Eleanor Warburton
10 South Colonnade
Canary Wharf
London
E14 4PU

Patrick Cassels
No 1 Forbury Place
43 Forbury Road
Reading
RG1 3JH

Cc: Eleanor Wood, Andrew Malley, Patrick Erwin

14 November 2023

Dear Eleanor,

Volatility in EDCM charges for 2025/26

1. Following email correspondence with Eleanor Wood and Andrew Malley on 30 October and subsequent meetings with Ofgem's Distribution Charging team in the past two weeks, I am writing to explain in further detail the year-on-year volatility we have observed when we apply Ofgem's authorised EHV (Extra High Voltage) Distribution Charging Methodology, also known as the EDCM.

2. SSEN Distribution is obligated to comply with the EDCM in accordance with Standard Condition 13B of the Electricity Distribution Licence that we hold for SHEPD (Scottish Hydro Electric Power Distribution plc) and SEPD (Southern Electric Power Distribution plc). In the case of both SHEPD and SEPD, the approved EDCM is the FCP (Forward Cost Pricing) version of the methodology. We do not have the discretion to deviate from the approved methodology without the consent of the Authority. This is an Ofgem approved model, and it is not within our gift to unilaterally alter the methodology or the results.

3. We are currently in the process of applying the EDCM to calculate the DUoS (Distribution Use of System) tariffs for our EHV connected customers that would apply from 01 April 2025/26. In accordance with our obligations under the DCUSA (Distribution Connection and Use of System Agreement) Section 2A, we must publish these charges by no later than 31 December 2023. We have therefore brought this pressing issue to Ofgem's attention as a matter of urgency, at the earliest possible opportunity (immediately once draft tariff results were available).

4. The draft EHV tariffs produced by the EDCM for 2025/26 indicate that final demand customers would receive large payments (i.e. credits) via the 'residual' component of the charge, despite the model also indicating that load growth is the main driver of network cost. The magnitude of the year-on-year change in overall charges, ***[redacted]***, leads us to question whether the methodology continues to deliver on Ofgem's intent and expectations. Appendix 1 outlines summary examples of the largest year-on-year changes observed based on our draft tariff calculations ***[redacted]***.

5. These results are a consequence of the 'forward-looking' component of the charge (based on our ten-year ahead demand projections and network development plan) overshooting the target revenue for the EDCM (based on 2025/26 Allowed Revenues). The methodology dictates that large negative residual charges (i.e. payments to

final demand customers, paid for by non-final demand customers) are required bring overall revenue recovery back down to the target level. Higher capacity final demand customers receive a larger credit due to having a higher residual banding. Lower capacity final demand customers receive a smaller credit. These payments are funded by non-final demand customers, most of whom receive large, volatile increases in their charges.

6. Given the disruptive commercial ramifications that such drastic year-on-year changes could have for our EHV customers (and the counter-intuitive behaviours this may incentivise), we do not think it would be in their interests to publish tariffs based on a methodology that is not producing coherent results under a load-growth outlook for which it was not designed.

7. The EDCM FCP model was implemented over a decade ago against a comparatively steady-state energy system background. We do not believe the methodology envisaged the levels of renewable energy investment and load growth on which our investment plans are based, and which will be critical to the delivery of a net zero carbon economy. We believe this to be an early sign that the model is no longer fit for purpose and requires fundamental review. We understand these concerns are shared by other Distribution Network Operators, as recently discussed at a meeting facilitated by the ENA (Electricity Networks Association) with Ofgem in attendance.

8. Detailed below is a fuller explanation of the results we are seeing, the root cause of this volatility in the methodology, and an option for Ofgem's consideration that would maintain charge near-term stability in the tariffs we set for 01 April 2025/26. This would require that Ofgem issue a consent to carry over the FCP locational tariff components and NUFs (Network Use Factors) from the 2024/25 EDCM FCP results to 2025/26, whilst in all other respects we propose to update the model to reflect the latest data in accordance with the EDCM.

9. We believe it is in the interests of our customers to ensure that tariffs continue to be published in accordance with the charge-setting timetable (i.e. by 31 December 2023) with minimal disruption. Given the time constraints of the charge-setting timetable, which must account for our Board approval and assurance processes, if Ofgem requires any further information to consider this proposal, or any other course of action, we will seek to provide this as swiftly as possible.

10. We strongly support Ofgem's recent suggestion at the Charging Futures Forum that near-term DUoS reforms should focus on addressing the volatility of the EDCM. This would be an ideal route to explore an enduring solution to this issue. Our proposal would meanwhile deliver interim stability whilst Ofgem's DUoS reforms consider future policy development, with stakeholder engagement to inform any longer-term changes.

Background

11. Under Standard Condition 13B of the Electricity Distribution Licence, we are required to at all times implement and comply with the EDCM (EHV Distribution Charging Methodology). The approved methodology for SHEPD and SEPD is detailed in the DCUSA (Distribution Connection and Use of System Agreement), Schedule 17 – EHV Charging Methodology (FCP Model). We do not have the discretion to deviate from this methodology without the consent of the Authority.

