amend a Trial Device Approval at any time and at its sole discretion, irrespective of whether an amendment application has been made by the Manufacturer. If the Security Sub-Committee amends a Trial Device Approval, it shall notify the Manufacturer and the Panel. The notice will include a summary of why the Trial Device Approval has been amended. The Security Sub-Committee shall determine the appropriate level of detail to be provided and shall not be required to disclose any information it considers sensitive. Where necessary, the Panel shall update the Central Products List to reflect such amendment.

F2.30 The Security Sub-Committee may withdraw or cancel a Trial Device Approval at any time and at its sole discretion. Upon such withdrawal or cancellation, the Security Sub-Committee shall notify the Manufacturer and the Panel. The notice will include a summary of why the Trial Device Approval has been withdrawn or cancelled. The Security Sub-Committee shall determine the appropriate level of detail to be provided and shall not be required to disclose any information it considers sensitive.

F2.31 If a Trial Device Approval expires, or is withdrawn or cancelled, the Trial Device Certificate will be expire, be withdrawn or be cancelled (as applicable) by the Security Sub-Committee and the

provisions of Clause 6 (Removal of Device Models from the List) of Appendix Z shall apply in determining whether or not to remove the Trial Device Model from the Central Products List and whether a Trial Device Remedial Plan is to be imposed. If it is determined that the Trial Device Model shall be removed from the Central Products List, the Manufacturer may either apply for a new Trial Device Approval or apply for a CPA Certificate.

F2.32 Where a Trial Device Model is removed from the Central Products List, all Devices of the relevant SMETS2+ Device Model must be promptly Decommissioned by the Responsible Supplier, unless:

- (a) the relevant SMETS2+ Device Model has since gained a CPA Certificate (or a new Trial Device Certificate) and has been updated accordingly on the Central Products List; or
- (b) the relevant Device can be (and is) updated via firmware to become a SMETS2+ Device Model which is listed on the Central Products List.

## Appendix Z 'CPL Requirements Document'

---

These changes have been redlined against Appendix Z version 5.0

### Amend Section 6 as follows:

#### Removal of Device Models from the List

- 6.1 Where an Assurance Certificate for a Device Model which was issued by the ZigBee Alliance or the DLMS User Association is withdrawn or cancelled by the ZigBee Alliance or the DLMS User Association (as applicable), then the Panel shall remove that Device Model from the Central Products List.
- 6.2 Where a CPA Certificate for a Device Model expires or is not renewed or is withdrawn or cancelled by NCSC or a Trial Device Certificate for a Trial Device Model expires or is withdrawn or cancelled by the Security Sub-Committee, then the Security Sub-Committee shall determine whether the Device Model is to be removed from the Central Products List, and the Panel shall remove the Device Model (or not) as determined by the Security Sub-Committee. In reaching such a determination, the Security Sub-Committee:
- (a) shall consider the security implications of such circumstances, and weigh them against the consequences for Energy Consumers of Devices of the relevant Device Model being Suspended as a result of removing the Device Model from the Central Products List;
  - (b) shall take into account any relevant information provided to it by NCSC concerning the risks associated with the cancellation, withdrawal or expiry without renewal of the CPA Certificate;
  - (c) may determine, whether or not the Device Model is to be removed from the Central Product List, that a CPA Certificate Remedial Plan or a Trial Device Remedial Plan (as relevant) is to be imposed (for SMETS2+ Communications Hubs) on the DCC or (for all other Device Models) on the Import Suppliers (for Devices of that Device Model forming part of a Smart Metering System for which they are the Import Supplier) and/or the Gas Suppliers (for Devices of that Device Model forming part of a Smart Metering System for which they are the Gas Supplier); and
  - (d) shall reach a determination as soon as reasonably practicable taking into account the seriousness of the potential security consequences.
- 6.3 Where the Security Sub-Committee determines under Clause 6.2 that a CPA Certificate Remedial Plan or a Trial Device Remedial Plan (as relevant) is to be imposed on one or more Parties, then the Security Sub-Committee shall notify those Parties and each of those Parties shall:
- (a) (within such period as the Security Sub-Committee may require) propose a plan to the Security Sub-Committee setting out how the Party intends to remedy the security issue or issues that have resulted in or arise from the cancellation, withdrawal or expiry without renewal of the CPA Certificate or Trial Device Certificate, and within what time period;

