SEC
Smart Energy Code

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DP266

'Alternative SMETS1 UTRN Generation'

Modification Report

Version 0.1

13 February 2024

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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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1. Summary

This proposal has been raised by George MacGregor of Utilita.

Energy Consumers who are on pay-as-you-go tariffs frequently need to top up the credit on their meters to ensure they stay on supply. This is done using a Unique Transaction Reference Number (UTRN) to add credit onto their Device. UTRNs are used for top ups on both Smart Metering Equipment Technical Specification (SMETS) 1 and SMETS2 Devices.

For all SMETS2 Devices and SMETS1 Devices which are not enrolled in the DCC Systems, UTRN generation does not sit within the DCC Total System. However, when a SMETS1 Device is enrolled in the Data Communications Company (DCC) Service, all UTRN generation activity is performed within the DCC Total System. Occasionally, the DCC Total System is unavailable which prevents Suppliers from generating UTRNs for enrolled SMETS1 Devices.

When outages are planned, Suppliers can inform their customers and plan accordingly. In the event of an unplanned outage, consumers will be unaware which may lead to them paying money to top up, but not receiving a UTRN. This could result in them going off-supply.

The Proposer seeks a means to gain UTRNs for enrolled SMETS1 Devices which ensures UTRN generation is always available, similar to the current arrangements for unenrolled SMETS1 and all SMETS2 Devices.

2. Issue

What are the current arrangements?

When a Consumer chooses to top-up their meter balance, they pay their Supplier for a top-up code in the form of a UTRN. This credit is usually sent straight to the Device to increase the credit balance on the Smart Meter, with a copy of the UTRN also being provided to enter locally, in the event the message to the Device fails.

Frequently, UTRNs are provided direct to Payment Service Providers (PSPs) whose platforms are used by Suppliers. The DCC also provides a service to enable DCC Users to request UTRNs for prepayment top-ups via the DCC User Interface.

For SMETS2 Devices and unenrolled SMETS1 Devices there are several channels which generate UTRNs when the DSP is uncontactable, meaning users can always provide a UTRN to the Consumer to top up locally.

- All SMETS2 UTRNs are generated within the high-security model, which can be placed within the DCC User's system, meaning the mechanism is with the User and not the DCC.
- Unenrolled SMETS1 generation is likely to be dependent on the cohort which the Device is in, however generally the generation mechanism sits with the DCC User or the PSP systems.

When a SMETS1 Device is enrolled in the DCC Service all UTRN generation activity is performed within the DCC Total System. This creates a dependency on the Data Service Provider (DSP) availability to generate the codes required to top-up prepayment meters.

Smart Energy Code (SEC) Appendix AL 'SMETS1 Transition and Migration Approach Document' states:

> *"During the UTRN Period for an ESME or GSME and where the S1SP receives a request to generate a SMETS1 UTRN for such a SMETS1 Device from the SMETS1 SMSO, the S1SP shall send a UTRN for the Relevant Device, that is consistent with the request, to that Device and / or to that SMETS1 SMSO".*

What is the issue?

Due to planned or unplanned maintenance, programme releases, incidents or other general reasons, there are periods where the DCC Total System is unavailable. During these periods, UTRNs cannot be generated for enrolled SMETS1 Devices. This may result in the customer being unable to top-up their Device. In this situation, the only way the consumer would be able to top up is with a UTRN purchased before the outage occurred.

Using DCC data from July 2023 to December 2023, figures show that the DCC Total System was down for an average of 5.23% of the total hours in this period. The downtime varies per month and is illustrated in the table below:

DCC Total System service availability			
Month	**Total Hours**	**Total 'Down' hours**	**% 'Down' time**
July 2023	744	84	11.28%
August 2023	744	13.85	1.86%
September 2023	720	29.55	4.1%
October 2023	744	67.42	9.06%
November 2023	720	20.68	2.87%
December 2023	744	16.56	2.22%

What is the impact this is having?

To negate this issue in situations where there is a planned outage, Suppliers have been offering 'friendly credit' to consumers. This is a period where the where the meter will not disconnect, regardless of the meter balance. This does not mitigate the issue identified in this modification, as consumers are unable to top up their credit during this period, meaning they could be left with a debt after an outage period.

Suppliers can also cache UTRNs, however this is a very expensive process to implement and is considered inadequate by the Proposer.

Impact on consumers

The lack of alternative ways to generate a UTRN for enrolled SMETS1 Devices means that consumers are unable to top up their Smart Meters. Consumers may attempt to top up and have funds taken from their account, however, are left without a top up code. This can lead to confusion for the consumer, as they follow the normal top up process but are left without credit.