12. The DCUSA, Section 2A – Distributor to Supplier/Generator Relationships, Section 19 (Charges), additionally obligates that we must publish the charges that would apply from 01 April 2025 by no later than 31 December 2023 unless otherwise directed by the Authority. This offers a limited window in which Ofgem could choose to

consent to a deviation from the approved EDCM methodology without having a knock-on impact on suppliers, generators and our other customers who are expecting our tariffs to be published by 31 December 2023.

13. The EDCM FCP methodology is one of two authorised EDCM methodologies outlined in the DCUSA. The DCUSA specifies which DNO Parties must comply with each methodology. SHEPD and SEPD must comply with the EDCM FCP methodology.

14. The FCP methodology is based on allocating costs to EHV network users based on the projected load growth and the future network investments (aggregated up into network branches) that we expect be triggered in their local region of the network. This is done according to the results of a power flow analysis of the network.

15. DCUSA Schedule 17 (paragraph 2.5) requires that the load data used in the power flow analysis is based on network demand data from the DNO Party's LTDS (Long Term Development Statement), which includes a five-year demand forecast from the previous financial year. A ten-year forecast, from the price setting period, is derived by extrapolating the LTDS forecast to cover the full period of FCP analysis. The data outlined in the LTDS is the basis for the Authorised Network Model, which must represent our entire EHV network.

16. Under Standard Licence Condition 25 of the Electricity Distribution Licence, we are required to prepare and maintain the LTDS. This includes obligations relating to the preparation and publication of the statement. As we intend to publish the revision of our LTDS later this month, we have only recently completed the updates to our input data that informs the FCP methodology. This ensures that our published network charges align with our publicly available network development plans.

17. The forecast load growth outlined in our LTDS is consistent with our business planning assumptions and reflective of our expectations according to the DFES (Distribution Future Energy Scenarios) Consumer Transformation scenario. For completeness, we have also computed draft FCP results using the load growth associated with the System Transformation scenario. This has confirmed that we observe a similar volatility in results under different DFES load growth backgrounds.

18. In compliance with DCUSA Schedule 17, the FCP analysis has been carried out using the same forecast scenario as the 2023 revision of the LTDS (i.e. the Consumer Transformation scenario). The 2023 LTDS covers the demand growth over the 2022/23 to 2027/28 timeframe, and the FCP methodology covers 2025/26 to 2035/36. The use of this scenario now captures exponential load growth projections that reflect the electrification of our future energy system, including significant growth in the expected uptake of EVs (Electric Vehicles) and HPs (Heat Pumps) as a core driver of the changes we expect to see.

How the EDCM FCP methodology allocates costs

19. The EDCM FCP methodology involves four key steps which are detailed in DCUSA Schedule 17, along with the diagrammatic overview provided in Appendix 2 to this letter:

    1) The application of load flow techniques and the FCP methodology to determine the tariff element which representing demand-led reinforcement costs (i.e. the locational FCP tariff).

2) The allocation of DNO costs based on the contribution of connectees to those costs, accounting for the specifics of their connection and forecast usage of the network (i.e. the customer specific calculation of the 'forward-looking' charge).
3) The scaling of charges to match Allowed Revenue (i.e. the calculation of customer specific 'residual' charges that true up overall revenue recovered to the Allowed Revenue for the charging year).
4) The use of CDCM charges to determine the element of portfolio charges to be applied in the case of DNO/IDNO parties supplied for the DNO Party's network (this final step is not relevant to this issue).

20. The FCP (Forward Cost Pricing) methodology is one of two authorised EDCM approaches that are outlined in the DCUSA. It uses projected load growth and investment plans associated with key branches of the network as the basis for cost allocation to users of the EHV network in those locations. A key differentiator of the FCP methodology is that is uses actual load growth projections to inform how costs are allocated, rather than a fixed assumption.

21. The LRIC (Long Run Incremental Cost) methodology is an alternative EDCM approach. Whilst we do not use the LRIC methodology, we understand that it is unlikely to produce the same amount of volatility in year-on-year charges. This is because the LRIC methodology uses a fixed 1% load growth assumption, against which a sensitivity analysis is performed on the network to determine the relative impact of connecting a small amount of electricity demand (0.1MW) at each node of the network.

22. The assumption of a small, fixed 1% load growth means that forward-looking costs are not signalled in the same way by the LRIC model. Whilst LRIC charges may be resilient to load growth changes, whether a 1% assumption is a credible basis on which to set charges in the future is something that also needs to be reviewed. Historically, FCP has been the more stable of the two approaches due to aggregating the network into branches compared to nodal charges under LRIC, which has typically been more volatile.

23. It would not be possible for us to apply the LRIC methodology in the timescales required for publication of 2025/26 tariffs. To do so would require a major rework to our internal systems, data, processes, and extensive re-training of staff at significant cost, requiring a prolonged planning and implementation period.