- (b) (within such period as the Security Sub-Committee may require) take into account any and all comments on the proposed plan raised by the Security Sub-Committee, and obtain the Security Sub-Committee's approval of the plan (the approved plan for each such Party, as modified from time to time with the approval of the Security Sub-Committee, being that Party's "CPA Certificate Remedial Plan" or, in the case of a Trial Device Certificate, its "Trial Device Remedial Plan");
  - (c) comply in all material respects with the CPA Certificate Remedial Plan or Trial Device Remedial Plan (as relevant); and
  - (d) (where requested by the Security Sub-Committee) report to the Security Sub-Committee on progress in respect of the CPA Certificate Remedial Plan or Trial Device Remedial Plan (as relevant).
- 6.4 Where the Security Sub-Committee initially determines under Clause 6.2 that a CPA Certificate Remedial Plan or Trial Device Remedial Plan (as relevant) is to be imposed as an alternative to removing a Device Model from the Central Products List, then the Security Sub-Committee may at any time determine that the Device Model in question is to be removed from the Central Products List, in which case the Panel shall remove the Device Model from the Central Products List.
- 6.5 For the purposes of Section M8.1(h) (Events of Default), the obligations of a Party under Clause 6.3 are material obligations. Accordingly failure by a Party to gain approval for, or failure by a Party to comply in all material respects with, a CPA Certificate Remedial Plan shall be an Event of Default if not remedied within 20 Working Days after notice from the Security Sub-Committee requiring remedy.
- 6.6 The DCC and each Supplier Party shall provide such relevant information as the Security Sub-Committee may reasonably request to assist it in reaching a determination under Clause 6.2 or 6.4.
- 6.7 The DCC and each Supplier Party shall notify the Panel of any withdrawal, expiry or cancellation of an Assurance Certificate of which the DCC or Supplier Party becomes aware. Where removal occurs as a result of the withdrawal, expiry or cancellation of an Assurance Certificate, the Panel shall only remove a Device Model from the Central Products List after the Panel has confirmed with the relevant Assurance Certification Body that the Assurance Certificate for that Device Model has expired or has been withdrawn or cancelled (and no new Assurance Certificate has been provided to the Panel under Clause 3).
- 6.8 The Panel may also remove a SMETS1 Device Model from the Central Products List where either:
- (a) the Security Sub Committee advises that the Device Model should be removed from the Central Products List; or
  - (b) it is determined by the Authority or by the Panel under Section F3 (Panel Dispute Resolution Role) that Devices of the relevant Device Model are not compliant with SMETS1 (either on their own or in combination with Devices of other Device Models listed on the Central Products List).

- 6.9 The Panel may reinstate to the Central Products List a SMETS1 Device Model that it has removed pursuant to Clause 6.8; provided that the Panel may only reinstate a Device Model that has been removed pursuant to Clause 6.2A(b) where it determines that the issue that gave rise to the removal of the Device Model has been rectified.
- 6.10 For the purposes of this Code, a Communications Hub Function or a Gas Proxy Function shall be considered to be on (or not on) the Central Products List if the Communications Hub of which it forms part is on (or not on) the Central Products List.
- 6.11 The Panel may provide for the removal of a Device Model from the Central Products List by marking that Device Model as 'removed'. All references in this Code to the removal of a Device Model from the Central Products List (and similar expressions) shall be interpreted accordingly.

