





| DCUSA Consultation | | At what stage is this document in the process? |
|--|---|--|
| <h2>DCP 452:</h2> <h3>Correct application of Forward Cost Pricing EDCM charges to users connected directly to a Grid Supply Point</h3> <p>Date Raised: 28 February 2025</p> <p>Proposer Name: Andrew Enzor</p> <p>Company Name: Field Gaia Ltd</p> <p>Party Category: CVA Registrant</p> | | 01 – Change Proposal |
| | | 02 – Consultation |
| | | 03 – Change Report |
| | | 04 – Change Declaration |
| | | |
| <p>Purpose of Change Proposal:</p> <p>To correct an oversight in DCUSA which results in customers connecting directly to Grid Supply Point incorrectly facing a locational FCP charge relating to assets downstream of their connection.</p> | | |
|   | <p>The Working Group recommends that this Change Proposal should: proceed to Consultation</p> <p>Parties are invited to consider the questions set in section 11 and submit comments using the form attached as Attachment 1 to dcusa@electralink.co.uk by 12 January 2026</p> <p>DCP 452 has been designated as a Part 1 Matter and a Standard Change.</p> <p>The Working Group will consider the consultation responses and determine the appropriate next steps for the progression of the Change Proposal (CP).</p> | |
| |  <p>Impacted Parties: DNOs, IDNOs, Suppliers, CVA Registrants</p> | |
|  | <p>Impacted Clauses: Paragraphs 2.7, 6.2 and 6.3 within Schedule 17 and Paragraph 6.3 of Annex 1 to Schedule 17.</p> | |

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Any questions?

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Timetable

The timetable for the progression of the CP is as follows:

Change Proposal timetable:

| Activity | Date |
|--|------------------|
| Initial Assessment Report | 19 March 2025 |
| Consultation Issued to Industry Participants | 16 December 2025 |
| Change Report Approved by Panel | 18 February 2026 |
| Change Report issued for Voting | 19 February 2026 |
| Party Voting Closes | 12 March 2026 |
| Change Declaration Issued | 16 March 2026 |
| Authority Decision | TBC |
| Implementation | 01 April 2028 |

1 Summary

What?

- 1.1 Under the Forward Cost Pricing (FCP) variant of the Extra High Voltage (EHV) Distribution Charging Methodology (EDCM), all Connectees which connect direct to a Grid Supply Point (GSP) are exposed to forward looking charges/credits in respect of future thermal reinforcement on the downstream FCP Network Group in that location. This Change Proposal seeks to remove the non-cost-reflective application of FCP charges/credits to GSP-connected customers at non-interconnected¹ GSPs.
- 1.2 There is no equivalent issue under the Long Run Incremental Cost (LRIC) variant of the EDCM. The LRIC approach derives a zero charge for all Connectees which are connected direct to a GSP.

Why?

- 1.3 Connectees at all voltages in the EDCM and CDCM should face forward looking charges/credits in respect of assets on which they are deemed to drive costs. For CDCM Connectees, this is applied by charging customers only for voltages upstream of their connection point, up to the GSP. Connectees directly connecting to a non-interconnected GSP under the FCP variant of the EDCM are exposed to charges/credits in respect of a downstream voltage on which they will never be deemed to drive cost in the power flow model underpinning the EDCM (which only considers thermal reinforcement). As a result, the inclusion of such customers in the power flow modelling introduces a cross-subsidy from GSP-connected customers to other customers downstream who do drive the need for thermal reinforcement.
- 1.4 For impacted Connectees, this can have a very material impact. For example, the Proposer is aware of a prospective battery storage site in one location which the DNO has indicated will face a non-cost-reflective forward-looking charge of ~£18/kVA/year in respect of network assets on which it does not drive cost.

How?

- 1.5 Customers directly connected to a GSP at non-interconnected GSPs should be excluded from the FCP modelling for that GSP, and the FCP-related element of the EDCM charge/credit should be set to zero for such customers.

2 Governance

Justification for Part 1 Matter

- 2.1 DCP 452 is a Part 1 Matter. It will remove charges faced by some users which connect directly to a GSP in DNO regions using the FCP variant of the EDCM, in turn impacting on competition in the generation and supply of electricity.

Next Steps

- 2.2 Following a review of the Consultation responses, the Working Group will work to agree the final detail of the solution for DCP 452 and if appropriate progress to the Change Report phase.

¹ Throughout this document the phrase interconnected and not interconnected GSPs are used to refer to substations within a given DNO region which have a direct connection between them at a lower voltage. In the DCUSA text, such interconnected substations are referred to as “operated in parallel” and non-interconnected substations as “not operated in parallel”.

3 Why Change?

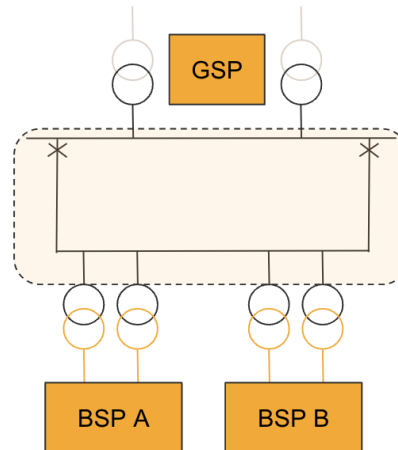
Background of DCP 452

- 3.1 The EDCM is intended to give Connectees a locationally-varying forward-looking cost signal related to each user's impact on the network. This is achieved differently in the LRIC and FCP variants of the EDCM.
- 3.2 The FCP method uses the concept of "Network Groups". All network assets at a given voltage level which are electrically connected under normal running conditions are assigned to the same Network Group. All Connectees connected to a given Network Group face the same FCP charge/credit.
- 3.3 The LRIC method does not use the concept of Network Groups. All network assets are treated individually, with each Connectee's impact on the network assessed based on the impact of incremental demand at their specific location. Connectees face an LRIC charge/credit only in respect of network assets which they directly influence.
- 3.4 Six DNO licensees use the FCP method (Scottish Hydro Electric Power Distribution plc; Southern Electric Power Distribution plc; SP Distribution Limited; SP Manweb plc; National Grid Electricity Distribution East Midlands plc; and National Grid Electricity Distribution West Midlands plc.). The remaining eight DNO licensees use the LRIC method.
- 3.5 Under both variants, Sole Use Assets (defined as "assets in which only the consumption or output associated with a single Connectee can directly alter the power flow in the asset") for each Connectee are separately identified.
- 3.6 All Connectees charged under both variants of the EDCM are assigned a Point of Common Coupling (PoCC), identifying where their Sole Use Assets connect to the shared network. The PoCC is converted into a Customer Category, encoding the voltages at which a Connectee is deemed to use shared assets.
- 3.7 Separate charges are calculated in respect of Sole Use Assets, reflecting that those assets are funded by the Connectee in their connection charge. The charge under the EDCM for Sole Use Assets only reflects the costs associated with operation and maintenance. The LRIC and FCP charges/credits only relate to a Connectee's use of shared networks assets upstream of the PoCC.

Worked Example of FCP Grouping

- 3.8 Figure 1 shows a small section of network, with a GSP and two downstream Bulk Supply Points (BSPs). This is assumed to be in England and Wales so would typically be a 132kV network (in Scotland it would typically be a 33kV network serving Primary substations in place of BSPs). This GSP is not interconnected, i.e. it has no circuits at 132kV connecting to another GSP, which are used under normal operations.

Figure 1: Example of FCP Grouping

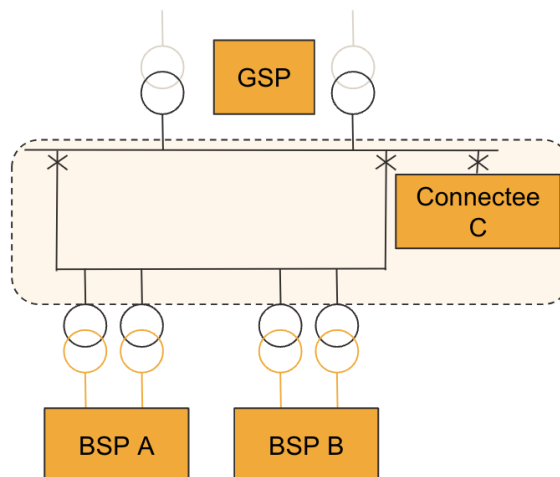


- 3.9 The FCP Network Group for the 132kV network at this GSP would include all assets within the dotted line. A Connectee connecting to any of the circuits within the dotted line would face the FCP charge/credit for the whole group.
- 3.10 Conversely under the LRIC approach, a Connectee connecting anywhere faces a charge/credit in respect of any assets on which incremental demand at their location causes change in powerflow. In Figure 1, a Connectee connecting to any of the circuits in the dotted line would impact all of those circuits, so both LRIC and FCP would give a similar, cost-reflective outcome.

Issues with of FCP Grouping for GSP-connected Users at non-interconnected GSPs

- 3.11 Figure 2 shows the same small section of network, with the addition of Connectee C. Connectee C's PoCC is at the GSP, so this Connectee would be assigned Customer Category 0000.

