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

Working Group Meeting 5

31 January 2019, 14:00 – 16:00, Gemserv Offices

Meeting summary

Recap on previous Working Groups

The Working Group meeting began with SECAS providing an overview of the modification and a recap on some of the discussions and conclusion from the previous Working Group meetings. This overview included:

- Summarising the issue of Electric Vehicles (EVs) charging potentially overloading Low Voltage (LV) networks;
- All previously proposed solutions which have been discounted;
- Current market and commercial methods available to avoid the overloading issue; and
- Agreed solution of using Home Area Network (HAN) Connected Auxiliary Load Control Switches (HCALCS) to control charging of EVs.

Discussed requirements to allow DNOs to control EV charging via HCALCS

SECAS put forward to the Working Group some possible amendments to the DCC User Interface Specification (DUIS) access control that may be required to allow Distribution Network Operators (DNOs) to control EV charging via HCALCS. The proposed changes were to give DNOs the ability to send Service Request Variants (SRVs) 7.6, 7.7, and 7.8.

Interaction with SECMP0019 and SECMP0025

Working Group members highlighted SECMP0019 [‘ALCS Description Labels’](#) and SECMP0025 [‘Electricity Network Party Access to Load Switching Information’](#) which will need to be taken into consideration as they may impact the SRVs.

SECMP0019 is a closed modification that standardises naming conventions for Auxiliary Load Control switches (ALCS) and HCALCS labels, which would be read using SRV 7.7. However, it is not mandatory for Suppliers to apply this standardised list of labels. In scenarios where labels are not applied, the DNO will not be able to determine which switch is connected to which device, therefore unable to control EV charging. The Working Group noted a mandatory solution had been considered but had been rejected on the grounds of costs. Members wondered if this mandatory solution should

be re-explored under this modification as consistent names would be important in ensuring DNOs control the right HCALCS.

SECMP0025 seeks to enable DNOs to have the ability to access information from the Smart Metering System. This modification includes allowing DNOs access to SRV 7.7, allowing them to read ALCS/HCALCS lists. This modification is still open and awaiting a final decision, but if approved then this SRV would not need to be covered under this modification.

HCALCS set up

The Working Group discussed the point of any future possibilities for adjustable settings on HCALCS, where SECAS also commented this was raised by the Security Sub-Committee (SSC). Currently HCALCS provide only a binary signal, and how this signal is interpreted will be determined by the EV charger. The interpretation would be set by the BEIS competition, if at all – the alternative being that it would simply enable or disable supply.

Amongst the Working Group attendees there was different interpretations on responsibility for installing and commissioning the ALCS/HCALCS. If the DNO were responsible for installing and commissioning the ALCS/HCALCS, further changes would be required. Additional complications with an ALCS/HCALCS installed and commissioned by a DNO may arise, with Suppliers being responsible for devices installed by DNOs. It was decided that a line drawing be developed so that everyone was on the same page on how it should be set up.

The discussion of what is 'High' and what is 'Low' with regards to any binary signal was once again raised, where Working Group agreed that the modification may be faster and easier to implement if 'Low' is set to disconnect the EV from charging. OLEV raised concerns that some of the older EV models would not start charging again without physically disconnecting the charger and then reconnecting. Some Working Group members thought this would only apply to a very small number of vehicles and will have external discussions with OLEV to clarify. In the meantime, the Working Group agreed to proceed on the basis 'Low' would disconnect the EV from charging.

The discussions regarding use of a HCALCS as a solution concluded by agreeing to use it as a binary 'off or on' switch. To do otherwise would be influencing the design of any future EV chargers and stifle competition and innovation. This solution is intended to be a last resort backstop until an enduring approach is agreed and implemented, so the Working Group agreed it should be kept simple to ensure it could be developed and implemented in a timely manner.

Downtime duration

SECAS asked the Working Group for their opinion on the duration that the HCALCS could be switched off, after which it would revert to the normal time patterns. There was a general consensus of two hours, but this would be set by the SRV sender. The guidelines for how long the SRV sender should set this period for does not fall within the SEC; likely this would fall elsewhere for governance. SECAS took an action to find out where this would need to be clarified, most likely under the Distribution Connection and Use of System Agreement (DCUSA).

There were concerns raised from the Working Group relating to communications reliability. If the DNO wanted to cut the downtime short after sending the SRV, would a second SRV be submitted to do so. It was established that the risk of this was minimal and that if the first signal was received by the HCALCS, then it is likely that the second one would also succeed.

Boost Button

Along with the SRVs required to implement this modification, SECAS also raised for the Working Group's consideration granting access to the DNOs to set the Boost Button to enable the customer to override the instruction to open the HCALCS. It is not a requirement in the Smart Metering Equipment Technical Specifications (SMETS) for this to be set and currently only Energy Suppliers are able to do this. However, the Working Group was informed that this is something that the Energy Suppliers do not expect to do regularly. The Working Group agreed to include DNO eligibility to the Boost Button SRVs in the business requirements for now. However, members requested to get two separate costs from the Preliminary Assessment: one where the EDs are given access the SRVs to add, remove, and read the Boost Button; and the other excludes these SRVs for the EDs.

Reporting

SECAS stated two types of reporting that was thought to be required: DNO reporting and DCC reporting. The Working Group did not think that reporting should be agreed within this forum or covered by the SEC. However, the Working Group did discuss some of the requirements that would be needed for reporting to Ofgem. Reporting from the DCC may not be necessary if the reporting from the DNO covers all requirements set by Ofgem.

Some specifics of what the DNO reporting should include were also discussed amongst the Working Group. The report would be on an individual Meter Point Administration Number (MPAN) basis. Specifics in time would be put against the MPAN; this would be when any disconnection was applied and for how long. One Network Operator mentioned it is likely that their reporting would be via a public forum.

The Working Group also discussed Requirement 3 from the draft business requirements. This requirement was that an alert is generated for the relevant Supplier when SRV7.6 is sent to the ESME by the ED. It was stated that Suppliers may not need the alert when the HCALCS are used and it may be more of a nuisance than a help.

Further considerations

The discussion about the use of the Boost Button raised further questions regarding customer interaction and satisfaction:

- HCALCS would not detect any microgeneration the customer may have, and would cut EV charging regardless; and
- The Proposer confirmed that they would need to gain customer consent to be able to use HCALCS to alter charging of their EVs.

There were also considerations to be made about the meters and HCALCS:

- The changes to the meter and its HCALCS may require it to need a new Commercial Product Assurance (CPA) and the firmware to be updated;
- The views of meter manufacturers should be sought as the cost of implementing the change needs to include the cost of Electricity Smart Metering Equipment (ESME) manufacturers altering their access control; and

- Concerns that this modification is required or would be effective were raised by the Working Group. This was due to the lack of forecasting or sufficient evidence available regarding how big the issue could be.

Further actions

The following actions were recorded from the meeting:

- Ofgem will need to verify what they would require for reporting, and if DNOs reporting directly to Ofgem would be sufficient.
- OLEV will need to discuss the impacts on older EV if the HCALCS were to disconnect chargers.
- SECAS will contact ESME manufacturers over if the CPA needs to be reperformed if they change access control and to include it in their costs.