

## Part A: Generic

DCUSA Change Proposal (DCP)		At what stage is this document in the process?
<h1>DCP 371:</h1> <h2>Last resort arrangements for Distributors to manage specific consumer connected devices</h2> <p><i>Date raised:</i> XXX</p> <p><i>Proposer Name:</i> Richard Hartshorn</p> <p><i>Company Name:</i> SSEN</p> <p><i>Company Category:</i> DNO</p>		<p><b>01 – Change Proposal</b></p> <p>02 – Consultation</p> <p>03 – Change Report</p> <p>04 – Change Declaration</p>
<p><b>Purpose of Change Proposal:</b></p> <p>To provide the governance arrangements regarding Distributors ability to manage consumer devices (such as EV chargers) connected to Smart Meter infrastructure to prevent network overloads in emergency scenarios as a last resort measure.</p>		
	<p><b>Governance:</b></p> <p>The Proposer recommends that this Change Proposal should be:</p> <ul style="list-style-type: none"> <li>• Treated as a Part 1 Matter;</li> <li>• Treated as a Standard; and</li> <li>• Proceed to a Working Group</li> </ul> <p>The Panel will consider the proposer’s recommendation and determine the appropriate route.</p>	
	<p><b>Impacted Parties:</b> DNOs/ IDNOs and Suppliers</p>	
	<p><b>Impacted Clauses:</b> Schedule 8 (exact location to be established)</p>	

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<b>Indicative Timeline</b>		<b>01189 534163</b>
<b>The Secretariat recommends the following timetable:</b>		
Initial Assessment Report	15 July 2020	
Consultation Issued to Industry Participants	August 2020	
Change Report Approved by Panel	21 October 2020	
Change Report issued for Voting	23 October 2020	
Party Voting Closes	13 November 2020	
Change Declaration Issued to Parties	17 November 2020	
Change Declaration Issued to Authority	17 November 2020	
Authority Decision	December/ January 2020/ 21	

# 1 Summary

## What

The topic of the governance arrangements regarding Distributors ability to manage consumer devices (such as EV chargers) connected to Smart Meter infrastructure to prevent network overloads in emergency scenarios was originally raised as DIF 59 (Attachment 1) at the Standing Issues Group (SIG) on 29<sup>th</sup> May. This subsequently led to a DIF 59 Sub-Group which met twice. The DIF 59 Sub-Group helped develop this CP and details of these meetings can be found [here](#).

Electricity networks in Great Britain were not designed to accommodate the significant additional demand that certain consumer devices (such as electric vehicle (EV) chargers) presents. In some circumstances, Distributors will be required to act to find a balance between their obligation to operate cost-effective, safe and reliable electricity networks and the need to support customers who wish to adopt low carbon technologies such as EVs.

The Distributors recognise the important role that flexibility services providers and market solutions will play in delivering efficient future networks. In the event that market mechanisms fail or do not deliver to the extent anticipated the Distributors will still need to protect physical assets from overload caused, for example, by the take up of low carbon technologies (LCTs) by domestic customers. This change proposes a Distributor smart intervention as a last resort, emergency measure, to protect customers security of supply and the network assets. This proposal is not to enable the Distributor to become a flexibility service provider or to subvert market solutions.

This change proposal anticipates the take up of LCT and their connection to the smart metering infrastructure. Future generations of smart meters will be available with Home Connected Auxiliary Load Control Switches (HCALCS) that would facilitate smart load control and innovative flexibility service products. This change seeks to give Distributors access to the HCALCS for priority demand control purposes.

~~Due to the lack of experience of contracting DSR for LV connected consumers, there is limited data available~~

Whilst the Distributors are aiming to use market-sourced flexibility services to keep the networks within their limits, there is a need for a system to prevent supply interruptions and/or damage to networks in limited circumstances as a short-term, last resort action in emergency scenarios - i.e. the absence or failure of market-based solutions and where failure to act is likely to cause power outages due to overloads.

There is currently a Smart Energy Code (SEC) Modification ([SECMP0046 - Allow DNOs to control Electric Vehicle chargers connected to Smart Meter infrastructure](#)) progressing the technical aspects of implementing such a system using the Smart Meter infrastructure. The solution discussed at the SEC Working Groups is to use the HCALCS. The HCALCS are expected to be connected to domestic Electric Vehicle chargers, and this modification seeks to allow Distributors to send the relevant Service Request via the DCC to alter the load on a domestic Electric Vehicle charger. This would be if the Distributors identifies a potential risk of overloading on a low voltage network.