Causes of volatility in the EDCM FCP methodology

24. The forward-looking component of the charge is designed to signal the costs to which a network user is contributing. Under a high growth/high investment scenario, these signals are increasingly strong (by design), meaning that a large amount of 'future cost' is being signalled in the forward-looking component of the charge. In practice, this is principally included in a combination of the import capacity and super-red period charges.

25. In one of our licence regions (SEPD) this expectation of future load growth coincides with a significant drop in our 2025/26 Allowed Revenues (subject to confirmation in the finalised Price Control Financial Model). This impacts the EDCM, which has a consequently lower target revenue to recover.

26. As the 'forward-looking charge' is agnostic to target revenue, a high load growth projection (in future years) and a low target revenue (for the year being assessed) results in a larger over-recovery that must be corrected back to target revenue via the 'residual charge'.

27. This results in a large negative residual charge. Residual network charges are levied on a fixed charge according to capacity banding on final demand. This means that final demand customers with a higher residual band receive the largest fixed credits, whereas lower banded customers receive smaller fixed credits. As these credits must be paid for, non-final demand customers see large and volatile increases in their charges to pay for them.

28. Whilst these results are explainable, they are highly unintuitive, raising practical and strategic questions about whether the model is still functioning as industry and Ofgem expect. It does not seem logical that demand users would simultaneously attract a large capacity charge whilst being paid a large residual credit, paid for by increases in non-final demand user charges, in a context where demand growth is driving network investment.

29. This is due to how the EDCM initially allocates forward-looking charges before target revenue scaling to recover a pre-determined proportion of EHV network costs. Much of the load growth in our network development plan is a consequence of domestic demand growth, which may also call into question whether EHV customers should bear such a significant amount of the cost or benefit.

30. Within the charging methodology, NUFs (Network Use Factors) determine the proportion of the EHV network that LV (Low Voltage) and HV (High Voltage) connected customers are using in comparison to EHV connected customers. The NUFs informs the revenue target for the EDCM versus the CDCM (Common Distribution Charging Model), which calculates charges for LV and HV connected customers. Given the changes we are seeing in load growth projections, we anticipate that the Network Use Factors may also need to be reviewed to ensure that the correct proportion of cost is being assigned to each charging model.

31. We believe that these anomalous results could have a detrimental impact on our customers if they are not sending signals which users expect or are able to respond to. We believe these charges are a consequence of how the methodology allocates costs in a high load growth scenario for which it was not designed, rather than the result of an informed policy decision to assign costs in this way.

Proposal to minimise volatility and disruption for customers

32. We have considered and discussed several potential options with the Ofgem Distribution charging team, including a do-nothing option (if the model is functioning as intended), an option to alter our load growths (creating a misalignment between the load growths in our published network development plans and charging models), or an option to carry over the locational components of the 2024/25 charge setting process to 2025/26.

33. We believe that the latter option – carrying over the locational components of our 2024/25 tariffs (including the locational FCP charges and NUFs) – would be the best option to ensure charge stability for our customers whilst offering full transparency based on our prior year publications. This option would align with the concerns that stakeholders have already expressed about the volatility of the EDCM, and we believe could be readily implemented with widespread stakeholder support.

34. This would require that Ofgem consent to SHEPD and SEPD charging other than in accordance with the EDCM FCP methodology to carry over these components of the 2024/25 tariff calculations. In all other respect, we propose to update our charging models to reflect the latest available information. Ofgem may wish to consider whether there is a case to extend this consent to more widely cover all DNOs who are required to use the EDCM

FCP methodology in the interests of equivalent treatment for all customers whose charges are derived according to this methodology.

35. We will continue to share further details on this issue and engage with your team as necessary to reach a consensus on the way forward, in order that we can publish our network tariffs in accordance with our obligations. We are conscious that not publishing our tariffs in accordance with the DCUSA notice periods may cause disruption to suppliers, generators, and other customers who are expecting these tariffs to be published. We believe that our proposal offers a pragmatic solution that will enable us to adhere to the notice period and which serves the interests of our customers and wider consumers.

Next steps for a review of the EDCM

36. Given the concerns we have outlined, we strongly support Ofgem's recent proposal at the Charging Futures Forum that near-term DUoS reform should focus on the volatility of the EDCM. Our proposed solution would deliver interim stability whilst Ofgem's review more fully considers potential future policy developments with stakeholder engagement to inform longer-term change. As part of this review, we believe it would make sense for Ofgem to consider the extent to which today's network charges should be levied based on future network costs and load projections, in the context of an electricity network expected to undergo dramatic change and investment.

37. We are happy to engage with your team on this issue, or any other potential developments in the charging methodologies that Ofgem may wish to discuss given the experience and knowledge of the methodologies that our charging team has. We hope to continue our constructive engagement with Ofgem on policy developments that we believe will be to the benefit of our customers and wider consumers.

Yours sincerely,

P.J. Cassels

Patrick Cassels
Head of Network Commercial, SSEN Distribution

Appendix 1: Summary of largest year-on-year changes in customer charges

[Redacted]

Appendix 2: Diagrammatic overview of the EDCM FCP methodology (for import charges)