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MP209 'Lifetime CPA Certificates'

Modification Report

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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	4
4. Impacts.....	5
5. Costs	6
6. Implementation approach	7
7. Assessment of the proposal	7
8. Case for change.....	8
Appendix 1: Progression timetable	10
Appendix 2: Glossary	10

This document also has one annex:

- **Annex A** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.

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1. Summary

This proposal has been raised by Gordon Hextall on behalf of the Security Sub-Committee (SSC).

The National Cyber Security Centre (NCSC) issues Commercial Product Assurance (CPA) Certificates to certain Devices. This enables them to be placed on the Central Products List (CPL) to be used on the Data Communications Company (DCC) network. Currently, the Certificates have an expiry date, and a new Certificate must be sought prior to the expiry should the Manufacturer wish to keep using the Devices. The expiry date of the first CPA certified Devices is 30 August 2022. To manage the re-certification process, the NCSC aims to bring in new Lifetime CPA Certificates without an expiry date. These would have a renewal date instead. The SEC currently does not have any concept of Lifetime CPA Certificates, and only references expiry dates.

The solution is to enable these new Lifetime CPA Certificates that will not expire but will need to be renewed, to be accommodated by the SEC.

This modification will impact Suppliers and Other SEC Parties (Device Manufacturers). There are no DCC System costs so implementation costs will be limited to the Smart Energy Code Administrator and Secretariat (SECAS) time and effort. This is a Self-Governance Modification and, if approved, will be implemented in an ad hoc SEC Release on 1 August 2022.

2. Issue

What are the current arrangements?

Central Products List

The DCC uses the CPL to manage the Devices it can communicate with. If a Device is not listed on the CPL, it cannot be added to the Smart Metering Inventory (SMI) and therefore cannot be communicated with. 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.

Only once a Device has met the requirements set out in SEC Appendix Z 'CPL Requirements Document' can it be added to the CPL.

CPA Certificates

There are three types of Assurance Certificates, each issued by a different Assurance Certification Body. These are:

- Zigbee Alliance Certificates;
- Device Language Message Specification (DLMS) Certificates; and
- CPA Certificates

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.

The CPA Certificate scheme was set up to help companies demonstrate that their products meet defined NCSC standards, known as CPA Security Characteristics (SCs). The Assurance Certification Body for the CPA scheme is the NCSC. The scheme gives companies a way of having their Devices tested to show that the product meets the requirements of these SCs. The NCSC uses Accredited Evaluation Facilities to conduct product testing and assessment, known as CPA Test Houses. The independent test laboratories assess the Device against the NCSC's standards. If the evaluation of a Smart Meter or recognised smart metering product is successful, it is then listed on the NCSC website and is issued with a certificate which is valid for six years.

The SEC currently only references the expiry of CPA Certificates and has no concept of Lifetime CPA Certificates that do not expire.

What is the issue?

The SSC has been in discussion with the NCSC and the Department for Business, Energy and Industrial Strategy (BEIS) on how to manage the CPA Re-certifications, with the first Communications Hub CPA Certificates expiring on 30 August 2022. A process has been discussed and agreed with CPA Test Houses, the NCSC, BEIS and the SSC. This has also been shared with the SSC Commercial Product Assurance Issue Resolution Sub-group (SCIRS), which includes manufacturers, Meter Asset Providers (MAPs) and Suppliers.

The NCSC wishes to implement Lifetime CPA Certificates for Devices, with a renewal date as opposed to an expiry date. However, the SEC currently only references the expiry of CPA Certificates and has no concept of Lifetime CPA Certificates that require renewal.

What is the impact this is having?

Without making these necessary changes there is a lack of certainty from Device manufacturers and Suppliers on what will happen to Devices when CPA Certificates expire. There are approximately four million Communications Hubs with CPA Certificates that are due to expire 30 August 2022. If these expire then they will be non-compliant and Suppliers will be in breach of the SEC.