Figure 2: FCP Grouping with a GSP-connected Connectee at a non-interconnected GSP



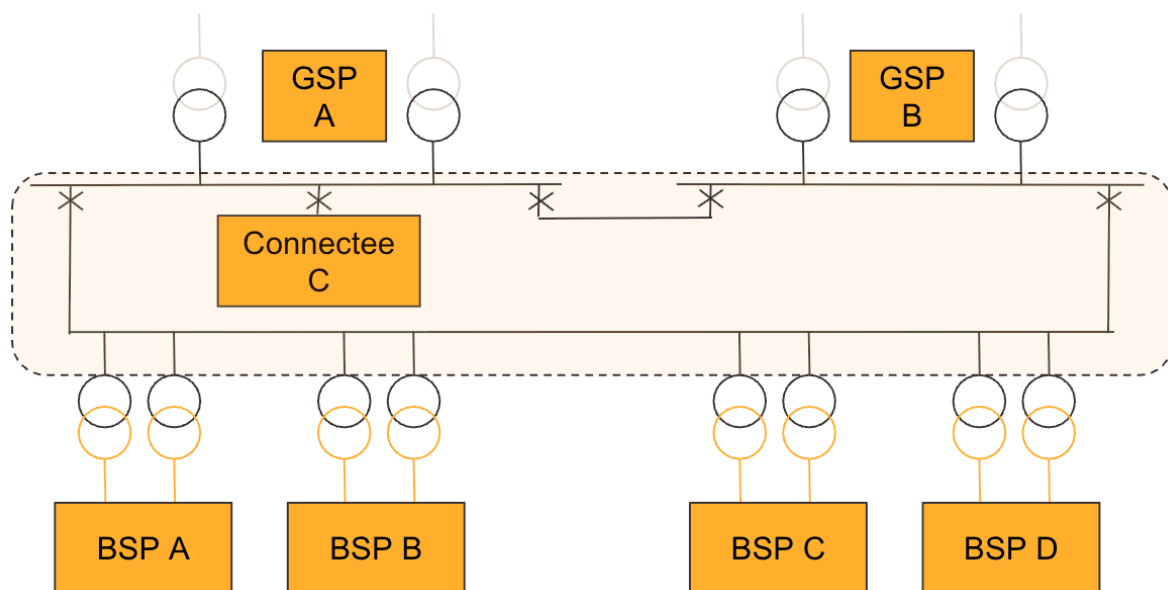
- 3.12 Under the FCP approach, Connectee C is included within the 132kV Network Group. The FCP (and LRIC) approaches both only consider thermal reinforcement. In the example shown, Connectee C cannot drive thermal reinforcement on the 132kV circuits to which the FCP charge relates. But it is (non-cost-reflectively) exposed to the locational charge/credit for the whole Network Group. Further, the capacity of Connectee C will be added to the denominator of the calculation of the FCP charge, so it will artificially reduce the FCP charge for the Network Group (on a £/kW basis), distorting charges for all other customers connecting within the Network Group.

- 3.13 Connectee C is facing a forward-looking locational charge/credit in respect of thermal reinforcement which it cannot impact.
- 3.14 Conversely under the LRIC approach, incremental demand at Connectee C's location is assessed for its impact on network assets. It does not impact powerflow on any of the 132kV circuits, so it correctly sees no locational charge/credit.

FCP Grouping for GSP-connected Users at interconnected GSPs

- 3.15 Figure 3 shows a similar section of network, but with interconnection between two GSPs. In this instance, the two GSPs are considered as a combined Network Group in the FCP method, and would be modelled as a combined network in the LRIC method.

Figure 3: FCP Grouping with a GSP-connected Connectee at an interconnected GSP



- 3.16 In this example, Connectee C despite being connected directly at GSP A, can take power via 132kV circuits from GSP B under normal running arrangements, and so could drive thermal reinforcement on any of those 132kV circuits. In the LRIC variant of the EDCM, the impact of incremental powerflow at Connectee C's location would be assessed, which could include an impact on the 132kV circuits, in which case it could see a non-zero LRIC Charge 1. In the FCP variant, it is cost-reflective for it to face the full charge associated with the Network Group as its demand could be driving thermal reinforcement on any of the 132kV circuits.

The Defect this Change Proposal seeks to address

- 3.17 Under the FCP variant of the EDCM, Connectees connected directly to a non-interconnected GSP, are incorrectly and non-cost-reflectively exposed to the forward-looking locational charge/credit relating to thermal reinforcement on circuits in the Network Group associated with the network voltage downstream of the relevant GSP.

Question 1- Do you understand the intent of DCP 452?

Question 2: Are you supportive of the principles that support this CP, as set above?

4 Working Group Assessment

DCP 452 Working Group Assessment

- 4.1 The DCUSA Panel established a Working Group to assess and develop DCP 452: *Correct application of Forward Cost Pricing EDCM charges to users connected directly to a Grid Supply Point*. The Working Group was convened following the DCUSA Panel's initial assessment, which concluded that the proposal could proceed on an "at risk" basis pending confirmation from Ofgem regarding any potential interaction with the ongoing Distribution Use of System (DUoS) Significant Code Review (SCR). This approval was subsequently received.
- 4.2 In total, the Working Group has **11 active members** representing a cross-section of **DNO, IDNO and Generator** categories, supported by the Code Administrator and Technical Secretariat.
- 4.3 The Working Group held **nine formal meetings** between April and August 2025 and developed this consultation document to gather information and feedback from market participants on this CP. During its development of DCP 452, it was agreed by the Working Group that the following items should be addressed in the consultation:
- An assessment of the historical reasons for the two EHV Charging Methodologies and also the differences between FCP and LRIC versions of the EDCMs.
 - An assessment of the interaction with the DUoS Charges SCR.
 - The provision of updated EDCM models and the inclusion of an overview of the updates that were required to the EDCM models. An overview of the updates made to the EDCM models is contained within Section 9 below.
 - An assessment of the impacts of the change by way of DNOs carrying out power flow modelling, and then using the output of that process as inputs into an updated version of the EDCM, which incorporates the changes for DCP 452 and then using the data from the fully populated EDCM within an impact assessment template. This part of the Working Group's analysis is set out in Section 9 below.
 - To set out a counter argument to that of the Proposer relating to the design of the FCP methodology and potential impacts of the original solution proposed
 - An assessment of [DCP-139 Non-Application of FCP charge for Category 0000 Customers](#) and Ofgem's decision to reject it. <https://www.dcusa.co.uk/change/non-application-of-fcp-charge-for-category-0000-customers/>

Historical reasons and differences of the two EDCM Charging Methodologies

Reasons for Two Methodologies

- 4.4 When the EDCM was initially developed (around 2010/11), it was believed that LRIC would be universally adopted. However, at that time, some Network companies expressed discomfort with the LRIC approach, preferring an alternative solution, being that of the FCP. It was understood that due to strong views from all involved parties, a single methodology was not taken forward.

Overview of Marginal Charges from FCP and LRIC

- 4.5 Both FCP and LRIC methods segment the distribution network into various locations to determine marginal charges.

- **LRIC locations:** A location is typically a node on the EHV network, such as a primary substation or an EHV customer (demand or generator).
- **FCP locations:** A location is defined as a Network Group, which can exist at three possible levels:
 - **Level 1:** Contains 132 kV and similar circuits.
 - **Level 2:** Contains 132kV/33kV and similar substations, and 33kV and similar circuits.
 - **Level 3:** Contains primary substations, e.g., 132kV/11kV or 33kV/11kV.

- 4.6 Each tariff within the EDCM model is associated with either an LRIC or FCP location.

Commonality and Differences in Outputs

- 4.7 Both methodologies provide similar information for each location:

- **Charge 1 (£/kVA/year):** Relates to future demand-led thermal reinforcement costs. In LRIC, this is broken down into 'Charge 1 Local' (voltage level of connection) and 'Charge 1 Remote' (voltages above the level of connection). In FCP, this is broken down into the Network Charge 1 (voltage level of connection), Parent Charge 1 (voltage level above the level of connection, if applicable) and Grandparent Charge 1 (voltage level two above the level of connection, if applicable). For both variants, it is expected to drive charges to demand where demand drives the need for thermal reinforcement and credits to generation where generation can defer the need for thermal reinforcement.
- **Active (kW) and reactive (kVAr) flows:** Provided for generators and demand in maximum and minimum demand scenarios.

- 4.8 Key differences include:

- In FCP, both generation and demand can exist within the same Network Group, whereas LRIC requires a node to be modelled as either generation or demand. Consequently, the FCP dataset provides four kW and four kVAr values per location (demand and generation, two scenarios), while LRIC provides two kW and two kVAr values.
- FCP includes a link to a "parent location" (higher-level Network Group) for each location, establishing a hierarchy of up to three levels. All Charge 1 values throughout this hierarchy are applied to each tariff. Some FCP entries can represent notional "hybrid Network Groups" for customers supplied from two different Network Groups.

- LRIC includes links to other nodes supplying the same customer. Negative Charge 1 values are replaced with zero.

Application of FCP/LRIC Charge 1 to Demand Tariffs

4.9 Two components of Charge 1 are applied to demand:

- **Super-red rate (p/kWh):**
 - **For LRIC:** The remote Charge 1 (related to voltages above and not including that of the customer's points of common coupling) is applied to consumption during a DNO-defined super-red time band. This reflects that network capacity and reinforcement costs are driven by consumption at the network's most loaded times, not individual customer capacity or maximum consumption.
 - **For FCP:** The parent and grandparent Network Group Charge 1 is applied during the super-red time band.
- **Capacity charge (p/kVA/day):**
 - **For LRIC:** The local Charge 1 (related to the voltage of the customer's point of common coupling) is applied to the maximum import capacity. This is based on the premise that there is little diversity within a voltage level, so customer capacity serves as a proxy for required network capacity.
 - **For FCP:** The Network Group Charge 1 is applied to the maximum import capacity.

