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DP198

‘Further Changes from the Review of the SMKI and DCCKI Document Set’

Modification Report

Version 0.2

8 April 2022

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About this document

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

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Contact

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

Kev Duddy

020 3574 8863

kev.duddy@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 and [MP173 'SMKI & DCCKI Document Set reviews'](#) was raised to implement the recommendations made by the review whilst recognising that some observations needed further work.

The observations of the SMKI and DCCKI Document Set review that require further work relate to Smart Energy Code (SEC) Appendix L 'SMKI Recovery Procedure' and the processes for the Recovery of the SMKI Keys held by the DCC including the SMKI Contingency Private Key, the Contingency Symmetric Key, the Recovery Private Key or the Issuing Organisation Certification Authority (OCA) Private Key. Specifically, there is current misalignment in the processes set out in SEC 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 taking account of lessons learned from recent tests of SMKI Recovery processes.

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.

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 needed further 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?

The observations of the SMKI and DCCKI Document Set review that require further work relate to SEC Appendix L and the processes for the Recovery of the SMKI Keys held by the DCC including the

SMKI Contingency Private Key, the Contingency Symmetric Key, the Recovery Private Key or the Issuing OCA Private Key. Specifically, 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, taking account of 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.

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, that 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 relate to a Compromise of the SMKI Private Keys held by the DCC, which 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.

If the SMKI Recovery didn't work smoothly, then this would not solely be a consequence of the SEC setting out the steps in the wrong order. For example, it could be because the DCC processes were inflexible and / or the DCC's SMKI Recovery Application performance needed improvement. There should be no impact on the supply of energy to consumers.

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. Assessment of the proposal

Areas for assessment

Sub-Committee input

As part of the modification assessment, the Smart Energy Code Administrator and Secretariat (SECAS) has 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 SMKI PMA to confirm what input is required from these forums.

SECAS believes the following Sub-Committees will need to input to this modification:

Sub-Committee	Input needed
OPSG	None
SMKI PMA	The SMKI PMA is responsible for the review of the SMKI document set. All legal text drafting will need to be reviewed and approved by it.
SSC	None
TABASC	The DCC System changes referenced below are not part of or dependent on this modification. The proposed changes to the DCC System will need to be presented to the TABASC outside of this modification.

Observations on the issue

How will the legal text amendments be 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 MP173 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) will develop the proposed legal text changes in consultation with the SMKI PMA.

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 which will lead to DCC SMKI Recovery Application and process changes. 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. To complement the enhanced system changes, SEC Appendix L will be updated to increase the volume limit for the Notification Files.

Appendix 1: Progression timetable

This proposal will be presented to the Change Sub-Committee (CSC) on 19 April 2022 for final comment on the issue. SECAS recommends it is converted to a Modification Proposal. The SMKI PMA will continue to develop the draft legal text and SECAS will present this to the Working Group once this has been finalised.

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 – June 2022
Modification discussed with Working Group	7 Jul 2022
Refinement Consultation	11 Jul – 29 Jul 2022
Modification Report approved by CSC	16 Aug 2022
Modification Report Consultation	17 Aug – 7 Sep 22
Change Board Vote	21 Sep 22

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
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