As this solution involves turning down demand, the governance arrangements surrounding the usage of the technical solution proposed in SECMP0046 should be detailed within DCUSA.

## Why

The technical solution proposed is essential to allow for a system to prevent supply interruptions and/or damage to networks in limited circumstances as a short-term, last resort action in emergency scenarios. It is important that this CP progresses in parallel with SEMP0046 to identify the necessary governance arrangements surrounding the usage of the technical solution proposed in SECMP0046.

## How

It is envisaged that networks will be identified that may be at risk of future issues. The Distributors would then use the market to secure flexibility services from a third party. If these services failed the Distributors would investigate this with the service provider(s) to establish the issue. For example, was the failure a one-off anomaly, a server issue, a hack, or a damage to the connection through construction. If a network failure is not found to be the result of network issues such as this, it may represent a wider issue with the market service provider(s). If this were the case, there would be a need for another mechanism to provide the flexibility needed to keep the network within limits, until another solution can be implemented.

Under these circumstances and at this stage, the Distributors would contact the relevant customers, explaining the situation and outlining the solutions they propose to use in the short-term and provide details of any longer-term solutions being considered. The aim will be to obtain the customers consent and then inform the Supplier of this agreement and that the Distributors will be using the load management feature until a more desirable solution is achieved. The Distributors would then report back to the Suppliers, Ofgem and customers on the systems use on an agreed basis.

Due to the lack of experience of contracting DSR to mitigate overloads on the LV network, there is limited data available and therefore there is no directly compatible data to support any predictions of how often a market failure would require a Distributor to use the technical solution proposed. However, WPD has contracted and dispatched DSR comprising LV domestic customer devices (via an aggregator) to mitigate constraints on their EHV network and to date, the experience has been positive, with a 93% level of reliability.

It is possible to provide a better prediction of the likely time and duration of use however, as Distributors do have an understanding of load profiles and the impacts that EV charging, for example, might have on them. Typically, the risk periods on a day-to-day basis for Distributors coincide with the traditional tea-time period of peak demand (approximately 5pm to 7pm on weekdays). Any action by a load control system is likely to be limited to around this time, the exact duration depending on the background level of demand and the amount of (in this case) EV charging demand. In this scenario, it is likely that the Distributor would be reducing the peak power delivery but not the overall energy delivery so a reduced peak would result in a longer duration for that peak.

It should be noted that customers participation in these arrangements is voluntary.

## 2 Governance

### Justification for Part 1 and Part 2 Matter

This Change Proposal should be classed as a Part 1 matter since it:

- 9.4.1 it is likely to have a significant impact on the interests of electricity consumers; and
- 9.4.4 it is directly related to the safety or security of the Distribution Network

## Requested Next Steps

This Change Proposal should:

- Be treated as a Part 1 Matter;
- Be treated as a Standard Change; and
- Proceed to a Working Group

## 3 Why Change?

As stated above, there is currently a SEC modification progressing to propose changes to the SEC to enable electricity Distributors to use Smart Meter infrastructure to modify consumer connected devices (i.e. Electric Vehicle charging load within a household). This is to avoid the risk of overloading low voltage circuits from secondary substations to properties, and therefore avoid power outages.

If a power outage does occur due to overloading, large numbers of customers may be affected, and for varying amounts of time. The feeders on average will have about 36 households connected but can range from 2-250 properties. Depending on what has failed, it may take several hours to restore the network.

The technical solution proposed is essential to allow for a system to prevent these scenarios as a short-term, last resort action where procured flexibility services have failed. It is important that this CP progresses in parallel with SEMP0046 to identify the necessary governance arrangements needed regarding the usage of the technical solution proposed in SECMP0046.

In a scenario where this technical solution is activated, it is essential that there is established communication lines between the Distributors, Supplier and Customers. It is also important that a mechanism is established to ensure that Distributors report on the usage of this technical solution to both Suppliers and Ofgem on an agreed basis.