Interaction with the DUoS Charges SCR

- 4.10 What is now known as the DUoS Charges SCR was initially launched as the Electricity Network Access and Forward-Looking Charging Review - Significant Code Review on 18 December 2018. Work progressed over the first few years on both parts of the initial 'Access and Forward-Looking Charges' SCR but then, following consultation in November 2021, on 25 February 2022 Ofgem decided to descope the wide-ranging review of DUoS charges from the 'Access and Forward-Looking Charges' SCR and take it forward under a dedicated DUoS SCR with a revised timescale. Since then, there have been a number of updates (available via: <https://www.ofgem.gov.uk/publications/distribution-use-system-charges-significant-code-review-launch>). These updates show that progress on the DUoS SCR has, in the main, and for a variety of reasons, been paused. It should also be noted that the scope has shifted over time and at this moment in time, the scope is largely unknown.
- 4.11 The Working Group noted that the DCUSA Panel, as part of their Initial Assessment of DCP 452, had sought direction from Ofgem as to whether the DCP 452 falls within the scope of the Significant Code Review and therefore, whether it could be progressed at this moment in time. This was in line with the requirements of Clause 10.23 in Section 1C of the DCUSA, which required the Panel to provide their own assessment.
- 4.12 With respect to their assessment of whether, the proposal falls within the scope of the DUoS Charges SCR, the Panel assessed that to their knowledge, DCP 452 doesn't fall within the known scope of the DUoS SCR and believe it can proceed on this basis.

4.13 As part of the Panel's assessment of whether the proposal falls within the scope of the Significant Code Review, the Panel noted the representations put forward in section 7 'Impacts & Other Considerations' of the CP form by the Proposer with respect to their CP and the relevance of the DUoS SCR and other ongoing workstreams.

4.14 On 16 April 2025, Ofgem confirmed the following:

As communicated today at DCUSA Panel and following Panel Chair's request, I am re-iterating our position in response to DCUSA assessment of impacts on the DUoS SCR in relation to DCP452.

Although we consider DCP452 to be in scope of the DUoS SCR because it relates to the forward looking charges, we are content for DCP452 to proceed in the DCUSA change process.

Due to the niche and discrete nature of the DCP452 issue at this time, it does not feel unreasonable to let industry progress with this CP.

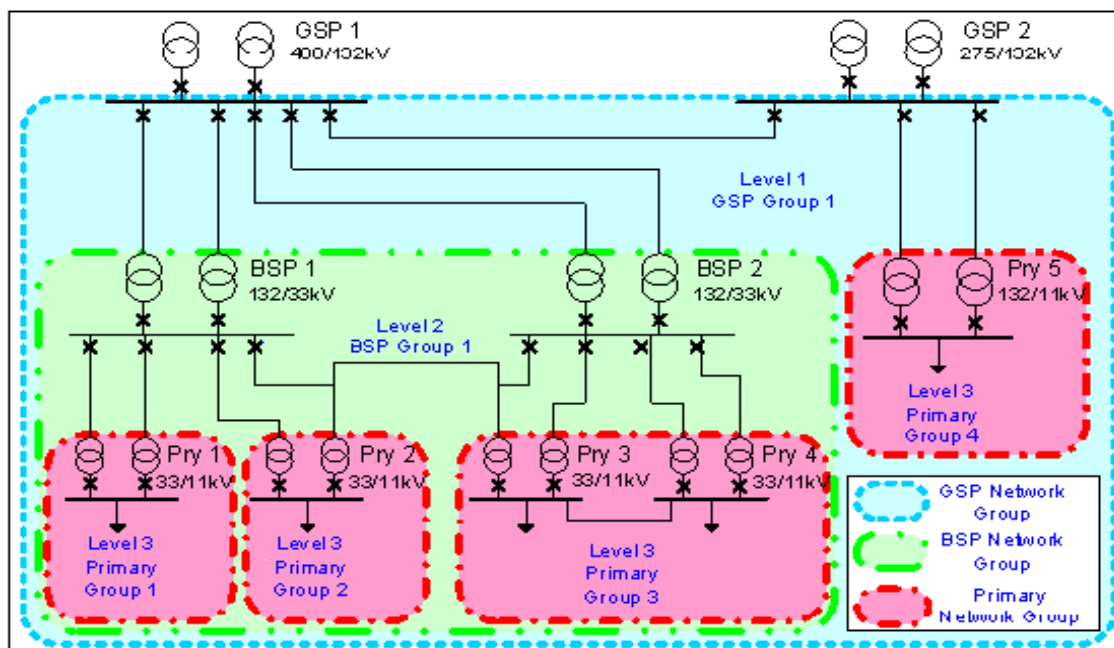
However we would like to caveat this by saying that our upcoming work on the DUoS SCR may lead us to later subsume the CP should we discover that the DCP452 is contrary to the direction of travel of SCR. The proposer, DCUSA Panel and stakeholders should understand this and be content to proceed on this basis.

Counter Argument of Proposer's view of issue and solution

Argument 1: Consistency with Network Group Definition in the FCP Approach

Initial Counterargument

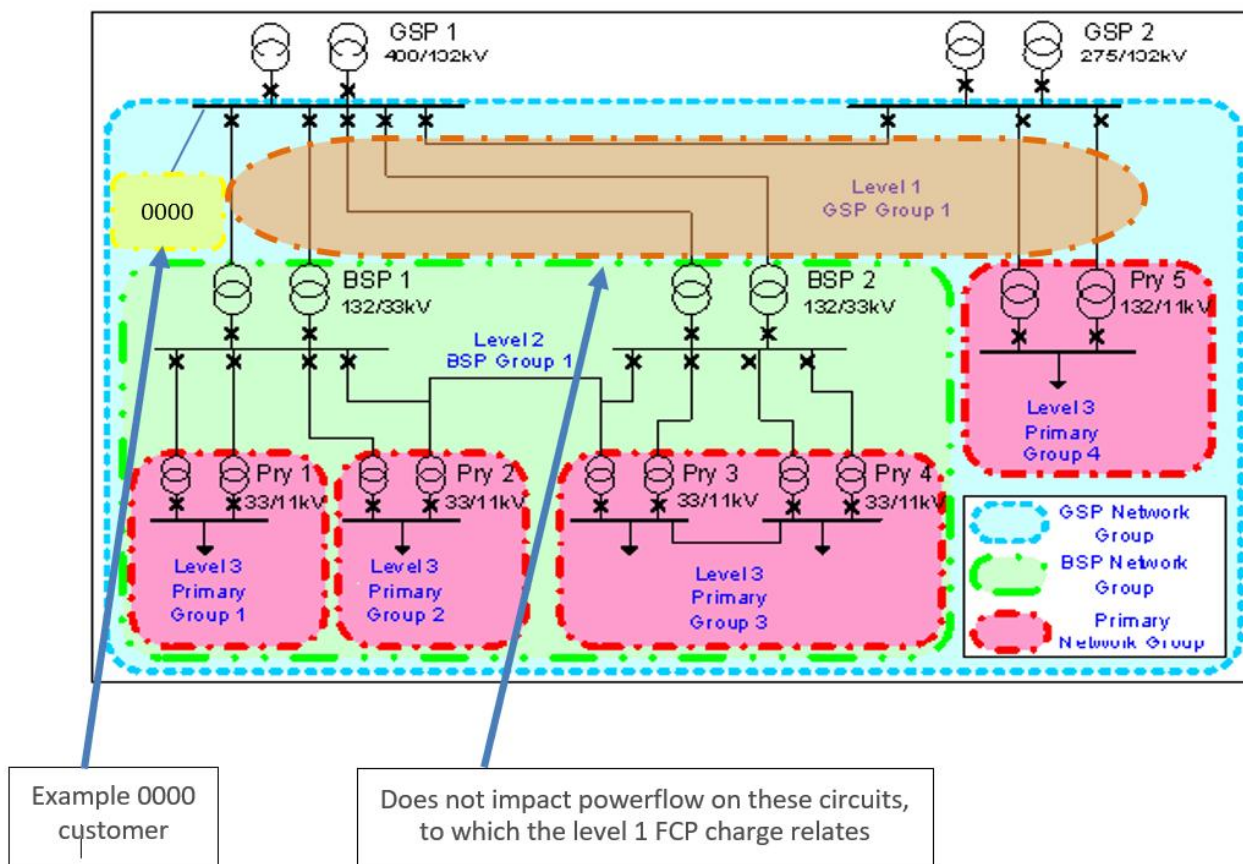
4.15 A counter view to what has been set out in the Change Proposal is that the methodology for calculating FCP charges for demand customers, as described in Annex 1 of Schedule 17 (Paragraph 6.5 and Figure 8 added below for ease of reference), defines the GSP busbar (on the distribution side) as part of the Level 1 Network Group.



- 4.16 It is interpreted that customers whose point of common coupling is at the GSP busbar (Category 0000) are thus within a Level 1 Network Group. Consequently, the FCP charges applicable to this Network Group should apply to these customers to maintain consistency with the established FCP EDCM methodology. Exempting Category 0000 customers from FCP locational charges could introduce inconsistency compared to other customers within the Level 1 Network Group and those in Level 2/3 Network Groups.

Proposer's Perspective

- 4.17 The Proposer suggests that while a 0000 customer may be within the Network Group, their connection does not drive reinforcement within that Network Group. Building on the example diagram, a new 0000 customer connecting within a Level 1 Network Group would not impact power flows on other Level 1 circuits. Therefore, it is considered inappropriate for such a customer to face forward-looking FCP charges related to those circuits.



