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MP195

‘Security Sub-Committee guidance on Device Assurance’

Modification Report

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Managed by



About this document

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

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This document also has three annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex C** contains the full responses received to the Refinement Consultation.

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1. Summary

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

The SEC requires the SSC to work with the National Cyber Security Centre (NCSC) to develop and maintain Commercial Product Assurance (CPA) Security Characteristics (SCs) for the end-to-end Smart Metering System. Ensuring compliance with these SCs helps to provide confidence to all SEC Parties that the Devices are appropriately secure, and CPA Certification is needed before a Device can be put onto the Central Products List (CPL). These SCs do not currently support Device triage and refurbishment.

SEC Parties have demonstrated a business need for the CPA Certification process to support Device triage and refurbishment for which the SSC has provided guidance for four use cases to date. The SSC has recently set up the SSC CPA Issue Resolution Sub-group (SCIRS) to provide a forum with Device manufacturers, Meter Asset Providers (MAPs) and Suppliers to work through any issues that arise from CPA evaluations.

The SSC has produced and published '[SSC Guidance for Device Refurbishment & Security Controls](#)' which is still appropriate for Use Cases 001 (HAN Reset via a Port), 002 (Identifying Installed SMKI Certs) and 003 (HAN Reset via the Device User Interface) but is being updated for Use Case 004 (Factory Reset).

However, without being referenced in the SEC, the guidance lacks status and does not provide SEC Parties with the certainty they require. The intent of this modification is to place an obligation on the SSC to develop and maintain a guidance document detailing Device security assurance. To provide the most benefit to SEC Parties it is recommended that this document is futureproofed by ensuring it can be used to cover use cases in other areas of Device security assurance that the SSC could be requested to provide guidance on.

Parties will not be directly impacted by this modification as it is a legal text only change to place an obligation onto the SSC. However, Parties will be indirectly impacted by being able to follow the guidance as a result. Costs for this modification are limited to Smart Energy Code Administrator and Secretariat (SECAS) time and effort for implementation. The implementation time for Parties is zero and therefore is being targeted for the June 2022 SEC Release and is being progressed as a Self-Governance Modification.

2. Issue

What are the current arrangements?

CPA Security Characteristics

The security controls and security assurance arrangements for the end-to-end Smart Metering System are defined in the SEC and aim to provide confidence to all SEC Parties that the systems and Devices supporting smart metering are appropriately secure.

Device security assurance for Smart Metering Equipment Technical Specifications (SMETS) 2 Devices is provided by ensuring the compliance of smart metering Devices against a set of SCs that are published by the NCSC.

The SCs are agreed and updated from time-to-time following discussion with industry, the NCSC, the Department for Business, Energy and Industrial Strategy (BEIS) and the SSC. The SSC's responsibilities are defined in SEC Section G 'Security', and SEC Section G7.19 states:

The Security Sub-Committee shall:

- f) liaise and work with the NCSC to develop and maintain CPA Security Characteristics that set out the levels of security required for Smart Meters, Communications Hubs, SAPCs and HCALCs that are proportionate and appropriate taking into consideration the security risks identified in the Security Risk Assessment.*

Smart metering equipment is evaluated by independent, NCSC-accredited Evaluation Facilities before being CPA certified by the NCSC. Only equipment that has been CPA Certified can be included on the CPL which allows Data Communications Company (DCC) Users to communicate with the equipment.

Device triage and refurbishment

Once installed, or partially installed, Devices are not able to be re-installed on the DCC network, even if they are removed without defect. Several SEC Parties have queried whether certain processes to support Device triage and refurbishment need changes to the SEC, or the SCs, or whether guidance (agreed by BEIS, the NCSC and the SSC) can be adopted. Suppliers and MAPs have provided a business justification to the SSC and have proposed a series of use cases for Device triage and refurbishment which the SSC has accepted and supported.

