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MP102B

‘Power Outage Alerts triggered by an OTA firmware upgrade – enduring solution’

Modification Report

Version 0.10

16 March 2022

Corporate member of Plain English Campaign
Committed to clearer communication
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About this document

This document is a draft Modification Report. It 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 Data Communications Company (DCC) Preliminary Assessment response.
- **Annex C** contains the full responses received to the Refinement Consultation.

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1. Summary

This proposal was raised by Matthew Alexander from Scottish and Southern Electricity Networks (SSEN).

Power Outage Alerts (POAs) are used by Distribution Network Operators (DNOs) to improve customer service by becoming aware of power outages sooner rather than relying on their customers to contact them. POAs enable the DNO to restore supply to affected consumers more efficiently and more quickly.

Over the Air (OTA) firmware updates can cause Electricity Smart Metering Equipment (ESME) to generate a POA. The DNO is unable to tell whether there is a real issue with the power to the premises or whether it the POA was generated as a result of a firmware upgrade to the ESME.

An informal agreement was put in place to prevent OTA firmware upgrades from causing POAs from being generated. However, this agreement is an interim solution, and a new ESME Manufacturer may be unaware of or may not comply with such an agreement. This modification is to implement an enduring obligation.

Furthermore, ESME already installed will continue to initiate a POA when an OTA firmware update is implemented. This cannot be rectified retrospectively and therefore would need a central System solution or physical Device exchange.

Investigations during the Refinement Process found the scale of the issue affecting existing meters was much greater than initially envisaged. SEC Parties agreed that there should be two separate solutions (listed below) to address the issue:

- MP102A 'Power Outage Alerts triggered by an OTA firmware upgrade': a Technical Specifications document change for meter Manufacturers to abide by for ESME produced after implementation (implemented as part of the November 2020 SEC Release); and
- MP102B: an enduring central System solution for meters that are currently installed.

The Proposed Solution is for the Data Service Provider (DSP) to build a mechanism that will suppress POAs which may have been caused by a firmware update to L+G ESME Devices. The DSP will track firmware activations on tracked L+G ESME which are present on the L+G Global Unique Identifier (GUID) list of Devices known to potentially cause the issue and then suppress POAs from the L+G ESME for 30 minutes.

This modification has a targeted implementation date of 29 June 2023 (June 2023 SEC Release). This modification will impact Electricity Network Parties and the DCC. The DCC Preliminary Assessment states that the modification will cost £151,000 - £350,000 to implement.

2. Issue

What are the current arrangements?

POAs are intended to notify DNOs when the power supply to a consumer's premises fails for a period greater than three minutes. POAs are used by DNOs to improve customer service by becoming aware of power outages sooner rather than relying on the customer to contact the DNO. This way

DNOs can develop a faster, more complete view of the premises affected and hence enable them to restore supply to affected customers more efficiently and more quickly.

Electricity Distributors have an obligation under Statutory Instrument 2002 No. 2665 'The Electricity Safety, Quality and Continuity Regulations 2002 (as amended)' to have and use distribution equipment in such a way so as to prevent interruption of supply to Customers' premises, so far as is reasonably practicable. Hence there is a legal obligation to maintain supplies to consumers.

Electricity Distributors have a further obligation under Statutory Instrument 20015 No. 699 'The Electricity (Standards of Performance) Regulations' to pay consumers a prescribed sum of money where the supply to a consumers premise is interrupted as a result of a fault on their network which is not restored in a prescribed period of time. There is therefore a need for the Electricity Distributors to know when a consumer's supply is interrupted so that they can respond appropriately. Failure to respond and restore supplies within the prescribed time will have an adverse impact on customer service and create an obligation to pay customers compensation.

In order to achieve this, a DNO needs to be confident that the POAs it receives are genuine and actually relate to supply interruptions to customers' premises.

What is the issue?

Experience has shown that activating an OTA firmware update on some types of ESME generates a POA. This is because when these ESME activate a new firmware version it results in an interruption of the power supply to the Communications Hub (power to the Communications Hub is supplied by the ESME). If the power supply to the Communications Hub is interrupted for more than three minutes, then the Communications Hub must send a POA (the AD1 Alert).