- 4.18 The solution (as presented here, and updated from the original proposal form) explicitly excludes demand associated with 0000 customers at non-interconnected GSPs from the Level 1 Network Group. Paragraph 2.16 of Schedule 17 calculates the net present value of reinforcement within the Network Group and divides it by total capacity; hence removing demand associated with 0000 customers at non-interconnected GSPs will avoid the potential inconsistency identified.

Counter Response

- 4.19 It is acknowledged that there might be limited power flow impact from a Category 0000 customer on the rest of the network, however, additional factors that should be considered:

- **Network Stability & Security of Supply:** Distribution networks are designed to meet specific security of supply standards. If a 0000 customer's connection necessitates network upgrades or reinforcement

to maintain compliance with these standards, there is a belief that these customers should contribute to the costs alongside others. High demand from a direct connection could strain the DNO's existing infrastructure, potentially requiring upgrades or modifications. A large 0000 customer could contribute to network congestion, potentially driving the need to upgrade DNO's GSP assets (e.g., switchboards, circuit breakers), which could lead to future reinforcement needs if new demand arises in the area. Reference is made to Ofgem's DCP 139's decision letter, which cited scenarios with "meshed" networks where 0000 customers might draw power from multiple GSPs, making it difficult to assert they use no particular assets.

- **Thermal Issue:** Thermal issues following a new 0000 connection could lead to board upgrade or replacement costs. This is identified as an increasingly common issue due to the frequency of new direct GSP connections.

4.20 The proposer initially asserted that 0000 customers were the only group of customers across EDCM and CDCM exposed to forward-looking signals in respect of downstream voltages. A workgroup member noted that this was not correct, citing customers connected directly to a BSP (with category 1100). Those customers are included in a Network Group which include both the BSP transformers (typically 132/33kV) and the downstream 33kV circuits. The proposer accepted this, but noted that the forward-looking signal for 0000 customers relates entirely to assets downstream of their connection (typically the 132kV circuits) while for 1100 customers the FCP charge relates to a mixture of upstream assets (typically the 132kV/33kV transformers) and downstream assets (typically the 33kV circuits).

Argument 2: FCP Charge 1 Capacity Calculation Process

Initial Counterargument

4.21 A counter view to what has been set out in the Change Proposal is that a fundamental principle of the FCP methodology is its "zonal" nature, aiming to reflect predicted reinforcement costs within a network "group" rather than for individual assets. This is based on the premise that reinforcement within a zone could be triggered by any customer connected to that group, and all connected customers potentially benefit. Costs are shared across all customers in the group. According to the FCP methodology, GSP busbar assets are assigned to Level 1 Network Groups, and any customers connected to the busbar are also assigned to a Level 1 Network Group.

Proposer's Perspective

4.22 The Proposer challenges the statement that reinforcement actions by any customer connected to a Network Group could trigger reinforcement and benefit all customers. It is argued that for 0000 customers, their actions cannot trigger thermal reinforcement on downstream Level 1 circuits (e.g., 132kV in E&W; 33kV in Scotland), nor can they benefit from such reinforcement.

Counter Response

4.23 In response, refers back to its earlier arguments regarding network stability, security of supply and thermal issues. It emphasises that it cannot be definitively stated that the wider network would not be impacted by the connection of 0000 customers, as not all 0000 connections are similar and their impact on wider networks can vary.

Argument 3: Network Use Factor Calculation Process

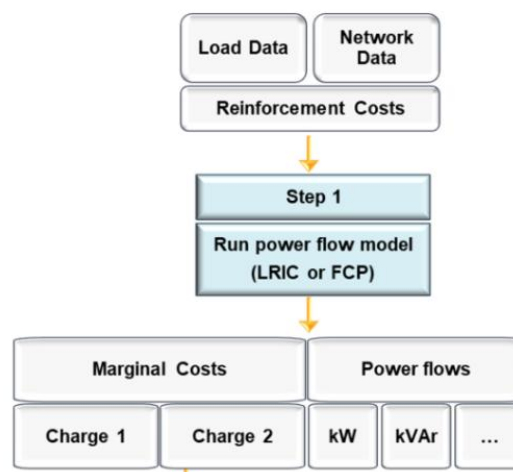
Initial Counterargument

4.24 The proposer initially asserted that the statement in DCUSA that “*Category 0000 Connectee are deemed not to use any network assets other than sole use assets*” supports the rationale for the proposer. A workgroup member noted that this statement only applies to the calculation Network Use Factors (NUFs), not the calculation of FCP or LRIC Charge 1. The proposer accepted this, and noted that, in their view, other arguments for the change, such as the impact of 0000 customers on thermal reinforcement stand regardless of this point. The proposer also noted a clarificatory DCUSA change could be worthwhile.

Argument 4: Load Data and Reinforcement Cost Allocation

Initial Counterargument

4.25 A counter view to what has been set out in the Change Proposal is that **Load Data** is a critical component in assessing future reinforcement costs for a Network Group (as shown in the Figure 1 of Schedule 17 – which provides a diagrammatic overview of the steps involved for import charges). Therefore, any demand growth contribution from connectees within a Network Group would contribute to the forecast of reinforcement costs for that group.



4.26 An example is where a 0000 customer with significant demand capacity, if exempted from the 'Charge 1 capacity charge' (meaning exempted from the reinforcement costs attributable to their large demand capacity), would unfairly expose other customers at same Level 1 and also downstream customers at Level 2 and Level 3, who have much smaller demand capacities, to the full reinforcement cost.

Proposer's Perspective

4.27 The Proposer disagrees with the view above, asserting that, under current arrangements, downstream customers are being subsidised by 0000 customers, and DCP 452 aims to remove this subsidy. It is argued that a 0000 customer's demand capacity does not contribute to the reinforcement of the 132kV circuits within the Network Group.

4.28 The Proposer suggests that currently, a 0000 customer with a large capacity, artificially reduces the charge paid by downstream customers by picking up a portion of a reinforcement cost they do not drive. Using the example of £100k projected reinforcement cost and 100MW connected customers (charge of £1,000/MW), a new 50MW 0000 customer connecting would not increase the reinforcement cost but would increase total connected customers to 150MW, reducing the charge to £667/MW. This illustrates that the unchanged reinforcement cost is inappropriately socialised across more customers, despite the 0000 customer not driving that cost. To address this, changes to the definition of CI and D in Paragraph 2.16 are proposed to exclude the capacity of 0000 customers from the denominator in the £/MW charge calculation.

Counter Response

4.29 There is a view that the Proposer's statement that "currently, a 0000 customer with a large capacity artificially reduces the charge paid by downstream customers by picking up a portion of a reinforcement cost they do not drive.", is based on an assumption that connecting a 0000 customer has no impact on the wider network, which may not be the reality.

4.30 It could be argued that if connecting a large demand 0000 customer burdens the network's remaining infrastructure, necessitating upgrades to comply with security of supply and network stability standards, it would increase the reinforcement cost of the entire network. This, in turn, would result in other customers at Level 1 and downstream customers at Levels 2 and 3 paying a higher Charge 1. Another scenario considered is that connecting a large demand customer could increase the chance of the network becoming congested, requiring DNO reinforcement to facilitate new connections in that area.

4.31 There is an additional challenge made with respect to the Proposer's example, stating it is based on the assumption that the "*£100k of projected reinforcement cost*" remains unchanged following a new 0000 connection. It is argued that there are some scenarios where the new connection could lead to additional costs for the DNO's network, being:

- If a new 50MW 0000 customer connects to a 100MW network (resulting in a new total of 150MW load) and the DNO incurs an additional £50k cost to upgrade the network for the new large load, the Charge 1 would remain £1,000/MW. In this case, the forecasted additional reinforcement cost rise aligns with the total network's demand growth, keeping Charge 1 unchanged.
- If the additional cost is greater than £50k, the Charge 1 would be greater than £1,000/MW. This higher rate would then apply to all customers within that network, even if their individual loads are unchanged.

Question 3: Do you have any views on the counterarguments put forward with respect to the concepts of the FCP methodology and how they interact with the proposed approach of DCP 452?

Consideration of DCP 139 and Ofgem's Decision to Reject

4.32 In reviewing DCP 452, the Working Group considered the relevance of **DCP 139: Non-Application of FCP charge for Category 0000 Customers** which was raised in 2012 and ultimately rejected by Ofgem. While DCP 139 and DCP 452 share a similar objective, namely the removal of FCP locational charges for customers connected directly to a GSP, the Working Group noted several important distinctions in context, rationale, and supporting evidence.

Overview of DCP 139

4.33 DCP 139 was raised by British Gas and proposed that Category 0000 customers should be exempt from the FCP locational charge on the grounds that they do not use shared network assets and are therefore not cost drivers for reinforcement. The proposal argued that the application of the FCP charge to these customers was inconsistent with the treatment of network usage under the Network Use Factor (NUF) methodology, which assumes that 0000 customers use only sole-use assets.

Ofgem's Decision and Rationale

4.34 In its decision letter, Ofgem concluded that DCP 139 should not be implemented. The key reasons cited included:

- Ofgem noted that simply removing the FCP charge for 0000 customers did not guarantee a more cost-reflective outcome. In particular, it was unclear whether such customers might still contribute to reinforcement needs under certain network conditions (e.g. meshed networks or contingency scenarios).
- Ofgem emphasised that the FCP and NUF methodologies are based on different principles. Aligning them without broader consideration could risk undermining the internal consistency of the FCP approach.
- Ofgem suggested that 0000 customers might not be the only category of customer that could be deemed to not use any shared assets at a given network level and so consideration should have been given to those of customer categories.