The triage and refurbishment of Devices are not mandatory SEC requirements and it is not therefore appropriate for a specification to be included in the SMETS, the Communications Hub Technical Specifications (CHTS) and the Great Britain Companion Specification (GBCS).

Previously, the NCSC, BEIS and the SSC have confirmed that they are open to considering compelling use cases from industry that protect security controls whilst facilitating the triage and refurbishment of Devices. In 2019, the SSC published its '[SSC Guidance for Device Refurbishment & Security Controls](#)' guidance document on the SEC Website, which has since been regularly updated as new use cases were approved. Use case 004 was withdrawn in November 2021 due to challenges from the NCSC. The issues of concern are being progressed with the NCSC as a priority by the SSC and BEIS since these have significant cost implications for MAPs and Suppliers.

What is the issue?

There is a lack of certainty from SEC Parties in placing reliance on guidance that has no status within the SEC. SEC Parties require this guidance to be incorporated or referenced in the SEC to give them the confidence to build functionality and processes around this guidance.

In September 2022, the SSC responded to industry requests for a forum to resolve issues affecting the security of Devices. The SSC has established the SCIRS, with the purpose of facilitating the CPA evaluation process. The SCIRS provides a working level forum through which the SSC, BEIS and the NCSC can work together with key industry partners to review issues arising from CPA evaluations. These discussions then aim to reach a consensus on the application of security controls and the interpretation and implementation of the CPA SCs and any associated guidance.

SEC Section G7.19 sets out the documents that the SSC is responsible for developing and maintaining, which includes the Security Controls Framework and the Risk Treatment Plan. It does

not currently have provision for producing guidance for Device Manufacturers. The most appropriate place for the guidance to be referenced within the SEC would be Section G7.19. This would provide the requisite status to the guidance.

SEC Parties have demonstrated a business need for guidance on four use cases so far. As the Smart Metering Implementation Programme (SMIP) matures it is inevitable that more use cases will be identified by SEC Parties that require SSC guidance. There is currently no formal way of the SSC providing guidance against these that has standing within the SEC.

What is the impact this is having?

There is a lack of certainty in placing reliance on guidance that has no status within the SEC. SEC Parties currently are holding stocks of Devices that have been partially installed and removed where no defects have been found. Being able to re-install these into homes would help alleviate the issues currently being faced by Device Manufacturers within the supply chain.

Impact on consumers

Without having defined guidance for Device triage and refurbishment, Suppliers will continue to have to dispose of Devices that have been installed previously and then removed but are in good working order. This will generate unnecessary cost to the industry, which is passed on to consumers, as well as having a negative impact on the environment.

If the SSC is also able to provide guidance on other use cases going forwards, these could help improve services and consumer experience in a timely manner.

3. Solution

The Proposed Solution is to add an obligation on the SSC into SEC Section G7 'Security' to develop and maintain a guidance document for Device security assurance. This will ensure that SEC Parties can refer to the guidance to develop processes and functionality that would help achieve and maintain CPA Certification.

Whilst the [SSC Guidance for Device Refurbishment & Security Controls](#) is aimed at use cases for Device triage and refurbishment, it is important to recognise that future use cases may not be within this specific area. Therefore, this document to be produced by the SSC will have a broader scope to incorporate other areas of Device security assurance that SEC Parties may raise going forward.

The guidance document itself would be subject to the same governance processes as other documents already listed in the SEC that the SSC is responsible for, such as the Risk Treatment Plan or the Security Controls Framework.

Whilst the SEC does not list out the governance processes involved with updating these documents, the SSC has advised that updates are by SSC discussion and approval, and the SSC would invite relevant parties to an SSC meeting to discuss changes.

The process for addition or withdrawal of use cases will be by consultation and discussion by the SSC, and it would not be practicable to set out timescales to add or withdraw guidance as these could

vary by use case and situation. This would all form part of the industry discussions before the SSC made its decision on a case-by-case basis.