The DCC then forwards the AD1 Alert to the relevant DNO, who cannot verify whether there is a real issue with the power to the premises or whether the outage occurred due to a firmware upgrade to the ESME. As DNOs need to respond to each POA as per their business processes, a POA initiated by an OTA firmware update will require a DNO to respond in the same manner as if it were a genuine power outage.

This issue was previously highlighted in industry forums where current ESME Manufacturers agreed that all future OTA firmware updates would be designed so as not to initiate a POA event (the ESME must not cut the Communications Hub power supply for three or more minutes during a firmware upgrade to prevent the Communications Hub from sending the AD1). However, this agreement should be seen as being an interim solution until an enduring obligation is implemented through this modification. A new ESME Manufacturer may be unaware or may not comply with such an agreement.

Furthermore, there is a set of ESME that will power down for three minutes or more, and thus continue to initiate a POA when an OTA firmware update is implemented. This issue cannot be resolved retrospectively for the ESME already installed. These Devices will continue to generate a POA upon OTA firmware update activations for the duration of their life. There is currently no solution that can stop POAs from being forwarded to the relevant DNO unnecessarily.

In summary there are two issues:

1. There is no obligation in the Smart Energy Code (SEC) to require an OTA firmware update not to generate a POA. This was addressed through SEC Modification MP102A.

2. There is no means of identifying or supressing erroneous POAs associated with an OTA firmware update from the high number of ESME in service where this issue can't be addressed.

Depending on the location of the faulty equipment, Electricity Distributors have several means of detecting the interruption of supply to a consumer's premise, the AD1 Alert being one of them. The RIIO-ED1 regulatory instructions and guidance (RIGs) Annex F 'Interruptions' form part of the Electricity Distributors' licence obligations. These state that the Electricity Distributor need not respond on receipt of a single AD1 Alert, but that there is a clear expectation that when the AD1 Alerts become more reliable the RIGs will be changed accordingly. When the RIGs are changed Electricity Distributors will need to respond to an AD1 Alert and it is therefore essential that the AD1 Alerts are as reliable as possible. False or spurious AD1 Alerts are likely to initiate an unnecessary customer contact either by phone or a site visit, which will increase costs, ultimately borne by consumers, and increase inconvenience for customers as well as having an adverse impact on customer service.

How does this issue relate to the SEC?

Currently there is no mechanism to supress POAs from being generated incorrectly when an OTA firmware update is processed by a Device that cannot be modified to inhibit their creation. This will require a central System solution which will impact the DCC User Interface Specification (DUIS).

What is the impact this is having?

As DNOs need to respond to each POA, the issue of a POA initiated by an OTA upgrade will require a DNO to put in place systems to check every POA to establish whether it relates to a genuine power outage. This could require the DNO to develop and implement systems that would automatically check the energisation status of each meter from which POA is received to confirm that the POA is genuine, or in the extreme cases, send a member of staff to site to investigate the reported POA.

What is the impact of doing nothing?

There are two significant impacts if this issue is not addressed:

- DNOs will either need to check the energisation status of each meter from which a POA is received, or
- DNOs will need to send a member of staff to site to investigate.

Both these options will result in the DNO incurring additional costs and consumer inconvenience.

Scale of the issue

During the Development Stage, the Smart Energy Code Administrator and Secretariat (SECAS) was made aware of two Device Manufacturers that had built Devices that caused POAs to be generated when an OTA firmware upgrade takes place.

Landis and Gyr (L+G) advised that it had built approximately 1.4m ESME that can potentially take longer than three minutes to resume normal operation following the firmware activation. This is due to the ESME design. It was not envisaged that this would cause a problem with POAs.

The second Device Manufacturer, Aclara, has approximately 1,400 ESME currently installed that can cause the issue. SECAS liaised with the manufacturer to better understand the impact of the issue moving forwards. Aclara stated that this was an issue that affected the first generation of its hardware (Certified Products List (CPL) model code 00000000). It commented that later revisions of the Smart Metering Equipment Technical Specifications (SMETS) are possible on this particular model. This model would no longer be subject to firmware upgrades and as such would not cause the issue. The Aclara Devices are therefore out of scope.

Impact on consumers

Erroneous POAs may result in the DNO contacting the consumer via telephone or carrying out a site visit, causing inconvenience.

3. Solution

Proposed Solution

The Proposed Solution is for the DSP to build a mechanism that will suppress POAs which may have been caused by a firmware update to L+G ESME Devices.

The DSP will track firmware activations on tracked L+G ESME which are present on the L+G GUID list of Devices known to cause the issue and then suppress POAs from the L+G ESME for 30 minutes. L+G has advised that from the point the firmware activation starts, the ESME takes 12-15 minutes to complete the upgrade. For the impacted Devices, the power would be cut to the Communications Hub during that 12-15-minute period. L+G added that 30 minutes is a reasonable number to adopt as this would allow for any outliers and any scenarios where the meter clock was a few minutes out of sync on a scheduled activation.

In instances where a User may future-date a firmware activation request, the DSP will track the execution time specified within the SR 11.3 'Name' firmware activation request as the firmware activation time. If a POA is received from the Communications Hub on the same Home Area Network (HAN) as that ESME within 30 minutes of the recorded firmware activation time, then the DSP will suppress the AD1 Alert.

The solution requires the DSP to build a mechanism to store the GUID List of the applicable Devices. The incorporation of the GUID list eliminates the need to track firmware activation of Devices that work as desired. As a result, the memory needed to hold the tracking data for all L+G Devices will be reduced. However, the DSP has advised that the GUID List will require allocation of additional memory.

This solution was chosen by the Proposer following a review of the Refinement Consultation responses. This solution is referred to as the 'DSP Enhanced Solution' in the DCC Preliminary Assessment in Annex B.

The business requirements used to develop this solution can be found in Annex A.

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

Electricity Network Operators will be impacted by this modification as they will no longer receive POAs from Devices that have been generated because of an OTA firmware upgrade.

The DCC will be impacted by this modification as POAs generated by L+G Devices following OTA firmware upgrades require suppression to prevent them from reaching the relevant Electricity Network Operator.

It is worth noting that as a Device Manufacturer, L+G will not be impacted by this modification as the modification will not result in any Device behavioural change.

DCC System

The DCC advised that in southbound processing, Request Management will build a tracking mechanism that involves recording the firmware activation time for any on demand or future dated firmware activation Service Requests sent to the relevant L+G ESME Devices.

In northbound processing, Request Management will not create an AD1 Alert for a POA that is received within 30 minutes of a firmware activation on a tracked L+G ESME Device. The details of the suppressed AD1 Alerts will be recorded within the 'Power Outage Suppression Log'.

Request Management will also need to build housekeeping functionality to manage the firmware activation tracking data.

The Preliminary Assessment states that there will be no change to the infrastructure design because of this modification. Additional processing and storage will be required, but this will not be significant enough to warrant the procurement of additional computing power or storage. The DSP reserves the right to raise a Change Request for the provision of additional infrastructure should the DCC Data System experience performance problems that are the direct result of this modification. Any additional cost would be included within the Change Request and not under this modification.

Finally, the Preliminary Assessment states that MP102B has potential to increase service team activity as a result of the additional functionality, although it is not expected to have a material impact on service charges.

The full impacts on DCC Systems and the DCC's proposed testing approach can be found in the DCC Preliminary Assessment response in Annex B.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Appendix AD 'DCC User Interface Specification' (DUIS)
- Schedule 11 'TS Applicability Tables'

The changes to the SEC required to deliver the proposed solution will be delivered as part of the DCC Impact Assessment.

Technical specification versions

The changes to the DUIS will be made to the new version that goes live at the time of implementation (currently scheduled for the November 2023 SEC Release).

Consumers

This modification will ensure DNOs are aware when there is a genuine Power Outage and enable consumers to be reconnected quickly. It will also ensure the DNOs do not have to visit consumers' properties to check they have supply.

Other industry Codes

This modification will have no impact on other industry Codes.

Greenhouse gas emissions

This modification will have a positive impact on greenhouse gas emissions, as addressing the issue will result in fewer site visits being made. This will reduce a DNO's level of pollution into the atmosphere.

5. Costs

DCC costs

The estimated DCC implementation costs to implement this modification is between £151,000 and £350,000 up to the end of Pre-Integration Testing (PIT). The breakdown of these costs are as follows:

Breakdown of DCC implementation costs	
Activity	**Cost**
Design, Build and Pre-Integration Testing (PIT)	£151,000 - £350,000

Breakdown of DCC implementation costs	
Activity	**Cost**
Systems Integration Testing (SIT)	TBC
User Integration Testing (UIT)	TBC
Implement to Live	TBC
Application Support	TBC

The full costs will be determined as part of the DCC Impact Assessment.

More information can be found in the DCC Preliminary Assessment response in Annex B.

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

Most Refinement Consultation respondents stated that they will not incur any costs because of this modification. One Network Party stated that it may incur costs due to potential changes to its systems, however the costs will not outweigh the benefit of the modification. No actual figures were provided.

6. Implementation approach

Recommended implementation approach

SECAS is recommending an implementation date of:

- **29 June 2023** (June 2023 SEC Release) if a decision to approve is received on or before 27 October 2022; or
- **7 November 2024** (November 2024 SEC Release) if a decision to approve is received after 2 November 2022 but on or before 7 November 2023.

There will be a DUIS uplift in the June 2023 SEC Release. Provided this modification is approved in time, it will be included in the June 2023 SEC Release. If a decision is reached after 29 June 2022, the modification will be implemented as part of the November 2024 SEC Release, the next SEC Release expected to impact the DUIS.

The rationale behind this implementation approach is to allow sufficient time for DCC to facilitate the required level of testing.

During the Refinement Process, Network Parties advised that if approved, the modification should be implemented as soon as possible. SECAS has targeted this modification for implementation into the

June 2023 SEC Release. Parties also indicated that they would not require any lead time to implement this modification.

7. Assessment of the proposal

Observations on the issue

The Change Sub-Committee (CSC) discussed the issue and a DNO representative stated that the issue only relates to SMETS2 Devices and is limited to two Manufacturers.

SECAS engaged with meter Manufacturers to understand the magnitude of the issue. The meter Manufacturer L+G stated that approximately 1.4m of its meters are affected by this issue. L+G also informed SECAS that it was undertaking a project to list all the GUIDs of affected meters. Checking this list against its meter list would enable it to establish where an OTA firmware upgrade would generate spurious AD1 Alerts.

The meter Manufacturer Aclara also stated that it had built Devices that could cause this issue, though in much smaller numbers (1,400). SECAS further investigated this with the Manufacturer, who commented that the 1,400 Devices would no longer be subject to firmware upgrades and as such would not cause the issue. During the Refinement Process, the Proposer and the Working Group noted this information and agreed that the Aclara Devices would be out of scope.

Solution Development

Further investigations around the scale of the issue

A Working Group member commented that the initial estimate of 500,000 affected ESME was a substantial under-estimate. SECAS informed the Working Group of the discussions noted above, where L + G had identified 1.4m ESME affected by the issue. A Working Group member confirmed that other work they had been undertaking with the DCC should provide the results required. The DCC confirmed that it would share its findings for the benefit of the modification.

The affected meter Manufacturer confirmed that approximately 1.4m meters had been produced that could result in an AD1 Alert being generated by the Communications Hub. However, the DCC testing had only identified an approximate 14,000 meters which were causing the issue. Several Network Party members questioned the accuracy of the DCC's results, stating that there had been instances where AD1 Alerts had been lost. A Working Group member stated that they had experienced three to five thousand cases where they had received a Power Restoration Alert but not an AD1 Alert. For this reason, the Working Group was not confident that the DCC figure of 14,000 affected Devices was accurate.

The DCC IT Interaction Group (DIG) questioned the testing that had taken place that identified only 14,000 meters as it felt that this reduced the business case of the modification. SECAS held a teleconference between the Proposer, L+G, and Network Parties to allow the Network Parties to better understand the testing constraints of the meter Manufacturer and the DCC and the mismatch in figures.

LL+G noted that the production of an AD1 Alert on OTA update by all 1.4m meters cannot be ruled out even though the vast majority were not identified during testing. This is due to the flash memory in

meters deteriorating over time and the frequency of use meaning they were more likely to produce Alerts as they aged. This has been proven in test laboratories where meters are subject to extensive use. It is known that as the meter ages, it takes longer to reboot. The issue could also worsen when a firmware update reaches the upper size limit of 750kb. L+G further advised that for its meters to be upgraded to Electricity Smart Metering Equipment Technical Specifications 2 (ESMETS2) v4.2, there will be two firmware updates to upgrade the meters.

Identifying the impacted ESME

SECAS worked with L+G to identify the 1.4m ESME that can cause the issue. SECAS first explored using the CPL by filtering to specific Device models. This would be the most efficient way of addressing the issue, as any AD1 generated from a particular Device model could be suppressed by the DSP. Unfortunately, L+G informed SECAS that the bootloader specification known to cause the issue was implemented across different Device models, which since installed would also be on varying firmware versions. L+G advised that due to the varying hardware and firmware versions, this would not be a viable option.

SECAS also investigated the possible use of meter commission dates. However, L+G commented that the introduction of the bootloader was extremely difficult to pinpoint, due to multiple manufacturing sites and the Manufacturer building Devices for multiple customers and their subsequent individual firmware versions. Furthermore, some Devices may have been warehoused following manufacture. Media Access Control (MAC) addresses were also explored under this option; however, this was ruled out as they do not follow on sequentially.

Following these conversations, SECAS, the Proposer and L+G agreed that the best way to confidently identify the Devices causing the issue was to use the original GUID list in an agreed format. The DSP will use this list to suppress AD1 Alerts from these Devices, following an OTA firmware update activation.

The DCC queried whether this list would be subject to change or would remain static. Due to the implementation of MP102A, ESME will no longer follow reboot procedures exceeding three minutes, and L+G had previously identified and resolved the problem moving forwards. The DCC and the DSP saw no negative impact of the list remaining in place despite the number of ESME expected to reduce (due to physical replacements over time).

SECAS advised that due to the anticipated additional processing for the DSP, it was DNOs' intention to have a solution investigated where POAs would be suppressed following an OTA firmware activation for all ESME. SECAS sought to clarify that this was in fact for all L+G ESME. It was agreed that the business requirements would be amended accordingly. The Proposer confirmed that they were comfortable with the possibility of suppressing genuine POAs during the 30-minute period.

Futured dated firmware activations

An issue was raised where the validity of the solution could be jeopardised by future dated firmware activations. This adds extra complexity as the Target Response Time for future dated activations is 24 hours as opposed to 60 seconds for on demand activations. This would make the DSP's task of suppressing erroneous POAs more complex. The DCC advised that to resolve this issue, there may need to be changes at a Communications Service Provider (CSP) level.

The DCC analysed Technical Operations Centre (TOC) information to ascertain what percentage of firmware activations on L+G were future dated. The data spanned from 2019 to July 2021, and

showed that approximately 13% of firmware activations on L+G ESME were future dated. The data also showed a gradual increase in future dating by Suppliers from January 2021.

The business requirements were subsequently updated to incorporate requirements that addressed the issue of future dated firmware activations. The Working Group was happy with the progress made, and advised that a request for information (RFI) should be issued to better understand Supplier firmware activation processes.

Three responses were received to the RFI, all from Large Suppliers. One respondent stated that they future date firmware activations as well as action them on demand. The other two responses only action firmware updates on demand. The two respondents stated that they did not anticipate using the future dating capability in the future.

The DCC investigated future dated firmware activations further, specifically on L+G ESME. The DCC found that overall, 13.55% of firmware activation commands sent to L+G ESMEs since the beginning of 2019 were future dated. It also reviewed data pre- and post-COVID-19 to mitigate any COVID-19-specific effects. The DCC concluded that there has been a trend towards the use of future dated commands during 2021. The Proposer agreed that the percentage was material enough to be considered when developing the solution.

Power Restoration Alerts and Reporting

When discussing the business requirements, a DNO representative queried what impact suppressed POAs will have on unsuppressed Power Restoration Alerts (PRAs). All DNOs receive a monthly report which sets out eight different outage scenarios and how many outages occurred for each scenario. They were concerned that the solution would skew these reports. The Proposer acknowledged that this is something to be investigated through DCC reporting. The DCC advised that these reports are either produced from the DCC TOC or directly from the DSP.

The DCC stated that the reports that the DCC TOC produces for DNOs currently try to correlate Power Outage Events (AD1 Alerts) reported by a Communications Hub with Power Restoration Alerts (8F35 and/or 8F36 Alerts) sent by the ESME at around the same time. This takes into consideration that the clocks on the two Devices may not be synchronised so the Alerts may appear to be out of sequence. By reporting on this, DNOs can see how many AD1 Alerts do not appear to have corresponding 8F35/8F36 Alerts and vice versa. The DCC flagged that this method is not 100% accurate.

The DCC added that by implementing MP102B, the accuracy of these reports could increase without needing to make any changes to the reports themselves. This is because there will be an absence of spurious AD1 Alerts together with an absence of any PRAs (which are not generated during firmware activation) on the same Smart Metering System. This will mean that the DCC will cease to report the (now suppressed) AD1 Alerts to the DNOs as being uncorrelated.

Power Outage Suppression Log

The DCC noted in the Preliminary Assessment that the DSP will build a Power Outage Suppression Log to record instances where the solution is used. The DNO representatives commented that they would like to receive a report of this log as part of what they currently receive relating to outage reporting. The DCC added that one report would be generated for all Meter Point Administration Numbers (MPANs), regardless of DNO region. A DNO representative questioned whether generating one report may have competition or regulatory implications. After investigating, the DCC do not

anticipate a regulatory blocker to sharing a consolidated Power Outage Suppression Log with all DNOs.

In terms of the implementation, the DCC advised it may be preferable to incorporate the Power Outage Suppression Log data into the TOC reports. This will result in some additional development effort for the TOC but has the benefit of keeping all power outage reporting in one place and being specific to each recipient DNO. The Working Group was happy with this approach.

Refinement of the Proposed Solution

When issuing the Refinement Consultation, SECAS consulted on two potential solutions:

- **Proposed Solution / DSP Core Solution:** DSP to build a mechanism that will suppress POAs following a firmware update for all L+G ESME Devices for 30 minutes.
- **Alternative Solution / DSP Enhanced Solution:** DSP to build a mechanism that will suppress POAs following a firmware update for a specific set of L+G ESME Devices known to cause the issue for 30 minutes.

The Proposer stated that they would decide on which solution they would take forward upon review of the Refinement Consultation responses.

SECAS received four responses to the Refinement Consultation, including the Proposer's organisation SSEN. The other respondents unanimously preferred the option that will only track firmware activation requests for Devices which are present on the L+G GUID list (approximately 1.4m ESME). Their rationale stated that this would prevent genuine POAs being suppressed during the 30-minute period. The Proposer subsequently agreed to take this forward as the Proposed Solution, and the other option was subsequently discarded.

Business case

During the Refinement Process, SECAS presented the modification to the Technical Architecture and Business Architecture Sub-Committee (TABASC). TABASC members questioned the business case for the modification, asking SECAS whether a process of validation can be used before an engineer is sent to site to confirm whether the site does or does not have an energy supply. This could be done through sending Service Request (SR) 7.4 'Read Supply Status'. The Proposer felt that this would be unreasonable as this process of validation would have to be carried out for every POA that they receive as DNOs have no visibility of when firmware upgrades occur.

SECAS further investigated TABASC's suggestion and identified that any Service Request could be sent to check power supply, not exclusively SR7.4. The Communications Hub will lose power and will not be able to process any SR and so a DCC error message should be sent back to the DNO. If a response is received from the Communications Hub, then the DNO knows that power has been restored to the Communications Hub.