Relevance to DCP 452

4.35 The Working Group acknowledged the similarities between DCP 139 and DCP 452 but also identified several key differences that may support a different outcome in this case:

- DCP 452 is supported by detailed RFI data from DNOs and updated modelling undertaken by CEPA/TNEI, providing a clearer picture of the scale and distribution of the issue.
- The policy landscape surrounding the electricity industry has changed significantly since 2012, with greater emphasis meeting net zero and Clean Power 2030.
- The Working Group has identified that Ofgem's statements on removing the FCP charge for **all** 0000 customers does not deliver a more cost-reflective outcome, namely for those customers at interconnected GSPs who can drive thermal reinforcement on downstream circuits and so should be exposed to a forward-looking charge in respect of those circuits. However, 0000 customers at non-interconnected GSPs can never drive thermal reinforcement on downstream 132kV circuits, hence DCP452 is expected to be more cost-reflective in all scenarios.

Question 4: Do you have any views on the relevance of DCP 139 and Ofgem's decision to reject it? Please provide your rationale for any views you do have.

5 DCP 452 Proposed Solution

- 5.1 At the time when DCP 452 was raised, the objective of the modification was to ensure that under the FCP variant of the EDCM Connectees connected directly to a GSP, identified by allocation of Customer Category 0000, are not incorrectly and non-cost-reflectively exposed to the locational charge/credit for the shared network in the Network Group associated with the network voltage downstream of the relevant GSP, as the Proposer asserts that such Connectees are deemed not to use any network assets other than Sole Use Assets.
- 5.2 It should be noted that the proposed solution has been refined as compared to the initial solution proposed within the original Change Proposal.
- 5.3 The intent is to remove Connectees with Customer Category 0000 which are connected to non-interconnected GSPs from the Network Group for that GSP, on the basis that they do not drive thermal reinforcement on the downstream circuits in that Network Group. It is believed that this can be achieved via amendments to Paragraph 2.7 and Paragraphs 6.2 and 6.3 in the main body of Schedule 17 and Paragraph 6.3 in Annex 1 of Schedule 17.
- 5.4 The revised solution impacts GSP-connected customers in the 0000 customer category who have a non-zero FCP charge and then only those that are connected to a GSP that does not operate in parallel with another GSP. In this context it should be noted that the new solution has the effect of removing the demand associated with the applicable connectees from the power flow modelling process and also directs that such connectees are not charged the FCP locational charge components. Its effects are also likely to cascade to other EHV levels as it is the FCP charge itself that is impacted, which flows into all EHV customers charges. The workgroup has quantified these impacts in Section 8.

Question 5: Do you agree with the proposed solution for DCP 452?

6 Legal Text

DCP 452 Proposed Legal Text

- 6.1 The DCUSA text to be implemented is in Attachment 2 and also below for ease of reference; and proposes to amend the following areas in Schedule 17:
 - Paragraph 2.7 in Schedule 17, includes an additional sentence at the end of the current Paragraph which proposes to exclude any Connectees with Customer Category 0000 that are directly connected to a GSP substation that does not operate in parallel with another GSP substation, from the relevant Network Group for that GSP substation.
 - Aside from the original changes which amended the formulae for the import capacity charge, super-red import rate charge and super-red export rate credit (as set out in Paragraphs 6.2 and 6.3 in Schedule 17) such that those charges are set to zero for Connectees with Customer Category 0000 at non-interconnected GSPs, some additional context has also been added. The additional context includes a reference to Paragraph 2.7, to pick up that those Connectees also need to be connected to a GSP substation that does not operate in parallel with another GSP substation.

6.2 DCP 452 proposes to modify Paragraph 2.7 of Schedule 17 as set out below:

Definition of Network Groups

- 2.7 The Authorised Network Model is split into Network Groups, thereby reflecting the zonal nature of the FCP model. A Network Group is a contained portion of the Authorised Network Model defined by physical, operational and technical boundaries that is not electrically connected to another part of the network at the same voltage level under normal operating conditions. A Network Group is defined as the network normally supplied from a Grid Supply Point (GSP) substation, a Bulk Supply Point (BSP) substation, or a Primary Substation. In situations where GSP substations, BSP substations or Primary Substations are operated in parallel, the network associated with such parallel GSP substations, BSP substations or Primary Substations is considered as one Network Group. In situations where GSP substations are not operated in parallel, Connectees which connect directly to those GSP substations (those which are assigned Customer Category 0000 according to Paragraph 15.6) shall be excluded from the relevant Network Group for that GSP substation.
- 2.8 Guidance relating to the definition of Network Groups is presented in section 6 (Network Groups) of Annex 1.

6.3 DCP 452 proposes to modify Paragraph 6.2 and 6.3 of Schedule 17 as set out below:

- 6.1 Each tariff in the model is linked to one FCP location or Network Group. Each FCP Network Group may be linked to a parent FCP Network Group and a grandparent FCP Network Group. Each FCP Network Group may have a Charge 1 in £/kVA/year associated with it.
- 6.2 The import charges for the application of Charge 1 is given by the formulas:

For Connectees with Customer Category 0000 at GSP substations which are not operated in parallel (those excluded from the relevant Network Group as per Paragraph 2.7):

[p/kWh super-red rate] = 0

[p/kVA/day capacity charge] = 0

For other Connectees with zero average kW/kVA:

$[p/kWh \text{ super-red rate}] = ([\text{parent Charge 1 } \text{£/kVA/yr}] * (\text{abs}[A1] / (\text{SQRT}(A1^2 + R1^2))) / [\text{Super-red hours}] * 100) + ([\text{grandparent Charge 1 } \text{£/kVA/yr}] * (\text{abs}[A2] / (\text{SQRT}(A2^2 + R2^2))) / [\text{Super-red hours}] * 100)$

$[p/kVA/day \text{ capacity charge}] = ([\text{network Charge 1 } \text{£/kVA/year}] / [\text{days in Charging Year}] * 100) + ([\text{parent Charge 1 } \text{£/kVA/yr}] * (-R1 * \text{Average kVar/kVA}) / (\text{SQRT}(A1^2 + R1^2)) / [\text{days in Charging Year}] * 100) + ([\text{grandparent Charge 1 } \text{£/kVA/yr}] * (-R2 * [\text{Average kVar/kVA}]) / (\text{SQRT}(A2^2 + R2^2)) / [\text{days in Charging Year}] * 100)$

For all other Connectees:

$[p/kWh \text{ super-red rate}] = [\text{parent Charge 1 } \text{£/kVA/yr}] * (\text{abs}[A1] - (R1 * ([\text{Average kVar/kVA}] / [\text{Average kW/kVA}])) / (\text{SQRT}(A1^2 + R1^2)) / [\text{Super-red hours}] * 100 + ([\text{grandparent Charge 1 } \text{£/kVA/yr}] * (\text{abs}[A2] - (R2 * ([\text{Average kVar/kVA}] / [\text{Average kW/kVA}])) / (\text{SQRT}(A2^2 + R2^2)) / [\text{Super-red hours}] * 100)$

$[p/kVA/day \text{ capacity charge}] = [\text{Network Group Charge 1 } \text{£/kVA/year}] / [\text{days in Charging Year}] * 100$

Where:

A1 and R1 are the values of the active power flow and reactive power flow modelled through the parent Network Group in the maximum demand scenario.

A2 and R2 are the values of the active power flow and reactive power flow modelled through the grandparent Network Group in the maximum demand scenario.

If both A1 and R1 are equal to zero, in respect of that network level in the formulas above, the term $(\text{abs}[A1] / (\text{SQRT}(A1^2 + R1^2)))$ is set equal to 1, $(-R1 * \text{Average kVar/kVA}) / (\text{SQRT}(A1^2 + R1^2))$

$R1^2$) is set equal to zero, and $([Average\ kVar/kVA] / [Average\ kW/kVA]) / (\sqrt{A1^2 + R1^2})$ is also set to zero.

If both $A2$ and $R2$ are equal to zero, in respect of that network level in the formulas above, the term $(abs[A2] / (\sqrt{A2^2 + R2^2}))$ is set equal to 1, $(-R2 * Average\ kVar/kVA) / (\sqrt{A2^2 + R2^2})$ is set equal to zero, and $([Average\ kVar/kVA] / [Average\ kW/kVA]) / (\sqrt{A2^2 + R2^2})$ is also set to zero.

Any negative contributions to the [p/kVA/day capacity charge] or the [p/kWh super-red rate] from the parent or the grandparent Network Groups are set to zero.

Super red hours are the number of hours in the DNO Party's super-red time band.

The average kW/kVA and average kVar/kVA figures are forecasts for the Charging Year, based on data from the most recent regulatory year for which data were available in time for setting charges for the Charging Year. Specifically, active and reactive power consumptions are averaged over a super-red time band, which is a seasonal time of day period determined by the DNO Party to reflect the time of peak, and then divided by the Maximum Import Capacity (averaged over the same financial year). If the DNO Party considers that the reactive consumption data relates to export rather than import (e.g. the average kVar figure exceeds half of the Maximum Import Capacity) then the Maximum Import Capacity in the denominator should be replaced by the Maximum Export Capacity of the same Connectee. The average kVar divided by kVA is restricted to be such that the combined active and reactive power flows cannot exceed the Maximum Import Capacity.