## 4 Solution and Legal Text

### Solution and Legal Text

As stated above, the technical solution proposed to allow Distributors control of consumer devices (such as Electric Vehicles) connected to Smart Meter infrastructure will only be used as a last resort measure in the event that market mechanisms fail or do not deliver to the extent anticipated.

Under these circumstances and at this stage, the Distributor would contact the relevant customers, explaining the situation and outlining the solutions they propose to use in the short-term and provide details of any longer-term solutions being considered. The aim will be to obtain the customers consent and then inform the Supplier of this agreement and that the Distributor will be using the load management feature until a more desirable solution is achieved. The Distributor would then report back to the Suppliers, Ofgem and customers on the systems use on an agreed basis.

As previously mentioned, customers participation in these arrangements is voluntary.

It has been recognised that there needs to be clear and transparent governance arrangements in place establishing when such a solution could be used and ensuring effective communications between Distributors, Suppliers, consumers, and the Authority.

It has been determined that these governance arrangements should be detailed within DCUSA. It is believed that the most appropriate location would be with Schedule 8 (Demand Control). Specifically,

Section 8 of Schedule 8 provides details of Emergency Security Restriction Notices, with paragraph 8.1 stating:

“The Company may at any time issue an Emergency Security Restriction Notice where in the Company’s opinion there is an immediate risk to Security of Supply (For the avoidance of doubt, the issue of an Emergency SRN need not be restricted to Load Managed Areas.)”

It is proposed that Section 8 of Schedule 8 should be further developed to include the governance arrangements for use of the load managed feature currently being developed under SEC Modification - SECMP0046.

## 5 Code Specific Matters

### Reference Documents

[SEC Modification proposal SECMP0046 - Allow DNOs to control Electric Vehicle chargers connected to Smart Meter infrastructure](#)

## 6 Relevant Objectives

<b>DCUSA General Objectives</b>	<b>Identified impact</b>
Please tick the relevant boxes. <a href="#">(See Guidance Note 9)</a>	
<input type="checkbox"/> 1 The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks	Positive
<input type="checkbox"/> 2 The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent therewith) the promotion of such competition in the sale, distribution and purchase of electricity	None
<input type="checkbox"/> 3 The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences	Positive
<input type="checkbox"/> 4 The promotion of efficiency in the implementation and administration of the DCUSA	None
<input type="checkbox"/> 5 Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

1. The change will protect the network and avoid substantial reinforcement works. It will also facilitate an effective process to co-ordinate with Suppliers.
2. None
3. Distributors must operate a safe and reliable network, this proposal significantly limits the likelihood of overloading which impacts both of these.
4. None
5. None

## 7 Impacts & Other Considerations

### Does this Change Proposal impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

As stated above, this CP needs to be implemented prior to the SEC Modification - SEMP0046 'Allow DNOs to control Electric Vehicle chargers connected to Smart Meter infrastructure'.

### Does this Change Proposal Impact Other Codes?

Please tick the relevant boxes and provide any supporting information. [\[See Guidance Note 6\]](#)

- |           |                                     |
|-----------|-------------------------------------|
| BSC       | <input type="checkbox"/>            |
| CUSC      | <input type="checkbox"/>            |
| Grid Code | <input type="checkbox"/>            |
| MRA       | <input type="checkbox"/>            |
| SEC       | <input checked="" type="checkbox"/> |
| Other     | <input type="checkbox"/>            |
| None      | <input type="checkbox"/>            |

### Consideration of Wider Industry Impacts

It has been recognised that this change is required within DCUSA as part of a wider programme of other Code changes and Government policy decisions. Whilst the provisions can be incorporated in readiness within DCUSA, unless and until all other required Code changes and Government policy decisions are concluded and in place, these provisions, if enacted would have no practical effect.

It is important to understand all of the wider industry impacts and establishes clear communications to ensure all necessary Code changes and Government policy decisions are addressed in parallel.

### Confidentiality

None

## 8 Implementation

It is recommended that this CP is implemented as soon as possible and no later than April 2021 to ensure that it is in place and ready for the implementation of the technical solution under SEC Modification - SECMP0046.

## 9 Recommendations

*The Code Administrator will provide a summary of any recommendations/determinations provided by the Panel in considering the initial Change Proposal. This will form part of a Final Change Report.*