Impact on consumers

If the changes required to manage the CPA recertification are not implemented, then millions of working Devices could need to be removed from the CPL and therefore from consumer premises subject to the provisions of SEC Appendix Z.

3. Solution

The Proposed Solution will implement revised terminology within the SEC to accommodate the introduction of NCSC's Lifetime CPA Certificates, referencing their renewal as opposed to expiry.

This will be accompanied by updates made to the CPL Guidance Notes to advise Device Manufacturers, Suppliers and the DCC how to highlight whether the Certificate expires or requires renewal. This annotation will likely be in the form an [E] or [R] suffix added to the CPA Certificate identification number within the CPL submission which will need to be marked by the Party completing the submission.

The existing entries on the CPL will also be updated to match the defined format.

When presented to the Change Sub-Committee (CSC), a member noted that the solution did not explicitly state how Parties would enact the re-certification process. The Proposer advised that this detail is being drafted as an annex to NCSC's document 'Process for Performing Foundation Grade Evaluations (PPFGE)'.

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 Device Manufacturers will be impacted by the new Lifetime CPA Certificates as entries to the CPL will need the Certificate identification number to be annotated to highlight whether the Certificate expires or requires renewal.

The DCC will be impacted by the Communications Hubs requiring new CPA Certificates in the same way.

DCC System

There will be no DCC System impacts from this modification.

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 A.

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 will not be impacted by this modification. However, the NCSC will now provide a Lifetime CPA Certificate with a renewal date, as opposed to a CPA Certificate with an expiry date. Any Device that would require CPA Certification will be affected in this manner.

Consumers

There will be no impact to consumers from this modification.

Other industry Codes

No other industry Codes are impacted by this proposal.

Greenhouse gas emissions

If the changes required to manage the CPA recertification are not implemented, then millions of working Devices could need to be removed from consumer premises unnecessarily.

5. Costs

DCC costs

There are no DCC costs to implement this modification.

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 existing CPL entries to identify the dates are for expiry, not renewal
- Updating the CPL guidance documents

SEC Party costs

There will be no costs incurred by SEC Parties for this modification. The added step required by submitters to annotate the CPA Certificate identification number is minimal.

6. Implementation approach

Approved implementation approach

The CSC has agreed an implementation date of:

- **1 August 2022** (ad-hoc SEC Release) if a decision to approve is received on or before 27 July 2022; or
- **Three Working Days following approval** if a decision to approve is received after 27 July 2022.

This is a document only change and needs to be implemented in time to allow the NCSC to issue Lifetime CPA Certificates with a renewal date. The first CPA Certificates expire 30 August 2022. There will be approximately four million Communications Hubs affected by the expiry of these Certificates. The NCSC intends to issue the first Lifetime CPA Certificates from 1 August 2022 (one month before expiry) and therefore the SEC also needs to be updated from the same date.

This modification is being progressed as a Self-Governance Modification. Due to the need to implement this solution as soon as possible, this modification will be implemented, if approved, before the end of the Self-Governance referral period. Should a referral be received and the decision to approve subsequently overturned, the changes would be backed out of the SEC.

7. Assessment of the proposal

Solution development

How will Lifetime CPA Certificates be renewed?

In the 12 months prior to a Certificate expiring or needing renewal, the Device manufacturer is required to start the CPA Re-certification process by contracting with a CPA Test House and providing a Change History of the Device and a Security Analysis. The CPA Test House will assess the compliance of the Device against the original CPA SC it was tested against as well as against the latest SC version. It will then be able to produce a Gap Analysis Report for the NCSC which identifies security risks.

One month before CPA certificate expiry, the NCSC will issue a Lifetime CPA certificate i.e. with no expiry date. The Lifetime CPA certificate will come with a letter from the NCSC to the manufacturer

and the SSC advising a renewal date (at least every six years) and any recommendations to improve the security of the Device. This will also be the case for new Devices undergoing first time CPA evaluations going forward, which will also receive a Lifetime CPA certificate.