- 6.3 Charge 1 is applied to export charges as a credit. The credit is expressed as a negative charge rate in p/kWh and is applied in respect of active power units exported during the DNO Party's super-red time band. The credit rate is set to zero for Connectees who are assigned an F Factor of zero. The credit rate is calculated as follows:

For Connectees with Customer Category 0000 at GSP substations which are not operated in parallel (those excluded from the relevant Network Group as per Paragraph 2.7):

[p/kWh super-red export rate] = 0

For all other Connectees:

$[p/kWh\ super-red\ export\ rate] = -100 * [Proportion\ eligible\ for\ Charge\ 1\ credits] * ([network\ Charge\ 1\ £/kVA/year] + [parent\ Charge\ 1\ £/kVA/year] + [grandparent\ Charge\ 1\ £/kVA/year]) * ([Chargeable\ export\ capacity] / [Maximum\ export\ capacity]) / [number\ of\ hours\ in\ the\ super-red\ time\ band]$

Where:

The proportion eligible for Charge 1 credits is zero if the F factor that is assigned to the Connectee as described in the FCP methodology is equal to zero, and 1 otherwise.

The super-red generation rate is not applied to Connectees with zero Chargeable Export Capacity.

- 6.4 DCP 452 proposes to modify Paragraph 6.3 of Annex 1 to Schedule 17 as set out below:

- 6.1 For the purpose of forecasting future reinforcement the network is broken down into a number of Network Groups. The use of Network Groups for analysis is an important stage in assessing security of supply requirements given in ER P2/6. Network Groups are defined at hierarchical levels, each level being defined by the operating voltage of the source substations, such that separate Network Groups are defined for Primary Substation, BSP and GSP levels.
- 6.2 Each Network Group is a part of the Distribution System that consists of:
- (a) the transformation assets at a source substation; and
 - (b) the network that:
 - (i) operates at the same voltage as the lower voltage of these transformation assets; and

- (ii) *is electrically connected to these transformation assets, under Normal Running Arrangements, excluding electrical connection through assets operating at voltages other than the lower voltage of the transformation assets.*

6.3 The following exceptions apply:

- (a) *where a source substation operates, under Normal Running Arrangements, with open point(s) on the lower voltage busbar such that there are separate sections of the busbar that are not electrically connected at the same voltage as the busbar, then these separate sections of busbar, and their associated network, shall be considered as separate Network Groups; ~~and~~*
- (b) *where multiple source substations, with the same lower voltage of transformation assets, operate in parallel, under Normal Running Arrangements, through network operating at the same voltage as the lower voltage of the transformation assets, then these substations and their associated network shall be considered as a single Network Group; ~~and~~*
- (c) where GSP substations do not operate in parallel under Normal Running Arrangements, Connectees connected directly to those GSP substations (those which are assigned Customer Category 0000 according to Paragraph 15.6 of Schedule 17) shall be excluded from the relevant Network Group for that GSP substation.*

6.4 Where a Network Group has, under Normal Running Arrangements:

- (a) *no demand(load) or demand (generation) connected either within the Network Group, or any lower voltage Network Group associated with it; and*
- (b) *the Network Group exists solely for the purposes of providing security of supply support to an adjacent Network Group, through closure of open point(s) between such Network Groups,*
- (c) *then such Network Groups shall be considered as part of the adjacent Network Group to which they provide security of supply support (an example of such instances would be Network Groups that would otherwise be associated with transformers that operate on 'hot standby' under Normal Running Arrangements).*

Text Commentary

6.5 The proposed legal text changes include:

- (a) the addition of an exception (as set out in the modified Paragraph 2.7 'Definition of Network Groups' in Schedule 17) to exclude Connectees from the Level 1 Network Group if they are deemed to be in the Customer Category of 0000 and are connected to a GSP that does not operate in parallel under Normal Running Arrangements;
- (b) modifying the calculation of the FCP-element of the import capacity charge, super-red import rate charge and super-red export rate credit (as set out in Paragraphs 6.2 and 6.3 in Schedule 17) which results in those charges being set to zero for Connectees which meet the new exception above; and
- (c) the addition of an exception (as set out in the modified Paragraph 6.3 of Annex 1 to Schedule 17) to remove Connectees from the Level 1 Network Group if they are deemed to be in the Customer Category of 0000 and are connected to a GSP that does not operate in parallel under Normal Running Arrangements.

Question 6: Do you have any comments on the proposed legal text for DCP 452? If so, then please provide examples or supporting rationale.

7 Code Specific Matters

Reference Documents

- 7.1 This issue was discussed at the Distribution Charging Methodologies Development Group (DCMDG), the presentation slides and discussion output of which can be found in the [post meeting pack for meeting 84](#).

8 Relevant Objectives

Assessment Against the DCUSA Objectives

- 8.1 For a DCUSA Change Proposal to be approved it must be demonstrated that it better meets the DCUSA Objectives. The Proposer of DCP 452 believes that the proposed solution will better facilitate DCUSA Charging Objectives two, three and six. The rationale for these decisions can be found in the paragraphs that follow the table of DCUSA Charging Objectives below.

| DCUSA Charging Objectives | Identified impact |
|---|-------------------|
| <input type="checkbox"/> 1 That compliance by each DNO Party with the Charging Methodologies facilitates the discharge by the DNO Party of the obligations imposed on it under the Act and by its Distribution Licence | None |
| <input checked="" type="checkbox"/> 2 That compliance by each DNO Party with the Charging Methodologies facilitates competition in the generation and supply of electricity and will not restrict, distort, or prevent competition in the transmission or distribution of electricity or in participation in the operation of an Interconnector (as defined in the Distribution Licences) | Positive |
| <input checked="" type="checkbox"/> 3 That compliance by each DNO Party with the Charging Methodologies results in charges which, so far as is reasonably practicable after taking account of implementation costs, reflect the costs incurred, or reasonably expected to be incurred, by the DNO Party in its Distribution Business | Positive |
| <input type="checkbox"/> 4 That, so far as is consistent with Clauses 3.2.1 to 3.2.3, the Charging Methodologies, so far as is reasonably practicable, properly take account of developments in each DNO Party's Distribution Business | None |
| <input type="checkbox"/> 5 That compliance by each DNO Party with the Charging Methodologies facilitates 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 |
| <input type="checkbox"/> 6 That compliance with the Charging Methodologies promoted efficiency in its own implementation and administration | None |

- 8.2 The Proposer's rationale with respect to their position on the applicable DCUSA Charging Objectives is set out below:

- **Charging Objective 2:** this Change Proposal will ensure that customers directly connected to non-interconnected GSPs do not face forward-looking DUoS charges in respect of thermal reinforcement on downstream network assets which they can never drive. As a result, it will better facilitate competition in the generation of electricity between users connected at different voltage levels.
- **Charging Objective 3:** this Change Proposal will remove the application of forward-looking charges in respect of thermal reinforcement to customers directly connected to non-interconnected GSPs in respect of network assets on which they will never drive thermal reinforcement. The charges those users face will be more cost-reflective as a result. Furthermore, it will result in more cost-reflective charges for other customers connected to such networks, who are currently face a weakened forward-looking cost signal in respect of thermal reinforcement they are deemed to drive due to that cost currently being shared with 0000 customers.

Question 7: Which of the DCUSA Charging Objectives does DCP 452 better facilitate? Please provide supporting comments.

9 Impacts & Other Considerations

Model Amendments (EDCMs)

WORKING GROUP REQUEST FOR THE PRODUCTION OF AMENDED MODELS:

- 9.1 The drafting amendments suggested by the Proposer were provided to the appointed modelling consultants for the purposes of implementing the proposed solution for DCP 452 and were requested to make updates to the versions of the most recent EDCM models used by the DNOs to set charges for the 2026/27 charging year.

CHANGES MADE TO THE MODELS TO ACCOMMODATE DCP 452:

- 9.2 The appointed DCUSA modelling consultants created modified versions of the EDCM models (both the FCP and LRIC versions) in line with the draft legal text and with the aid of the model specification document provided by the Working Group. The updated models and a document that outlines the structural changes made to the models and other relevant information are located within Attachment 3 to this consultation.
- 9.3 Section 3 within the Model documentation PDF file outlines the modifications to the models that were necessary to implement DCP 452.
- 9.4 As per the request of the Working Group a new row named “0000 customer connected to non-parallel GSP: FCP only”. has been added to the ‘Tariff inputs’ sheet of the EDCM in the section labelled “Input 305-A: Customer Info”. The row contains TRUE/FALSE drop-down cells to indicate whether the description applies to a given customer. The row can be left blank in the LRIC version of the EDCM. Another new row has been added to the “Checks” section named “Customer connected to non-parallel GSP without a 0000 label?”, which flags if the new row contains the value “TRUE” to indicate that a 0000 customer is connected to a non-parallel GSP but the customer category entered for that customer is not 0000.
- 9.5 In the calculation sheet named ‘Charge 1 (FCP)’ the following has been updated:
- In the section labelled “Tariff information” a row has been added, with the name “0000 customer connected to non-parallel GSP: FCP only”.

- In the section labelled “Section 304-A: Identification of FCP parent and grandparent group” a row has been added, with the name “Override FCP Charge 1 if connected directly to non-parallel GSP”.
- In rows labelled “Section 304-D: Super-red charge”, “Section 304-E: Capacity charge” and “Section 304-G: Export Charge 1” the calculations were changed for the ‘Super-red rate’, ‘Capacity charge’ and ‘Super-red export rate’ for all tariffs.

