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SEC Modification Proposal Form – SECMP0063

Mod Title

Ensuring correct Network Operator Certificates are placed on Electricity Smart Meters.

Submission Date

2nd October 2018

Details of Proposer

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1. What issue are you looking to address?

To maintain the security of the GB Smart Meter Network, a SMKI (Smart Metering Key Infrastructure) Certificate must be in place on a Smart Meter during commissioning. Currently over 10% of Smart Meters have the wrong SMKI Certificate in the Network Operator slot of the Smart Meter. The way in which commissioning works allows Supplier Party's to choose a SMKI Certificate to place on the Smart Meter. However, the SMKI Repository does not display the name of the Organisation which owns the Certificate and has led to increasing numbers of Smart Meters containing the wrong Network Operator Certificate, preventing the true Network Operator from communicating with the meter.

2. Why does this issue need to be addressed? (i.e. Why is doing nothing not an option?)

Over 10% of Smart Meters have the wrong SMKI Certificate in the Network Operator's slot on the meter. Not only does this mean that the Network Operator cannot communicate with the meter, but this also creates manual effort for the organisation whose Certificate is in the slot to issue an Update Certificate command.

There is also significant effort that needs to go in to communicating, logging and tracking these issues. With multiple Network Operators and many Electricity Suppliers, there will be a significant amount of effort required to track and manage the issues to resolution if the underlying issue is not resolved before installation volumes increase.

Where the meter install rate increases, a 10% error rate can mean volumes in the 1,000s or 10,000s per month which is unmanageable using manual methods.

3. What is your Proposed Solution?

Knowing which Smart Meter is installed to which Network Operator's system is very simple as the first two digits of the MPAN map directly to the Network Operator's SEC Party or Distribution Area. DCC has access to the MPAN as well as the SMKI Certificates.

DCC can therefore validate the command that the Energy Supplier issues to the Smart Meter to place the Network Operator certificate on the meter. Where DCC knows which MPAN is assigned to the Smart Meter they can verify that the Certificate being placed in the Network Operator slot is for the Network Operator associated with that MPAN. Should the MPAN be unknown, DCC systems can revert to default functionality and trust that the Supplier is updating to the correct Certificate.

DCC already validate the Service Request which is used to update the Certificates for a range of other invalid scenarios and thus there is precedent for this method.

4. What SEC objectives does this Modification better facilitate?

This modification facilitates the following SEC Objectives:

- Objective (a¹) The efficient provision and operation of Smart Meter Systems. Without this change Smart Metering Systems will not be operating correctly, and nor will it be efficient given the increased workload to fix issues. Additionally, it has become clear that there is a chance that Gas Transporter Certificates could be placed on Electricity Smart Metering Equipment which could lead to the situation whereby the Smart Meter would need to be replaced which is not an efficient operation of Smart Meters;
- Objective (f²) The protection of data and security of systems as in the current situation more Organisations have access to Smart Meters which are not associated with them;
- Objective (g³) This also facilitates the compliance with this code by Suppliers as SEC Appendix AC clause 5.2(a) requires the Responsible Supplier to ensure that the Device Security Credentials are those of the appropriate Electricity Distributor.

5. What is the requested Path type?

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We propose Path 3: Self-Governance as this modification is not due to a Significant Code Review, nor does it have a Material Effect on the areas described for Path 2, nor is it a typo or minor inconsistency.

6. Are you requesting that the Modification Proposal be treated as Urgent?

No

We are seeking for this modification to be implemented as a matter of urgency but we are not seeking to follow the Urgent Modification Process. If the change is not implemented promptly then the volumes of incorrect Certificates will become unmanageable, leading to either newly installed Smart Meters being replaced unnecessarily, the inability for Network Operators to deliver Smart Meter Benefits or additional costs being incurred by Network Operators. The change should be relatively simple to implement as the logic to achieve it is simple and similar to existing DCC verification processes.

7. What is your desired implementation date?

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

³ to facilitate the efficient and transparent administration and implementation of this Code

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8. Which SEC Parties are expected to be impacted? (Please mark with an X)

Large Supplier Parties	X	Small Supplier Parties	X
Electricity Network Parties	X	Gas Network Parties	
Other SEC Parties			

Supplier Parties should expect to receive an error code where they install the wrong Network Operator Certificate for a Smart Meter.

Network Parties can expect to virtually eliminate the number of Smart Meters with the incorrect Network Operator Certificates installed.

9. Which parts of the SEC will be impacted?

The Enrolment Procedures (SEC Appendix AC) should be adjusted to make clear that DCC will validate the Network Operator Certificate to be installed by the Supplier against the MPAN.

DUIS (SEC Appendix AD) should be adjusted to make clear that an error code will be sent to the Supplier where the Network Operator Certificate to be installed by the Supplier does not match with the MPAN value.

The following section of DUIS (3.8.66.3) would be modified:

“See clause 3.2.5 for general validation applied to all Requests and clause 3.10.2 for Execution Date Time and Public Security Credentials validation.”

Response Code	Response Code Description
E061501	<i>The combination of User Role, Remote Party Role and Device Type is incorrect</i>
E061504	<i>The Remote Party New Prepayment Top Up Floor Seq Number data item is not applicable to the Request</i>
E061505	<i>The Certificate Type is not applicable to the Device Type</i>
E061506	<i>Future Dating / Remote Party Role mismatch - The Remote Party Role is not Supplier</i>
E061507	<i>The Certificate Type is not applicable to the Remote Party Role</i>
Exxxxxx	Certificate Party / MPAN mismatch – The Certificate Party is not correct for the MPAN

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This modification must only verify the certificate which is being placed on the meter against the MPAN. This change must not prevent network parties who are not associated with the MPAN from invoking the 6.15.1.

10. Will there be an impact on Central Systems? (Please mark with an X)

DCC Systems	<input checked="" type="checkbox"/>	Party interfacing systems	<input type="checkbox"/>
Smart Metering Systems	<input type="checkbox"/>	Communication Hubs	<input type="checkbox"/>
Other systems	<input type="checkbox"/>		

DCC systems would require an additional logic step to compare the Network Operator Public Certificate with the MPAN to ensure alignment.

This would have to be done pre-signing. This would be consistent with other pre-validation checks that are already done. Some of the checks are described in DUIS section 3.8.66.3.

11. Will there be any testing required?

Yes. The change will need to be tested to ensure that when a Supplier Party submits a Service Request to install an invalid Certificate, an appropriate error code is generated, and valid Service Requests are processed correctly.

12. Will this Modification impact other Energy Codes?

No

No impact on other Energy Codes

13. Will this Modification impact Greenhouse Gas Emissions?

No

No impact on Greenhouse Gas Emissions