Furthermore, the Proposer notes that consumers will frequently use most of their credit, only topping up when they are in the emergency credit zone. When the DCC Total System is down, there is no way for the Supplier to offer 'friendly credit'/ non disconnect period or for the consumer to gain a UTRN, meaning there is no way to help the consumer in these situations.

Overall, the service for the consumer is worsened by their SMETS1 Device being enrolled with the DCC.

3. Assessment of the proposal

Areas for assessment

Security adherence

The Smart Energy Code Administrator and Secretariat (SECAS) notes that the Proposer has explored several solutions to this issue which were investigated but were found to breach the security model. SECAS is working with the Proposer to determine the historical work which has taken place and ensure that the requirements for this modification adhere to the security model.

What time of day is the DCC System down?

During the January 2024 SSC meeting, members noted the figures provided by SECAS that the average DCC down time between July and December 2023 was 5.23%. Members questioned exactly what period of the day the downtime is taking place, highlighting that if all down time takes place during the night, then it is less likely to have an impact on Consumers.

One SSC member noted that outages generally take place between 20:00 and 06:00 so many consumers will not be impacted by this. They added that when there are planned outages, Suppliers are aware, so they can inform their customers of this. In these scenarios, the Supplier has time to make arrangements to ensure the Consumer does not disconnect.

SECAS is working with DCC to establish when outages occur and this will be updated in the Modification Report accordingly.

What proportion of outages are planned?

SSC members noted that when outages are planned, Suppliers have more opportunity to inform customers and plan accordingly to ensure they do not disconnect from supply. SSC members questioned what proportion of outages are planned, compared to those which are unplanned. SECAS is assessing the split of planned to unplanned outages and this will be used as part of the business case for this modification.

Sub-Committee input

SECAS has engaged with the Chairs from the Operations Group (OPSG), the Technical Architecture and Business Architecture Sub-Committee (TABASC), the SSC, the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) and the Testing Advisory Group (TAG) 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	What are the operational impacts of a new route for SMETS1 UTRN generation?
SMKI PMA	No input sought.
SSC	Do the proposed business requirements adhere to the Security Model?
TABASC	Will this solution impact the existing technical and business architecture?
TAG	No input sought.

Observations on the issue

Views of the Security Sub-Committee

SECAS presented this modification to the SSC in January 2024. The SSC was supportive of this proposal, noting it was a sensible change to ensure consumers could always be serviced in the event of a DCC outage.

One SSC member commented on the existing process for collecting UTRNs, noting that when the solution was designed UTRNs were meant to be 'highly available' given it was for servicing prepayment customers. They noted that they would like to understand why there was such a large period of downtime for an essential service.

Views of the Proposer

The Proposer believes that the current arrangements are unacceptable as there should not be any period where a prepayment consumer cannot top up. As such, the Proposer seeks a solution which is available all the time and is not dependent on the DCC Total System being available.

Appendix 1: Progression timetable

Timetable	
Event/Action	**Date**
Draft Proposal raised	13 February 202
CSC converts Draft Proposal to Modification Proposal	20 Feb 2024
Business requirements developed with Proposer and DCC	*21 Feb – 25 Mar 2024*
Modification discussed with SSC	*27 Mar 2024*
Modification discussed with TABASC	*4 Apr 2024*
Modification discussed with OPSG	*9 Apr 2024*
Modification discussed with Working Group	*1 May 2024*
Preliminary Assessment	*13 May – 17 Jun 2024*
Preliminary Assessment discussed with Working Group	*3 July 2024*
Preliminary Assessment discussed with SSC	*10 Jul 2024*

Timetable	
Event/Action	**Date**
Refinement Consultation	*17 Jul – 7 Aug 2024*
Modification discussed with Working Group	*4 Sep 2024*
Impact Assessment request at Change Board	*25 Sep 2024*
Impact Assessment	*30 Sep – 2 Dec 2024*
Impact Assessment discussed with SSC	*11 Dec 2024*
Impact Assessment discussed with Working Group	*8 Jan 2025*
Modification Report approved by CSC	*21 Jan 2025*

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**
CSC	Change Sub Committee
DCC	Data Communications Company
DSP	Data Service Provider
ESME	Electricity Smart Metering Equipment
GSME	Gas Smart Metering Equipment
OPSG	Operations Group
PSP	Payment Service Providers
SEC	Smart Energy Code
SECAS	The Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SMSO	Smart Meter System Operator
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee
UTRN	Unique Transaction Reference Number