4. Impacts

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

SEC Parties

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

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

Although SEC Parties are not directly impacted by the modification as this only places an obligation onto the SSC to develop and maintain a guidance document, they will be impacted indirectly by the guidance itself.

DCC System

There are no impacts on DCC system as part of this modification.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Section G 'Security'

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

Technical specification versions

This modification does not impact the Technical Specifications.

Consumers

Consumers will not be directly affected by the modification. However, this modification would indirectly impact Suppliers and MAPs who could re-use Devices once triaged and refurbished which should lead to lower costs that would otherwise be passed onto consumers.

Other industry Codes

This modification will not have an impact on any other Industry Codes.

Greenhouse gas emissions

There will be no direct impact on greenhouse gas emissions from this modification. However, indirectly this would lead to a reduction in Devices being scrapped.

5. Costs

DCC costs

There are no DCC costs associated with this modification as it is a legal text change only.

SECAS costs

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

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

SEC Party costs

This modification only places an obligation onto the SSC to develop and maintain a guidance document. Therefore, it is expected that Parties will not incur costs from this modification. This is supported by respondents to the Refinement Consultation who all confirmed that they would not incur costs from this modification.

6. Implementation approach

Approved implementation approach

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

- **30 June 2022** (June 2022 SEC Release) if a decision to approve is received on or before 16 June 2022; or
- **3 November 2022** (November 2022 SEC Release) if a decision to approve is received after 16 June 2022 but on or before 20 October 2022.

The June 2022 SEC Release is the earliest release this could be aimed for. SEC Parties need this legal text change implemented to provide the necessary assurances. However, as the guidance is being updated outside of this modification and is already in place it does not warrant an immediate implementation.

7. Assessment of the proposal

Observations on the issue

The CSC reviewed the proposal and questioned whether the title of the document could include the word 'triage' to ensure that Parties knew what the modification was about specifically. A CSC member also wanted to clarify that this modification would not hold up the development of the guidance against Use Case 004 and the implementation of that new guidance was not going to be delayed by this modification.

SECAS advised that the intent was to ensure the scope of the guidance was wide enough to futureproof against potential issues that could be raised by the SCIRS going forward. The SSC Chair confirmed that a title of 'Device Security Assurance and Triage' would be suitable. The SSC Chair also confirmed this modification aims to add legal support to the guidance, but the guidance should be followed as it stands today and as it develops. There is no direct link between this modification and the ongoing development of a solution for Use Case 004.

Solution development

What should the guidance document be called?

The current guidance for triage and refurbishment is called 'SSC Guidance for Device Refurbishment & Security Controls'. To ensure that SSC guidance can be provided going forward in other use cases within the same document it is necessary to have a broader term within the title.

One Working Group member noted that the proposed term of 'Device Assurance' could lead to confusion amongst SEC Parties due to the existence of the Smart Meter Device Assurance (SMDA) and potential for ambiguity as to where responsibility lies on certain scenarios. They also noted that the guidance currently is aimed at triage and refurbishment and suggested this should be reflected in the title to ensure SEC Parties recognised this would supersede the existing guidance.

The Proposer acknowledged the potential for confusion with SMDA objectives. They noted that a term of 'Security Assurance' would also be too broad because the SSC provides security assurance for the end-to-end smart metering system. They noted that the SEC calls out similar methodologies for User Systems and DCC Systems and this guidance is specifically for Devices. The Proposer suggested 'Device Security Assurance and Triage'.

Respondents to the Refinement Consultation agreed that this was a suitable title for the guidance document.

How will the document be amended?

Working Group members also sought clarity on how the guidance document would be updated and maintained. Specifically, how new use cases can be added, and if existing use cases are withdrawn how that is managed in terms of timescales to allow Parties to comply.

The Proposer stated that the guidance document itself would be subject to the same governance processes as other documents already listed in the SEC that the SSC is responsible for, such as the Risk Treatment Plan or the Security Controls Framework.