# **SEC Modification Proposal, SECMP0172, DCC CR4670**

## **Reduced CPA & CPL Requirements for Innovation and Device Field Trials**

### **Preliminary Impact Assessment (PIA)**

<b>Version:</b>	<b>0.4</b>
<b>Date:</b>	<b>13<sup>th</sup> June, 2022</b>
<b>Author:</b>	<b>DCC</b>
<b>Classification:</b>	<b>DCC Public</b>

## Contents

<b>1</b>	<b>Executive Summary .....</b>	<b>3</b>
<b>2</b>	<b>Document History .....</b>	<b>4</b>
2.1	Revision History .....	4
2.2	Associated Documents.....	4
2.3	Document Information .....	4
<b>3</b>	<b>Context and Requirements.....</b>	<b>5</b>
3.1	Context .....	5
3.2	Problem Statement.....	5
3.3	Business Requirement.....	6
3.4	Solution Intention .....	6
<b>4</b>	<b>Description of Technical Solution .....</b>	<b>7</b>
4.1	DSP Solution.....	7
<b>5</b>	<b>Impact on Systems, Processes and People.....</b>	<b>8</b>
5.1	Security Impact.....	8
5.2	Technical Specifications .....	8
5.3	Request Management .....	8
5.4	Infrastructure Impact .....	8
5.5	Service Impact .....	8
5.6	Business Scenarios .....	8
<b>6</b>	<b>Implementation Timescales and Approach.....</b>	<b>9</b>
6.1	Testing and Acceptance .....	9
<b>7</b>	<b>Costs and Charges .....</b>	<b>10</b>
<b>Appendix A: Glossary .....</b>		<b>11</b>
<b>Appendix B: Risks, Assumptions, Issues, and Dependencies .....</b>		<b>12</b>
Assumptions .....		12
Dependencies .....		12
Scope Exclusions .....		12



# 1 Executive Summary

The Change Board are asked to approve the following:

- Total cost to complete the Full Impact Assessment of £12,194
- The timescales to complete the Full Impact Assessment of 30 days
- ROM costs for SECMP0172 Design,, Build and PIT of £85,000 – 115,000. Full costs including Integration Testing and Implementation of up to £150,000
- To note the risks identified by DCC and potential added security measures

## Problem Statement

The Proposed Solution will allow Device Manufacturers to request the SSC to allow trial Devices in limited numbers onto the live DCC network without passing through CPA Certification, where that would otherwise be a requirement.

## Modification Benefit

The Proposed Solution will allow Device Manufacturers to request the SSC to allow trial Devices in limited numbers onto the live DCC network without passing through CPA Certification, where that would otherwise be a requirement. The DCC shall be able to produce reports on Trial Devices for the SSC.

## 2 Document History

### 2.1 Revision History

Revision Date	Revision	Summary of Changes
31/05/2022	0.1	Initial DCC Review with Service Providers
10/06/2022	0.32	Second review and additional information
13/06/2022	0.4	Included tighter range for DSP costs

### 2.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP172-Modification-Report-v0.4	SECAS	18/06/2021
2	MP172-Business-Requirements-v0.3	SECAS	23/11/2021

References are shown in this format, [1].

### 2.3 Document Information

The Proposer for this Modification is Eric Taylor from SLS. The problem statement was submitted to SECAS on the 18<sup>th</sup> June 2021.

The Preliminary Impact Assessment was requested and accepted on the 5<sup>th</sup> May 2022.

### 3 Context and Requirements

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

The requirements have been provided by SECAS, the Proposer, and the Working Group.

#### 3.1 Context

Currently, the requirements of the Smart Energy Code (SEC) are designed around the mass deployment of Devices and offer no leeway to support Minimum Viable Product (MVP) trials on the live Data Communications Company (DCC) network.

The Proposed Solution will be to request the Security Sub-Committee (SSC) to approve Devices for a trial in limited numbers and duration.

