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Smart Energy Code

MP198

'Further Changes from the Review of the SMKI and DCCKI Document Set'

Modification Report

Version 1.0

18 January 2023

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About this document

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

Contents

This document also has two annexes:

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

Contact

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

Bradley Baker

020 7770 6597

bradley.baker@gemserv.com

1. Summary

This proposal has been raised by Gordon Hextall on behalf of the Smart Metering Key Infrastructure (SMKI) Policy Management Authority (PMA).

The most recent review of the SMKI and Data Communications Company (DCC) Key Infrastructure (DCCKI) Document Set was initiated in early 2021. As a result MP173 'SMKI & DCCKI Document Set reviews' was raised to implement the recommendations made by the review whilst recognising that some observations needed further development.

A test of the SMKI Recovery Procedures identified differences in the processes set out in SEC Appendix L 'SMKI Recovery Procedure' sections 5 and 6 and the actual procedure. These were highlighted in the lessons learned from tests of the SMKI Recovery processes.

There is a risk that, should it be necessary to initiate Recovery of the SMKI Contingency Key, it would not be achieved without substantial manual intervention and would require prolonged attendance from Key Custodians.

The Proposed Solution results in the SEC reflecting the correct operational processes and order of steps carried out as part of the SMKI Recovery Procedure. Furthermore, a change will be made to the SEC to increase the number of records that can be contained within the 'Notification Files'. Notification Files will now be able to contain up to 1,000,000 or any larger number of records as published on the DCC website as directed by the SMKI PMA.

This modification will impact Suppliers and Network Parties. The costs associated with this modification are limited to Smart Energy Code Administrator and Secretariat (SECAS) implementation costs. If approved under Self-Governance, this modification is targeted to be implemented 10 Working Days following decision as an ad-hoc SEC Release.

2. Issue

What are the current arrangements?

Review of the SMKI and DCCKI Document Sets

The SMKI PMA has an obligation in SEC Section L1.17 to periodically review the effectiveness of the SMKI Document Set (which is defined in SEC Section L9.3) and the DCCKI Document Set (which is defined in SEC Section L13.31). The most recent review was initiated in early 2021 and MP173 'SMKI & DCCKI Document Set reviews' was raised to implement the recommendations made by the review. This was progressed through the Modification Process and implemented in the February 2022 SEC Release, although recognised that some observations around the SMKI Recovery Procedure needed further development work.

SMKI Recovery Procedure

The SMKI Recovery Procedure sets out the procedural requirements and the rights and obligations in respect of the DCC, Parties and the SMKI PMA relating to recovery from the Compromise (or suspected Compromise) of a Relevant Private Key. It was drafted prior to the start of DCC live operations and there is a need to ensure alignment with actual operational processes.

What is the issue?

There is a misalignment in the order of the steps set out in Appendix L sections 5 and 6 that need clarification with the DCC to ensure these align with the correct operational processes and the order of the steps. This was made clear from the lessons learned from recent tests of SMKI Recovery processes.

Additionally, as part of the Recovery Procedure, there are a variety of Notification Files set out in the Appendices to Appendix L that need to be generated by Users that are limited to 100,000 records within the file. This was also identified following the SMKI Recovery Process tests.

What is the impact this is having?

SMKI Recovery Procedure

There is a risk that, should it be necessary to initiate Recovery of the SMKI Contingency Key, it would not be achieved without substantial manual intervention and would require prolonged attendance from Key Custodians.

However, the misalignment in SEC Appendix L sections 5 and 6 could cause a compromise of SMKI Private keys, but this is a very low likelihood. If these Keys were Compromised, then in practice, the SMKI PMA, the DCC and the Data Services Provider (DSP) would collaborate to make the SMKI Recovery work properly, with the SMKI PMA providing the governance cover. However, this would be in a different order of steps to those set out in SEC Appendix L and would require manual intervention that would take resources from other operational priorities.

SMKI Recovery Improvements

The SMKI Recovery procedures are tested annually. The most recent test aimed to recover a large volume of Devices with incorrect National Grid Gas PLC SMKI Organisation Certificates. The lessons learned from that exercise have identified improvements that can be made to the flexibility of the DCC's SMKI Recovery processes and performance improvements to the DCC's SMKI Recovery Application. The current arrangements would require that Key Custodians must all be at the relevant data centre in person to conduct the recovery for a prolonged period. In addition, SEC Appendix L places a limit of 100,000 entries for Users to include in a Notification File which will be onerous if a large volume of Devices need to be Recovered and also has an impact on the DCCs SMKI Recovery Application

Impact on consumers

This issue does not impact consumers.

3. Solution

The steps to undertake the SMKI Recovery detailed in the Appendices of Appendix L 'SMKI Recovery Procedure' have been rewritten to reflect the correct order of the process.

Additionally, as part of the Recovery Procedure, there are a variety of Notification Files set out in the Appendices to Appendix L that need to be generated by Users that are limited to 100,000 records within the file. This limit has now been raised to 1,000,000 or any larger number of records as published on the DCC website as directed by the SMKI PMA. This will allow Users to submit fewer files in a SMKI Recovery event and speed up the recovery process.

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 Parties will be impacted by the raising of the limit on records per file. This will allow them to submit fewer files to recover the same number of Devices.

DCC System

A DCC Change Request (CR) has been raised internally to ensure that the DCC is able to meet the SMKI Recovery requirements that will align with the proposed new SMKI Recovery processes. The DCC System changes are not dependent on these SEC changes and are covered by internal DCC CRs to be able to meet the requirements of SMKI Recovery.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Appendix L 'SMKI Recovery Procedure'

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

Devices

Devices will not be impacted by this modification.