9.6 DNOs, who are also Working Group members have successfully populated the DCP 452 EDCM (FCP) models and have confirmed that they have been able to replicate the expected outputs from the modified models.

Impact Analysis

9.7 The Working Group have conducted two types of analysis on the DCP 452 solution which are described in more detail below as well as within two tables on the following pages.

GENERAL OVERVIEW OF NUMBERS OF CUSTOMERS AND GSPs IMPACTED BY DCP 452:

9.8 The Working Group have provided Table 1 below, following on from investigations that took place as part of the development of DCP 452 by the Working Group, including how the following parts of the solution impact the number of directly impacted Connectees:

- the categorization of a Connectee
- if the charges for the Connectee include non-zero Charge 1 values
- whether it is connected to a non-interconnected GSP or an interconnected GSP
- whether the Connectee is considered demand-dominant or generation-dominant

QUANTITATIVE CUSTOMER IMPACT ASSESSMENT

9.9 The Working Group have provided Table 2 below, which was completed following receipt of the updated models, and where the impacted DNOs used their most recently published FCP EDCMs and a populated a DCP 452 EDCM model to be able to compare the outputs from both. Specific tariffs and revenue items from those models were then transposed into a template to show the likely impacts associated with DCP 452 on EDCM tariffs. The full results are set out within Attachment 4.

9.10 Table 2 sets out a range of percentage changes, shown (in the 'min' and 'max' columns, with the counts in the remaining columns showing the number of customers whose expected annual charge is moving within the range shown. This is for each impacted licensee and a total across the 6 impacted licensees.

9.11 The Working Group have provided Table 3 below to show how the impacts flow through to the residual fixed charge which is described by the modelling support consultants in the PDF file within Attachment 3. The modelling support consultants noted the following:

Effects on 0000 customers connected to non-parallel GSPs

0000 customers connected to non-parallel GSPs no longer receive credits from the charge 1 super-red export rate. The export capacity and fixed charge are not impacted for these customers. As a result, the only change in export revenue is an increase in net revenue recovered from the super-red units for generation 0000 customers connected to non-parallel GSPs.

The import capacity charge for all 0000 customers connected to non-parallel GSPs decreases since these customers no longer receive a charge 1 capacity charge. However, there is an increase in the import fixed charge for final demand customers. The loss of revenue from the charge 1 capacity charge for 0000 customers connected to non-parallel GSPs leads to a shortfall in total import capacity charge revenue. This shortfall is compensated for via an increase in the residual added to the fixed charge for final demand sites.

- 9.12 The Working Group notes that the way the residual charges work is that all customers within a band face the same residual charge, although their total fixed charge will differ due to the other elements of the fixed charge calculation being on a site-specific basis.
- 9.13 To make it easy to understand, the Working Group agreed to use pre and post fixed charge values and extrapolate those to show what some of these changes might look like in £/year (i.e., by dividing by 100 and multiplying by 365). The difference between the two can be used as a proxy to show what the uplift would be to the residual component of the fixed charge element of a customer's DUoS charges. The pre DCP 452 value of the residual fixed charge component for each band was sourced from the DNOs websites (either within the Schedule of Charges and Other Tables or from a separate publication).

Table 1: Count of Connectees and GSPs Directly Impacted by DCP 452 per DNO

| Row ID | Summary Impact Descriptions | Commentary | SPOW | MANW | NGED (1) | NGED (2) | SHEPD | SEPD |
|--------|---|--|------|------|----------|----------|-------|------|
| 1 | Total number of 0000 Customer Category Connectees | The total number of Connectees which theoretically could be directly impacted by DCP452 | 98 | N/A | 7 | 4 | 71 | N/A |
| 2 | Number of different GSPs where 0000 Customer Category are connected | The number of different locations at which the customers on row 1 are connected, taking into account that several could be at the same GSP | 49 | - | 5 | 4 | 44 | - |
| 3 | Total number of 0000 Customer Category Connectees which have non-zero Charge 1 value | The total number of Connectees which would be directly impacted by DCP452 if at a non-interconnected GSP. The remainder of those in row one are not impacted as the Charge 1 is zero | 47 | - | 2 | 1 | 7 | - |
| 4 | Number of different GSPs where 0000 Customer Category Connectees with non-zero Charge 1 values are connected | The number of different locations at which the customers on row 3 are connected, taking into account that several could be at the same GSP | 24 | - | 1 | 1 | 3 | - |
| 5 | Total number 0000 Customer Category Connectees at non-interconnected GSPs with non-zero Charge 1 values | The subset of customers shown on row 3 which are at non-interconnected GSPs. This is the number of customers directly impacted by DCP452 | 37 | - | 2 | 1 | 6 | - |
| 6 | Total number of 0000 Customer Category Connectees which have non-zero Charge 1 value and are generation-dominant | Generation dominant customers have no demand associated with them in the FCP model. Hence these customers could be directly impacted by DCP452 (if at a non-interconnected GSP), but their removal from the power flow model would have no knock-on impact on other EDCM customers connected to the same GSP | 30 | - | 1 | 1 | 3 | - |
| 7 | Total number of 0000 Customer Category Connectees which have non-zero Charge 1 value and are demand-dominant | Conversely to row 6, the demand associated with these customers would be removed from the FCP model if they were at a non-interconnected GSP, so there could be a knock-on impact on other EDCM customers connected to the same GSP | 17 | - | 0 | 0 | 4 | - |
| 8 | Number of different GSPs where 0000 Customer Category Connectees that are demand-dominant with non-zero Charge 1 values are connected | The number of different locations at which the customers on row 7 are connected, taking into account that several could be at the same GSP. This is the total number of GSPs at which other EDCM customers would be impacted if those GSPs were non-interconnected | 8 | - | 0 | 0 | 2 | - |
| 9 | Number of GSPs that are interconnected that contain relevant Connectees | Of the GSPs on row 8, these will not be impacted as they are interconnected and so not impacted by DCP452 | 3 | - | 0 | 0 | 0 | - |
| 10 | Number of GSPs that are non-interconnected that contain relevant Connectees | Of the GSPs on row 8, these will be impacted as they are non-interconnected and so impacted by DCP452 | 5 | - | 0 | 0 | 2 | - |

Table 2: Impact of DCP 452 on EDCM customers whose charges are set by DNOs who use the FCP variant of the EDCM only²

| Impact on all EDCM customers of DCP 452 | | | | | | | | |
|--|-----------|-------------------------|------------------------|------------------|---|---|---|---|
| Percentages shown (in the 'min' and 'max' column) represent a range of percentage changes, with the counts shown in the remaining columns showing the number of customers (for each licensee and a Total across the six impact licencees) whose expected annual charge is moving within the range shown. | | | | | | | | |
| Min | Max | Total (across FCP DNOs) | SP Distribution (SPOW) | SP Manweb (MANW) | Scottish Hydro Electric Power Distribution (HYDE) | Southern Electric Power Distribution (SOUT) | National Grid Electricity Distribution (EMEB) | National Grid Electricity Distribution (MIDE) |
| 100.00% | | 6 | 4 | - | - | - | 2 | - |
| 50.00% | 100.00% | 1 | 1 | - | - | - | - | - |
| 25.00% | 50.00% | 4 | 3 | - | 1 | - | - | - |
| 10.00% | 25.00% | 37 | 22 | - | 12 | - | 3 | - |
| 1.00% | 10.00% | 116 | 10 | - | 40 | - | 66 | - |
| 0.00% | 1.00% | 51 | 2 | - | 9 | - | 1 | 39 |
| (0.00%) | 0.00% | 1,030 | 99 | - | 222 | 325 | 266 | 118 |
| (1.00%) | (0.00%) | 6 | 5 | - | 1 | - | - | - |
| (10.00%) | (1.00%) | 10 | 9 | - | - | - | - | 1 |
| (25.00%) | (10.00%) | 4 | 4 | - | - | - | - | - |
| (50.00%) | (25.00%) | 10 | 7 | - | 3 | - | - | - |
| (100.00%) | (50.00%) | 4 | 2 | - | - | - | 2 | - |
| | (100.00%) | - | - | - | - | - | - | - |
| Customer count | | 1,279 | 168 | - | 288 | 325 | 340 | 158 |
| Total Change in Revenue | | 568,855 | 264,129 | - | 1,069 | - | 303,657 | (1) |

² (i.e., excluding those DNOs whose charges are set using the LRIC variant of the EDCM)

Table 3: Impact of DCP 452 on residual fixed charges for EDCM customers whose charges are set by DNOs who use the FCP variant of the EDCM only and then only those that had impacted customers.

