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SECMP0046 'Allow DNOs to control Electric Vehicle chargers connected to Smart Meter infrastructure'

Business Requirements – version v0.2

About this document

This document is the Business Requirements for SECMP0046 'Allow DNOs to control Electric Vehicle chargers connected to Smart Meter infrastructure'. It provides detailed information on the business requirements for the proposed solution agreed on by the Working Group. It also summarises the Working Group's considerations and assumptions for each business requirements with respect to this Modification Proposal.

Business requirements

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

Business Requirements	
Ref.	**Requirement**
1	Electricity Distributors will have the ability to reduce the load using HCALCS.
2	The ALCS/HCALCS labels will be made compulsory.
3	Electricity Distributors will have the ability to alter the Boost Button on HCALCS (optional).

Working Group considerations and assumptions

Requirement 1: Electricity Distributors will have the ability to reduce the load using HCALCS

Where there is an imminent risk of an overloading event the Electricity Distributors for that low voltage network can alter the charging rate of Electric Vehicles on that network. As HCALCS & ALCS are a binary switch, only two settings are available, 'deactivated' (switch is open) or 'activated' (switch is closed). The interpretation of what this signal does is expected to be implemented by the Smart Charger through the BEIS competition[1] being run by BEIS.

Since these overloading events could occur 5-10 minutes after an becoming aware of the risk, response times need to be fast. The Electricity Distributors should be able to send SRVs 7.6, 7.7, and 7.8.

- SRV7.6 would allow the Electricity Distributors to open the switch, resulting in the reduced charge amperage.
- SRV7.7 would allow the Electricity Distributors to read ALCS/HCALCS labels (to determine the load controlled by the ALCS/HCALCS) and a switch's status (to determine whether any load reduction may be possible).
- SRV7.8 would allow the Electricity Distributors to reset a switch's status to that set by the calendar. This should only be used if an erroneous instruction is sent, or if the anticipated reduction is no longer required.

These SRVs have a target response time of 30 seconds, which will be sufficient in reducing the likelihood a failure event. Both SRV 7.6 and 7.8 are Critical Service Requests and the modification process will determine any impact on User Security Assessments. For this the SSC will be notified of any changes to User eligibility for Critical SRV, as the User CIO assessment will need to be updated.

Requirement 2: The ALCS/HCALCS labels will be made compulsory

Requirement 1 includes SRV7.7, which would allow Electricity Distributors to read ALCS/HCALCS labels and switch status. This enables the Electricity Distributors to Identify the HCALCS switch connected to the Electric Vehicle. When SECMP0019 was implemented to define standardised ALCS/HCALCS labels, it was not made compulsory for these switches to be labelled. However, this would be required to ensure that Electricity Distributors are switching off an HCALCS connected to Electric Vehicle chargers and not any other ALCS/HCALCS connected devices. It would need to be mandatory for ALCS/HCALCS to be labelled accurately.

[1] https://www.delta-esourcing.com/delta/respondToList.html;jsessionid=EB2ED9FA5378B2F984AC96972D431124?noticeId=347436628

Requirement 3: Electricity Distributors will have the ability to alter the Boost Button on HCALCS (optional)

The Boost Button functionality allows a consumer to override HCALCS on a connected device. To avoid the possibility of a consumer overriding a signal from the Electricity Distributors to alter the charging of Electric Vehicles in an overloading scenario, the Electricity Distributors will need access to SRVs 7.9, 7.10, and 7.11.

- SRV7.9 would allow the Electricity Distributors to add auxiliary load to the Boost Button, granting the consumers the ability to override HCALCS.
- SRV7.10 would allow the Electricity Distributors to remove auxiliary load from the Boost button, denying the consumers the ability to override HCALCS.
- SRV7.11 would allow the Electricity Distributors to read the Boost Button details.

This requirement is optional, and it is requested that one Preliminary Assessment be produced that includes this requirement, and another Preliminary Assessment produced that omits this requirement.