#### 3.2 Problem Statement

The DCC uses the Central Products List (CPL) to manage the Devices it can communicate with. If a Device is not listed on the CPL, the DCC cannot add it to the Smart Metering Inventory (SMI) and therefore cannot communicate with it. Only once a Device has met the requirements set out in SEC Appendix Z 'CPL Requirements Document' can it be added to the CPL. The CPL is a list of Device Models that are either:

- Smart Metering Equipment Technical Specifications (SMETS) 2 Devices which have received all relevant Assurance Certificates
- SMETS1 Devices which have been notified by the DCC and have been included as entries on the SMETS1 Eligible Products Combination list (EPCL)

The Proposed Solution will allow Device Manufacturers to request the SSC to allow trial Devices in limited numbers onto the live DCC network without passing through CPA Certification, where that would otherwise be a requirement. The SSC would assess whether they had the necessary assurance that the security risk from the small number of Devices was sufficiently low to allow the trial to proceed. If the SSC is satisfied with the application, a "Trial" CPA certificate reference would be provided. The Device Manufacturer would then use this CPA certificate reference in the CPL submission sent to the Smart Energy Code Administrator and Secretariat (SECAS). If approved then Devices could be added to the CPL, with detail on existing fields to highlight it as a trial Device, but without affecting the format of the CPL to ensure no impact on DCC systems. If the SSC requires further assurance, the Device Manufacturer would need to make a trial Device available to a CPA Test Laboratory to carry out an independent risk assessment. That would then be passed to the SSC to accompany the Device Manufacturer's application and enable the SSC to decide. If necessary, the SSC will seek guidance from the NCSC to assist them. The DCC will provide reporting to the SSC to confirm trial Devices that are in the field.

### 3.3 Business Requirement

The Requirements for this Modification are as follows.

Ref.	Requirement
1	Device Manufacturers, that have previously produced a Smart Metering Device that has Commercial Product Assurance (CPA) certification shall be able to place limited numbers of trial Devices on the DCC Network without that Device going through CPA certification.
2	Trial Devices shall undergo all other certification required under the SEC and Device Manufacturers shall provide statements of compliance of this, with evidence made available upon request.
3	All trials shall be limited in terms of duration, Device quantity and frequency which shall be determined by the Security Sub-Committee (SSC).
4	The Central Products List (CPL) format must be unaffected.
5	At the end of the trial period Devices shall either be removed or receive firmware update to CPA certified firmware.
6	All relevant organisation Smart Metering Key Infrastructure (SMKI) certificates shall be placed on the trial Devices, and those organisations notified.
7	The DCC shall be able to produce reports on Trial Devices for the SSC.

This solution will be applied where Device Manufacturers wish to undertake a trial of any Device that would usually require CPA certificates. All trials will be subject to approval by the SSC.

#### Notes

DCC believes that trial devices will be limited to SMETS2+ specification devices.

Requirement 1: Part of the CPA certification requires a Device Manufacturer's to show that it has the quality, security, and engineering processes and systems in place to ensure that secure development can take place. This is covered in the CPA Build Standard requirements. Therefore, to be eligible for a trial, the Device Manufacturer must have previously brought a SMETS2 Device product to market that had achieved CPA certification.

Requirement 2: The SEC specifies the certification that each Device Type needs. Manufacturers of trial Devices would need to demonstrate compliance with all certifications specified in the SEC except for CPA certification.

It is noted that GBCS and SMETS both follow a self-certifying methodology, requiring the Device Manufacturer to provide statements of compliance with these specifications and be able to provide evidence of compliance if requested.

Requirement 3: Individual trials should be planned to be limited to 100 Devices over a period not exceeding 18 months. Device Manufacturers should also only be eligible to be involved in one Device trial per Device Type (e.g. ESME, GSME, HCALCS) and Device Variant (e.g. ESME Single Phase, ESME Polyphase) at any one time. However, it is noted there may be circumstances where defining specific limits could be prohibitive and the SSC should have the ability to approve trials of differing limits if there is a justified reason to do so. This would allow the SSC to make final decisions that could consider a wider range of variables that may be subject to change over time.