Consumers

Consumers will not be impacted by this modification.

Other industry Codes

There will be no impacts to other Codes from this modification.

Greenhouse gas emissions

There will be no impact on greenhouse gas emissions from this modification.

5. Costs

DCC costs

There will be no DCC costs associated with this modification.

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

SEC Parties are only impacted from the raising of the limit of 100,000 records on Notification Files. SEC Parties may incur costs to remove this limit from internal systems if they had built such a limit into their systems. However, there is no requirement to do so.

The one Refinement Consultation respondent stated that they do not anticipate incurring any costs as a result of this modification.

6. Implementation approach

Approved implementation approach

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

- **Ten Working Days after decision** (ad-hoc SEC Release).

This is a document only change and so, given the importance of this process, the modification is targeted to be implemented ten Working Days after the Self-Governance referral window closes. This is to ensure that if a SMKI Recovery Procedure has to be carried out before the next scheduled SEC Release, the up-to-date procedure will be followed.

7. Assessment of the proposal

Observations on the issue

How will any required DCC System changes be managed?

The DCC has been following up on the actions required following the most recent SMKI Recovery exercise that gave rise to several lessons learned. These actions will lead to DCC SMKI Recovery Application and process changes. A DCC CR was raised internally to ensure that the DCC is able to meet the SMKI Recovery requirements that will align with the proposed new SMKI Recovery processes. The DCC System changes are not dependent on these SEC changes and are covered by internal DCC CRs to be able to meet the requirements of SMKI Recovery. To complement the enhanced system changes, SEC Appendix L will be updated to increase the volume limit for the Notification Files.

Solution development

How were the legal text amendments drafted?

The amendments required to SEC Appendix L sections 4, 5 and 6 were highlighted in the review of the SMKI Document Set that was covered by MP173. It identified differences in the actual DCC processes from the process described in SEC Appendix L. To avoid the rest of the changes being delayed, MP173 was progressed with a view to develop any remaining changes separately. The DCC has since been undertaking work to resolve the process differences and the Steering Group (consisting of the DCC, the TABASC Chair, the Department for Business, Energy and Industrial Strategy (BEIS) Security Lead, the SMKI Specialist and the SMKI PMA Chair) developed the proposed legal text changes in consultation with the SMKI PMA.

Further changes to the legal text were made following comments made in the Refinement Consultation responses. This caused the modification to miss the February 2023 SEC Release and will instead, if approved, be implemented as an ad-hoc SEC Release.

Are there functionality changes associated with this modification?

The Working Group queried if the amended legal text resulted in any functionality changes. SECAS responded stating that it was only amendments to the current wording to align with current processes, as well as increasing the number of records within Notification Files from 100,000 to 1,000,000. SECAS has since confirmed that this modification will result in the DCC making improvements to the DSP processing and file signing utility to process the files. Any cost associated with these improvements is outside of this modification. For SEC Parties, the process remains the same, except that they can now include a greater number of records within each Notification File.

8. Case for change

Business case

There is a risk that, should it be necessary to initiate Recovery of the SMKI Contingency Key, that it would not be achieved without substantial manual intervention and would require prolonged attendance from Key Custodians unless this modification is implemented. There will be no DCC costs associated with this modification, and it is envisaged that SEC Parties will only incur costs if they need to change their internal systems, of which they would not be mandated to do.

Views against the General SEC Objectives

Proposer's views

The Proposer believes that this modification will better facilitate SEC Objective (a)[1] by making the SMKI Recovery process more efficient. They also note that improving the efficiency of the SMKI Recovery processes would also facilitate SEC Objective (f)[2] as the recovery would be completed over a quicker time and therefore have less time where the keys were compromised.

Industry views

The one Refinement Consultation respondent agreed that the modification better facilitates SEC Objectives (a) and (f), aligning with this report.

Views against the consumer areas

Improved safety and reliability

This change is neutral in this area.

Lower bills than would otherwise be the case

This change is neutral in this area.

[1] Facilitate the efficient provision, installation, operation and 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

Reduced environmental damage

This change is neutral in this area.

Improved quality of service

This change will positively impact this area by improving the efficiency of the SMKI recovery process.

Benefits for society as a whole

This change is neutral in this area.

Appendix 1: Progression timetable

SECAS will present the modification to the CSC with the recommendation that it progresses to the Report Phase as a Self-Governance Modification.

Timetable	
Event/Action	**Date**
Draft Proposal raised	11 Jan 2022
Presented to CSC for initial comment	18 Jan 2022
CSC converts Draft Proposal to Modification Proposal	19 Apr 2022
SMKI PMA refine draft legal text	Apr – Oct 2022
Modification discussed with Working Group	2 Nov 2022
Refinement Consultation	15 Nov – 6 Dec 2022
Further legal text refinement	Dec 2022
Modification Report approved by CSC	17 Jan 2023
Modification Report Consultation	*18 Jan – 8 Feb 2023*
Change Board Vote	*22 Feb 2023*

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
CR	Change Request
CSC	Change Sub-Committee

Glossary	
Acronym	**Full term**
DCC	Data Communications Company
DCCKI	Data Communications Company Key Infrastructure
DSP	Data Services Provider
OCA	Organisation Certification Authority
OPSG	Operations Group
PMA	Policy Management Authority
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SMKI	Smart Metering Key Infrastructure
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee