

MP102B ‘Power Outage Alerts triggered by an OTA firmware upgrade – enduring solution’

Annex A

Business requirements – version 0.4

About this document

This document contains the business requirements that support the solution(s) for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The DCC will use this information to provide an assessment of the requirements that help shape the complete solution.

1. Business requirements

This section contains the functional business requirements. Based on these requirements a full solution will be developed.

Business Requirements	
Ref.	Requirement
1	An Over-the-Air (OTA) firmware update to a tracked Landis + Gyr Electricity Smart Metering Equipment (ESME) currently installed will not result in a Power Outage Alert (AD1 Alert) reaching the Network Operator in the first instance.
2	The Data Services Provider (DSP) will track firmware activations on tracked Landis + Gyr ESME and then suppress AD1 Alerts from the tracked Landis + Gyr ESME for 30 minutes.
3	If the Service Requests for firmware activations on tracked Landis + Gyr ESME contain a firmware activation date and time, the DSP will extract and record the firmware activation date and time. The DSP shall then suppress AD1 Alerts from the tracked Landis + Gyr ESME for 30 minutes starting at the recorded firmware activation time.

2. Considerations and assumptions

This section contains the considerations and assumptions for each business requirement.

2.1 General

This modification applies to Smart Metering Equipment Technical Specifications (SMETS) 2+ Devices only.

DNOs have requested that during the DCC Preliminary Assessment, the DCC assess tracking firmware activations and subsequent AD1 Alerts for all L+G Devices in the field and separately, and exclusively for the list of GUIDs that L+G have provided. DNOs will use the findings of the DCC Preliminary Assessment to decide how the Proposed Solution shall be applied.

2.2 Requirement 1: An Over-the-Air (OTA) firmware update to a tracked Landis + Gyr Electricity Smart Metering Equipment (ESME) currently installed will not result in a Power Outage Alert (AD1 Alert) reaching the Network Operator in the first instance.

ESME supply power to the Communications Hub (CH) utilising the Data Communications Company (DCC) Intimate Communications Hub Interface Specification (ICHIS). In the case of an OTA firmware update, the ESME could cut or drop the Direct Current (DC) power to the CH for a duration of up to three minutes or more. Once the duration has reached three minutes a Power Outage Alert (POA) in the form of an AD1 Alert will be sent to the relevant Distribution Network Operator (DNO). The DNO will not be able to identify if the AD1 Alert has been caused by a firmware upgrade and subsequent reboot or a genuine loss of DC power to the CH. As DNOs have a responsibility to their customers to investigate the root cause of the Power Outage Event, this can result in unnecessary use of resources such as dispatching a technician to site.

The solution will need to stop POAs reaching the relevant DNO when power is lost for longer than three minutes as part of an OTA firmware upgrade process.

During the Refinement Process, L+G highlighted that approximately 1.4 million meters have been produced that could cut the power to the CH for a duration of three minutes or more. SECAS, the Proposer and the DCC have access to the Global Unique Identifier (GUID) list containing the 1.4m Devices. These are referred to as 'tracked Landis + Gyr ESME' in this document.

One other meter Manufacturer (Aclara) also has Devices that act in this way, though they will no longer be updated. As a result, these are considered out of scope of this modification.

2.3 Requirement 2: The Data Services Provider (DSP) will track firmware activations on tracked Landis + Gyr ESME and then suppress AD1 Alerts from the tracked Landis + Gyr ESME for 30 minutes.

For the DSP to prevent the DNO from receiving AD1 Alerts triggered by an OTA firmware activation, the DSP will need to track OTA firmware activations. This will reduce the risk of the DSP suppressing a genuine AD1 Alert from reaching the DNO. Firmware activations can be tracked through Service Requests (SRs) such as SR 11.3 'Activate Firmware'. **Please note that a firmware activation can be future dated by the User and that Requirement 2 does not cover future dated firmware activations.**

L+G have advised us that from the point the activation starts, the meter takes 12 to 15 minutes to complete the OTA upgrade. For the impacted meters, the power would be cut to the CH during that 12-15 min period. 30 minutes has been deemed 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.

The DSP have advised that the 30-minute period will be configurable. This will help futureproof the Proposed Solution in case the period needs to be reduced or extended.

2.4 Requirement 3: If the Service Requests for firmware activations on tracked Landis + Gyr ESME contain a firmware activation date and time, the DSP will extract and record the firmware activation date and time. The DSP shall then suppress AD1 Alerts from the tracked Landis + Gyr ESME for 30 minutes starting at the recorded firmware activation time.

Firmware activations can either be for immediate activation or future dated. Suppliers can set the date up to 30 days into the future for firmware activation Service Requests (SR 11.3). Suppression of AD1 Alerts based on only the submission of a firmware activation Service Request will not suppress the AD1 Alert in the case of a future dated activation. Requirement 3 covers Requirement 2 and also adds the case of future dated firmware activation being included in the Service Request.

The DSP will first check if the Service Request is targeted for an L+G ESME included within the GUID list. If the ESME is included within the GUID list, the DSP will examine whether the Service Request contains a future dated activation;

- If present, the DSP will record the activation date and suppress AD1s for a period of 30 minutes starting at the recorded date.
- If no future dated activation date is present, the DSP will suppress AD1s for a period of 30 minutes starting at the present time.

3. Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	Full term
CH	Communications Hub
DC	Direct Current
DCC	Data Communications Company
DNO	Distribution Network Operator
DSP	Data Service Provider
ESME	Electricity Smart Metering Equipment
GUID	Global Unique Identifier
ICHIS	Intimate Communications Hub Interface Specification
L+G	Landis + Gyr
POA	Power Outage Alert
OTA	Over the Air
SMETS	Smart Metering Equipment Technical Specifications
SR	Service Request