Requirement 4: The CPL is used by the DCC to verify the Devices that can be used on the DCC Network. It is envisaged that the Device Manufacturer, supported by the Device Operator (e.g., Energy Supplier) would apply to the SSC for approval to use a Device in a trial. If the SSC is satisfied with the application, a "Trial" CPA certificate reference would be provided. The Device Manufacturer would then use this CPA certificate reference in the CPL submission sent to the Smart Energy Code Administrator and Secretariat (SECAS). If approved then Devices could be added to the CPL, with detail on existing fields to highlight it as a trial Device, but without affecting the format of the CPL to ensure no impact on DCC systems.

Requirement 5: DCC Users operating these trial Devices must have processes in place to enable trial Devices to be removed, or to have the firmware updated to a CPA certified version. These processes should account for situations where the consumer chooses to change Supplier during the trial. The SEC states the requirements for Devices whereby CPA Certification has expired to be upgraded and as part of this modification the SEC must be updated to state that these trial Devices will follow the same processes.

Requirement 6: All trial Devices must have the same configuration as non-trial Devices of the same Device Type. Therefore, any relevant Network Party and Supplier SMKI Certificates must be added to the Device, as well as all Post-Commissioning obligations would also need to be met. Notification of these trial Devices will be via reference to the newly updated CPL and not by Device Manufacturer to Network Party as and when trial Devices get installed at consumer premises.

Requirement 7: The SSC has requested that the DCC be capable of producing reports on the trial Devices on the network. It is not expected that there will be any further development of new functionality or changes outside of this reporting as this would not be required as part of this modification.

### **3.4 Solution Context**

It is proposed that the solution to deliver these business requirements will be by request to the SSC. The SSC would be responsible for notifying the Department of Business, Energy and Industrial Strategy (BEIS) of ongoing trials. The DCC and other Parties would be informed of a new Device trial via the usual notification of updates to the CPL which would indicate a trial device has been added. It was noted during the Working Group discussions that this process could impact the DCC's Operational Performance Regime (OPR) or internal processes and these would need to be considered. It is envisaged that the Device Manufacturer would send a CPL submission to the SSC for approval, instead of SECAS, and that prior notification of Devices to the DCC should be sufficient for awareness.

## 4 Description of Technical Solution

Changes to the DSP are required for implementing this Modification.

### 4.1 DSP Solution

The solution requires the DSP to add a new attribute to the Devices entity to indicate whether a device is a "trial" device.

In the event that the device is determined to be a trial then the new "trial" flag will be set. Additional processing shall be implemented in the processing of SRV12.2 (for pre-notification) and SRV 8.4 (for updating a device) such that a check will be performed of the manufacturer, model, and firmware version against a configured list. If the manufacturer and model and firmware version that is notified is in an agreed list of trial devices and firmware then the "trial" flag will be set in the Device table entry for that device.

The "agreed list" is populated as a local configuration parameter within the DSP that is populated by the DSP Service team upon instruction and agreement with the DCC Service team.

The ESI reporting specification will need to be amended to add the "trial" device attribute to ESI-034 and ESI-034i.

The functionality provided as a result of this Modification shall be implemented behind a feature switch to allow the functionality to be enabled only when required in a defined release, or turned off at a later date. DCC requests that the Working Group consider if this feature switch is required.

### 4.2 DCC Service Team Impact

The DCC Service Team would require notification from the SSC of a trial event, as well as a list of the manufacturer, model, and firmware version of the trial devices. This information would be passed to the DSP Service team.

At the end of the trial the SSC would inform the DCC Service team of changes to device status.

### 4.3 Reporting Solution

Essentially the DCC Data Science and Analytics (DS&A) team would need to reciprocate any change that DSP makes in the ESI files. This will need to be tested in the integrated environments.

## 5 Impact on Systems, Processes and People

This section describes the impact of SECMP0172 on Services and Interfaces that impact Users and/or Parties.

### 5.1 Security Impact

DCC Security have reviewed this proposal and are concerned that admitting devices that haven't been through CPA into the CPL will necessarily increase the end to end risk profile. These risks include:

- malware spread due to devices that are more subject to vulnerabilities
- backdoor injection and exploitation that may result in increased risk of data harvesting from malicious actors
- denial of service for devices that may be used as malicious DDoS attack endpoints

These considerations will require:

- improved protective monitoring capabilities
- increased DDoS protection
- potential architecture review to increase segmentation and authentication (zero trust)

These impacts will be fully assessed in the Full Impact Assessment.