| DNO NAME | TCR BAND | CUSTOMER COUNT | RESIDUAL CHARGE PRE-DCP452 (£/year) | RESIDUAL CHARGE POST-DCP452 (£/year) | CHANGE IN RESIDUAL CHARGE FROM DCP452 (£/year) | % CHANGE IN RESIDUAL CHARGE FROM DCP452 |
|--|-----------------|-----------------------|--|---|---|--|
| SP Distribution (SPOW) | NFD | 130 | 0 | - | - | 0.0% |
| SP Distribution (SPOW) | Band 1 | 14 | 5,147.44 | 7,725.09 | 2,577.65 | 50.1% |
| SP Distribution (SPOW) | Band 2 | 16 | 38,268.67 | 57,432.19 | 19,163.52 | 50.1% |
| SP Distribution (SPOW) | Band 3 | 5 | 80,308.77 | 120,524.41 | 40,215.64 | 50.1% |
| SP Distribution (SPOW) | Band 4 | 3 | 101,405.45 | 152,185.50 | 50,780.05 | 50.1% |
| Scottish Hydro Electric Power Distribution (HYDE) | NFD | 226 | 0 | - | - | 0.0% |
| Scottish Hydro Electric Power Distribution (HYDE) | Band 1 | 46 | 2,288.05 | 2,896.42 | 608.37 | 26.6% |
| Scottish Hydro Electric Power Distribution (HYDE) | Band 2 | 13 | 32,031.87 | 40,548.82 | 8,516.95 | 26.6% |
| Scottish Hydro Electric Power Distribution (HYDE) | Band 3 | 1 | 32,031.87 | 40,548.82 | 8,516.95 | 26.6% |
| Scottish Hydro Electric Power Distribution (HYDE) | Band 4 | 2 | 67,558.27 | 85,521.30 | 17,963.04 | 26.6% |
| National Grid Electricity Distribution (EMEB) | NFD | 270 | 0 | - | - | 0.0% |
| National Grid Electricity Distribution (EMEB) | Band 1 | 24 | 891.01 | 1,508.19 | 617.18 | 69.3% |
| National Grid Electricity Distribution (EMEB) | Band 2 | 23 | 6,661.53 | 11,275.79 | 4,614.26 | 69.3% |
| National Grid Electricity Distribution (EMEB) | Band 3 | 9 | 9,891.48 | 16,590.79 | 6,699.31 | 67.7% |
| National Grid Electricity Distribution (EMEB) | Band 4 | 14 | 25,540.25 | 43,104.90 | 17,564.65 | 68.8% |
| National Grid Electricity Distribution (MIDE) | NFD | 119 | 0 | - | - | 0.0% |
| National Grid Electricity Distribution (MIDE) | Band 1 | 12 | 949.07 | 950.84 | 1.77 | 0.2% |
| National Grid Electricity Distribution (MIDE) | Band 2 | 12 | 8,074.27 | 8,089.32 | 15.05 | 0.2% |
| National Grid Electricity Distribution (MIDE) | Band 3 | 11 | 19,887.53 | 19,924.61 | 37.08 | 0.2% |
| National Grid Electricity Distribution (MIDE) | Band 4 | 5 | 85,393.34 | 85,552.52 | 159.18 | 0.2% |

Notes related to impacts for SSEN

- 9.14 It should be noted that with respect to SSEN's two licence areas, the impacts above are based on the data that was used for the purpose of setting the 2025/26 charging year tariffs (which themselves had carried over certain elements from the setting of 2024/25 charging year tariffs). The reasons for this are described in more detail below.
- 9.15 The methodology for calculating EDCM charges involves four main steps and it is step 1 that DCP 452 is focused on. Step 1 applies load flow analysis and the FCP model to determine an EDCM tariff element, "Charge 1", which represents the costs of demand-led reinforcement in a maximum demand scenario. This locational element is a core component of the final tariffs. The FCP model's power flow analyses identify reinforcements that are expected over a 10-year period. The FCP load incremental charge, known as "Charge 1", is derived from the costs of all expected reinforcements identified within a specific "Network Group" during this 10-year horizon. This charge is calculated using a complex formula that, amongst other things, accounts for the reinforcement cost, a load growth rate, and a discount rate. The locational charges, specifically Charge 1 from a Network Group and its associated parent and grandparent Network Groups, are directly used in the formulas that determine a customer's final import capacity charge and super-red unit rate.
- 9.16 The EDCM methodology, as designed, requires total revenue recovery to align with a predetermined target. When the model's forward-looking component over-recovers revenue, a true-up mechanism is triggered via the residual element of the EDCM charges. In circumstances where the forward-looking charge under-recovers the allowed revenue, then the residual acts as a top up mechanism. In SSEN's case, due to over-recovery of revenue from the forward-looking elements, the result was that the residual acted as mechanism to reduce the amount of revenue being recovered. If the amount was relatively small, this wouldn't be an issue, however, due to the size of the over-recovery, the residual was so large that the output from the modelling process would have resulted in significant credits being paid to demand users.
- 9.17 To prevent the publication of these volatile and perverse charges, SSEN requested and received a derogation from Ofgem for both the 2025/26³ and 2026/27⁴ charging years for both their Licence areas. The specific provision of this derogation was a direct instruction to SSEN to "carry over the FCP locational components (i.e., the Charge 1 values) and Network Use Factors from the 2024/25 charge setting process.
- 9.18 This means that the values for FCP Charge 1 locational elements used for the set of most recently published tariffs were the same ones that were used when charges were being set at the end of 2022, for the 2024/25 charging year. Therefore, it was agreed, in order to not distort the results of the impact assessment, that it would be best to utilise the values from that same year when including those elements as inputs into the EDCM models.

Question 8: Do you consider that the workgroup has accurately captured the impact of DCP452? If not, what has been missed?

³ <https://www.ofgem.gov.uk/decision/derogation-scottish-and-southern-electricity-networks-distribution-pursuant-slc-13b-part-e-electricity-distribution-licence>

⁴ https://www.ofgem.gov.uk/sites/default/files/2025-02/SSEN_Direction_to%20Derogate_CDCM_and_EDCM-20250204181506.pdf

Impacts on other Significant Code Reviews (SCRs) or other significant industry change projects

9.19 The potential interaction of DCP 452 with Ofgem's DUoS SCR is detailed in paragraphs [4.10](#) to [4.14](#) of this consultation. It is not believed that this CP will impact on any other existing SCR but the Proposer noted the below industry projects.

REMA

9.20 REMA may fundamentally change the context of locational signals. At the point in time when DCP 452 was raised, it was unknown whether Connectees may face locational operational signals under a zonal wholesale market, or face sharper locational signals through network charges (primarily TNUoS) under a reformed national market. Whilst the latter has now been decided as the approach to be taken forward, there is very little detail on how this will impact DUoS. Hence, the Proposer's view is that corrections such as this Change Proposal should continue to be made in the meantime.

Clean Power 2030

9.21 The Clean Power 2030 Action Plan⁵ sets out the mix of technologies needed to achieve a decarbonised power system by 2030. Incorrectly applied locational signals could be a barrier to developing projects which are Clean Power 2030 aligned, so should be corrected.

Impacts on other Industry Codes

9.22 The Working Group does not believe that DCP 452 has any impact on any other industry codes.

Environmental Impacts

9.23 In accordance with DCUSA Clause 11.14.6, the Working Group assessed whether there would be a material impact on greenhouse gas emissions if DCP 452 were implemented. The Working Group did not identify any material impact on greenhouse gas emissions from the implementation of this CP.

Engagement with the Authority

9.24 The Authority have been engaged with the development of this CP as an observer of the Working Group.

Question 9: Are you aware of any wider industry developments that may impact upon or be impacted by DCP 452?

10 Implementation

10.1 The proposed implementation date is 1 April 2028, in line with the next publication of DUoS charges by DNOs. This would require an Authority decision by 01 October 2026 (at the very latest) to enable DNOs to incorporate the change in charge setting in late 2026. The Proposer considers that there is a strong case for derogations to apply this Change Proposal sooner in respect of heavily impacted new Connectees, which will be pursued outside of the DCUSA Change process.

⁵ <https://www.gov.uk/government/publications/clean-power-2030-action-plan>

10.2 The Proposer was originally targeting implementation from 1 April 2027, which has slipped following additional time needed for the Working Group to develop the solution. For heavily impacted projects, an early Authority decision is as important as early implementation, to enable projects to proceed through FID. Hence while an Authority decision by October 2026 is needed to facilitate 1 April 2028 implementation, the Proposer is seeking a decision as early as possible, which should be well before October 2026.

Question 10: The proposed implementation date for DCP 452 is 01 April 2028. Do you agree with the proposed implementation date? If not, then please provide your rationale.

11 Consultation Questions

11.1 The Working Group is seeking industry views on the following consultation questions:

| Number | Questions |
|--------|--|
| 1 | Do you understand the intent of DCP 452? |
| 2 | Are you supportive of the principles that support this CP, as set above? |
| 3 | Do you have any views on the counterarguments put forward with respect to the concepts of the FCP methodology and how they interact with the proposed approach of DCP 452? |
| 4 | Do you have any views on the relevance of DCP 139 and Ofgem's decision to reject it? Please provide your rationale for any views you do have. |
| 5 | Do you agree with the proposed solution for DCP 452? |
| 6 | Do you have any comments on the proposed legal text for DCP 452? If so, then please provide examples or supporting rationale. |
| 7 | Which of the DCUSA Charging Objectives does DCP 452 better facilitate? Please provide supporting comments. |
| 8 | Do you consider that the workgroup has accurately captured the impact of DCP452? If not, what has been missed? |
| 9 | Are you aware of any wider industry developments that may impact upon or be impacted by DCP 452? |
| 10 | The proposed implementation date for DCP 452 is 01 April 2028. Do you agree with the proposed implementation date? If not, then please provide your rationale. |
| 11 | Do you have any other comments on DCP 452? |

11.2 Responses should be submitted using Attachment 1 to dcusa@electralink.co.uk no later than, **12 January 2026**.

11.3 Responses, or any part thereof, can be provided in confidence. Parties are asked to clearly indicate any parts of a response that are to be treated confidentially.

12 Attachments

- Attachment 1 – DCP 452 Consultation Response Form
- Attachment 2 – DCP 452 Legal Text (Schedule 17)
- Attachment 3 – DCP 452 EDCM Modelling Documentation
- Attachment 4 – DCP 452 Impact Assessment