The Proposer advised that this would create additional traffic across the DCC System. Additionally, this would leave DNOs in a position where they would have to build in processes and functionality into each of their adapters or other systems to send a SR7.4 for every outage Alert received. The Proposer advised that if this was implemented, there is a large percentage of SR7.4 failures after an OTA although there is an uninterrupted supply to the property so this will not assist in resolving the issue. Furthermore, this would impact SEC Modification MP096 'DNO Power Outage Alerts' which

looks specifically at the timeliness of the delivery of POAs and PRAs. They noted this is why a modification to supress the spurious Alerts is required.

The implementation of MP102B will eliminate virtually all spurious AD1 Alerts following an OTA as they will be filtered by the DSP. If an AD1 is then received by the DNO it will have to follow its own business process for handling what is perceived as a genuine outage.

Views against the General SEC Objectives

Proposer's views

The Proposer believes this modification would better facilitate SEC Objective (a)[1]. Reducing the non-genuine AD1 Alerts will better facilitating the efficient operation and interoperability of smart metering systems at energy Consumers' premises within Great Britain.

Industry views

Refinement Consultation respondents agreed that this modification better facilitates SEC Objective (a) as it will remove the need for additional activity or traffic on the smart meter communications system that would be associated with additional Service Requests to ascertain the status of the supply at a consumer's premises. There will also be a reduction in DNOs having to contact the consumer via telephone (with the associated cost and use of valuable resource) to understand the situation. The Proposed Solution will also reduce the likelihood of site visits because of the issue identified.

Views against the consumer areas

Improved safety and reliability

This modification will have a positive impact on safety and reliability, as DNOs will have better visibility of genuine power outages, as erroneous POAs will be mitigated because of the solution.

Lower bills than would otherwise be the case

This modification will have a neutral impact on the price of bills.

Reduced environmental damage

This modification will have a neutral impact on environmental damage.

Improved quality of service

This modification will have a positive impact on quality of services as DNOs will be able to identify genuine power outages and respond accordingly.

[1] Facilitate the efficient provision, installation, operation and interoperability of smart metering systems at energy consumers' premises within Great Britain.

Benefits for society as a whole

This modification will have a neutral impact on benefits for society.

Appendix 1: Progression timetable

Following the review of the Refinement Consultation responses, SECAS will present the modification to the Change Board to approve the Impact Assessment costs. SECAS will then formally request that the DCC carries out the Impact Assessment. Upon completion of the assessment, SECAS will present the findings to the Working Group.

Timetable	
Event/Action	**Date**
Draft Proposal raised	18 Dec 2019
Modification discussed with the Working Group	1 Apr 2020
Modification discussed with the Working Group	3 Jun 2020
Business requirements developed with Proposer and DCC	Jun 2020 – Jul 2021
Proposed Solution developed with Proposer	Jun 2020 – Jul 2021
Business requirements workshop	9 Aug 2021
Request for information	21 Sep – 12 Oct 2021
Preliminary Assessment requested	1 Nov 2021
Preliminary Assessment returned	26 Nov 2021
Modification discussed with the Working Group	5 Jan 2022
Refinement Consultation	1 Feb – 23 Feb 2022
Impact Assessment costs approved by Change Board	23 Mar 2022
Impact Assessment requested	23 Mar 2022
Impact Assessment returned	4 May 2022
Modification discussed with Working Group	1 Jun 2022
Modification presented to the CSC	21 Jun 2022
Modification Report Consultation	22 Jun – 13 Jul 2022
Change Board vote	27 Jul 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**
CPL	Certified Products List
CSC	Change Sub-Committee
DIG	DCC Interaction IT Group
DCC	Data Communications Company
DNO	Distribution Network Operator
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
ESMETS	Electricity Smart Metering Equipment Technical Specifications 2
GBCS	Great Britain Companion Specification
GUID	Global Unique Identifier
HAN	Home Area Network
MAC	Media Access Control
MPAN	Meter Point Administration Number
OTA	Over The Air
PIT	Pre-Integration Testing
POA	Power Outage Alert
PRA	Power Restoration Alert
RFI	Request for information
RIGs	RIIO-ED1 regulatory instructions and guidance
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS	Smart Metering Technical Specifications
SR	Service Request
TABASC	Technical Architecture and Business Architecture Sub-Committee
TOC	Technical Operations Centre
UIT	User Integration Testing