### 5.2 Reporting

The DCC have noted the impact the Devices have on DCC reporting as implemented in SECMP0122 and identified that issues with Devices would affect the DCC Operational Performance Regime (OPR) or internal processes. The Communication Service Providers (CSPs) have highlighted that 100 Devices could be the difference between their passing or failing a Service Level Agreement (SLA) and highlighted that the "noisy meters" on the network are currently removed from these metrics. This is likely to require additional work by the DCC and CSPs in the reporting stage.

The impact on wider reporting in general will be assessed in the Full Impact Assessment (FIA).

### 5.3 Service Impact

It is not thought that there will be a material service impact of this Modification although the release in which it is included will need to include an element of Early Life Support. DSP would like to highlight that use of trial devices does carry a risk of unexpected behaviour and spurious alerts that could impact the DSP Service. On the basis that the number of trial devices is assumed to be low, the risk of an adverse impact on the DSP service impact is thought to be low. However, the DSP will want to include some Service Level mitigation in the CAN in response to the risk of unexpected behaviour and spurious alerts from trial devices. The impact will be assessed in the Full Impact Assessment (FIA).

---

DCC Service Design will require a new documented process written in terms of adding, monitoring and removing devices and the associated governance with those, given it is not something DCC does for devices today. The impact will be assessed in the FIA.

## **5.4 Infrastructure Impact**

There will be no change to the infrastructure design as a result of this change. Additional processing and storage will be required; however, they are not sufficiently large to warrant the procurement of additional compute power or storage. The change does not impact the DSP resilience or DR implementation.



## **6 Implementation Timescales and Approach**

This change is expected to be included in a future SEC Release, although due to the low level of integration testing it could be scheduled as part of a maintenance release. Design, Build, and PIT is expected to take about three months to complete after the CAN is signed.

Details of the implementation will be finalised in the FIA.

### **6.1 Testing and Acceptance**

There will be an impact to Systems Integration Testing (SIT) as a result of this change. SIT Testing will include executing a small volume of SRV tests and ESI Reports to verify the “trial” device attribute has been added. No UIT impact is expected.

System Regression testing and the SIT Management/Governance costs are not included in this PIA. The additional costs for SIT is likely to be relatively small, and will be included in the FIA.

## 7 Costs and Charges

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

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional requirements. The price is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a Full Impact Assessment and as such there may be elements missing from the solution or the solution may be subject to a material change during discussions with the DCC. As a result the final offer price may result in a variation.

The table below details the cost of delivering the changes and Services required to implement this Modification. For a PIA, only the Design, Build and PIT indicative costs are supplied. However it should be noted that the addition of post-PIT costs are expected to keep the total price below £150,000.

	Design, Build and PIT
DSP	£85,000 to £115,000

*Table 2: SECMP0172 Standalone Cost*

The phases included are as follows.

Design	The production of detailed System and Service designs to deliver all new requirements.
Build	The development of the designed Systems and Services to create a solution (e.g. code, systems, or products) that can be tested and implemented. It includes Unit Testing (also referred to as System Testing), Performance Testing and Factory Acceptance Testing by the Service Provider or supplier.
Pre-Integration Testing (PIT)	Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.

Based on the existing requirements, the fixed price cost for a Full Impact Assessment is **£12,194** and would be expected to be completed in 30 days.

## Appendix A: Glossary

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

Acronym	Definition
CAN	Contract Amendment Note
CoS	Change of Supplier
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
FIA	Full Impact Assessment
HCALCS	HAN Connected Auxiliary Load Control Switch
HAN	Home Area Network
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SLA	Service Level Agreement
SMETS	Smart Metering Equipment Technical Specification
SMI	Smart Meter Inventory
SR	Service Request
TABASC	Technical Architecture and Technical Business Architecture Sub Committee
UIT	User Integration Testing