Whilst the SEC does set out specifically the processes involved with updating these documents, the SSC has advised that updates are agreed through SSC discussion and approval, and the SSC would invite relevant parties to an SSC meeting to discuss potential changes.

The process for adding or withdrawing of use cases will be by consultation and discussion in the SSC, and it would not be practicable to set out timescales for this as these could vary by use case and situation.

How does this interact with the existing guidance?

Another Working Group member highlighted that the guidance should be in place so that it can be considered alongside this modification. This view was supported by a respondent to the Refinement Consultation.

SECAS advised that the guidance document already exists today but that the guidance development must not be held up by this modification and therefore is separate. It is most likely that the guidance will be updated to cater for Use Case 004 before this modification is implemented and that the NCSC will provide appropriate advice to Test Laboratories. However, as the guidance is intended to be a live document where use cases can be added, amended and removed during the development, the modification should be considered separately to the content of the guidance as it stands.

Support for Change

The Working Group, in particular members from Other SEC Parties, voiced its support for this proposal. Members noted that the issues surrounding triage and refurbishment had been well documented and Parties would benefit from guidance with SEC status.

The three respondents to the Refinement Consultation all supported implementation of the modification. They noted that the addition of this obligation would provide Device Manufacturers with the certainty the need. The Refinement Consultation responses can be found in Annex C.

Views against the General SEC Objectives

Proposer's views

The Proposer believes the modification better facilitates SEC objectives (a)¹ and (f)² as it would enable SEC Parties to better develop processes and functionality that align with the security principles, as well as re-use of existing Devices.

Industry views

Respondents to the Refinement Consultation agreed that the modification better facilitated SEC Objective (a) and (f) noting it would provide better clarity and consistency to SEC Parties to undertake secure triage.

Views against the consumer areas

Improved safety and reliability

This change is neutral against this area.

Lower bills than would otherwise be the case

Indirectly this change would provide a benefit in this area as SEC Parties would have more confidence in designing processes and functionality to refurbish Devices. This would result in lower costs which could be passed onto consumers.

Reduced environmental damage

Indirectly this change would provide a benefit in this area as SEC Parties would have more confidence in designing processes and functionality that would result in Devices being reused and not scrapped.

Improved quality of service

This change is neutral in this area

Benefits for society as a whole

This change is neutral in this area.

¹ to facilitate 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

Appendix 1: Progression timetable

Following the Modification Report Consultation the modification will be presented to the Change Board for vote under Self-Governance on 20 April 2022.

Timetable	
Event/Action	Date
Draft Proposal raised	13 Dec 2021
Draft Proposal converted to Modification Proposal	21 Dec 2021
Presented to Working Group for discussion	5 Jan 2022
Refinement Consultation	25 Jan – 15 Feb 2022
Presented to Working Group for discussion	2 Mar 2022
Modification Report approved by CSC	15 Mar 2022
Modification Report Consultation	15 Mar – 5 Apr 2022
Change Board Vote	20 Apr 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 of Business, Energy and Industrial Strategy
CHTS	Communications Hub Technical Specifications
CPA	Commercial Product Assurance
CPL	Commercial Product List
CSC	Change Sub-Committee
DCC	Data Communications Company
GBCS	Great Britain Companion Specification
HAN	Home Area Network
HCALCS	Home Area Network Connected Auxiliary Load Control Switch
MAP	Meter Asset Provider
NCSC	National Cyber Security Centre
SAPC	Standalone Auxiliary Proportional Controller
SC	Security Characteristics
SCIRS	SSC CPA Issue Resolution Sub-group
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMDA	Smart Meter Device Assurance

Glossary	
Acronym	Full term
SMETS	Smart Metering Equipment Technical Specification
SMIP	Smart Metering Implementation Programme
SMKI	Smart Metering Key Infrastructure
SSC	Security Sub-Committee