The outcome of the CPA Test House assessment and the subsequent Risk Analysis review by the NCSC will have three possible outcomes:

1. The Device is found to be fully compliant with the latest version of the SC.
2. The Device is not fully compliant with the latest version of the SC but the risk associated with gaps or areas of non-compliance are within risk tolerance and do not justify removal of the certificate.
3. The Device is found not to be compliant with the relevant SC and is found to have a risk exposure that is not within risk tolerance. In this case, the CPA Certificate is withdrawn.

For outcomes 1 and 2, the SSC will confirm a renewal date to the SEC Panel.

What happens when it is determined that a CPA Certificate should not be renewed?

In the situation where the Device is found not to be compliant with the relevant SC or is found to have a risk exposure that is not within risk tolerance, the NCSC has confirmed that the Lifetime CPA Certificate will be withdrawn. This enables the existing provisions of SEC Appendix Z, section 6 to apply where the SSC decides whether and for how long to retain a Device on the CPL.

How will the different CPA Certificate types be displayed on the CPL?

Certificates will be annotated on the CPL. This is likely to be by using a suffix of [E] if the Certificate has an expiry date and with a suffix of [R] for Certificates with a renewal date. This will be in the 'Certificate identification number' field. This information must be provided by the DCC (if the Device is a Communications Hub) or Suppliers and Device Manufacturers (for all other Devices) on their CPL submission.

8. Case for change

Business case

As this is a document only change the implementation costs will be limited to SECAS time and effort. SEC Party impacts are limited to those who make CPL submissions, and they will need to annotate the CPA Certificate identification number to identify whether the Certificate expires or has a renewal date. This extra step should not add significant extra time to the submission process.

The benefits of making this change will be to provide a way for Devices to be efficiently CPA Certified and prevent removal of Devices from the CPL when the expiry date passes. This will prevent the removal of Devices from consumer premises that could be avoided.

Views against the General SEC Objectives

Proposer's views

The Proposer believes this Modification Proposal better facilitates SEC General Objective (a)¹ and (f)² by providing a defined process that supports the continuation of Devices on the CPL. It enables a review of the security gap analysis of Devices against the SCs to make risk-based decisions on the continuation of the CPA Certificate.

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 as it will help prevent the removal of working Devices.

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.

Final conclusions

The SSC has determined that these changes are required to support existing Devices that are CPA Certified and will also be applied to all new Devices that require CPA Certification.

The specific format of identifying the Lifetime CPA Certificates within the CPL will be updated as part of the CPL Guidance Notes. The expected format is to use a suffix on the CPA Certificate identification number, but to provide flexibility as new requirements could be identified going forward, it is not explicitly defined within this Modification Report.

One CSC member stated that the solution should be more explicit in detailing what was required to renew or issue a new Lifetime CPA Certificate. The Proposer advised that this detail is being drafted

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

² to ensure the protection of Data and the security of Data and Systems in the operation of this Code

as an annex to NCSC's document 'Process for Performing Foundation Grade Evaluations (PPFGE)'. It has been included under the Proposed Solution section.

The CSC member also noted that if the Manufacturer triggers recertification too late there will be insufficient time to recertify before the expiry of their existing CPA Certificate.

Appendix 1: Progression timetable

Following the Modification Report Consultation, the modification will be presented to the Change Board for vote under Self-Governance on 27 July 2022.

Timetable	
Event/Action	Date
Draft Proposal raised	10 Jun 2022
Modification Report approved by CSC	21 Jun 2022
Modification Report Consultation	22 Jun – 12 Jul 2022
Change Board Vote	27 Jul 2022

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
MAP	Meter Asset Provider
NCSC	The National Cyber Security Centre
PPFGE	Performing Foundation Grade Evaluations
SC	Security Characteristics
SCIRS	SSC Commercial Product Assurance Issue Resolution Sub-group
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications
SMI	Smart Metering Inventory
SSC	Security Sub-Committee