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18 September 2018

Submitted via email to: NetworkAccessReform@ofgem.gov.uk

**Getting more out of our electricity networks by reforming access and forward-looking charging arrangements**

Dear Jon,

Thank you for the opportunity to respond to the above consultation. This response is on behalf of UK Power Networks' three distribution licence holding companies: Eastern Power Networks plc, London Power Networks plc, and South Eastern Power Networks plc. We are the UK's largest electricity Distribution Network Operator (DNO), dedicated to delivering a safe, secure and sustainable electricity supply to 8.3 million homes and businesses.

UK Power Networks have been successfully exploring and implementing initiatives that encourage users of our networks to make more efficient use of the existing system where possible and reward them for doing so. Examples of this are our Flexible Distributed Generation<sup>1</sup> connection offering and more recently, our timed connection offers aimed at new electric vehicle charging developments<sup>2</sup>. We continue to explore new ways to enable and reward flexibility including our work to develop more economically efficient ways to curtail excess generation when constraints occur on the network<sup>3</sup>. As we continue to work with our users and stakeholders to develop more sophisticated arrangements, we fully recognise the need for a more coordinated approach to developing these solutions. Therefore, we welcome this proposed review and look forward to taking an active role in developing and delivering a more coordinated framework for encouraging and rewarding flexibility.

In line with the desirable characteristics set out in your working paper<sup>4</sup>, we believe the goal of this review should be to identify ways in which flexibility can be encouraged and rewarded proportionately such that it has the potential to deliver benefits to the system and ultimately, consumers. Where possible, these solutions should reflect the diverse requirements of user groups and avoid solutions that introduce disproportionate complexity for consumers or require significant engagement which may limit the benefits that can reasonably be realised.

<sup>1</sup> <https://www.ukpowernetworks.co.uk/electricity/distribution-energy-resources/flexible-distributed-generation>

<sup>2</sup> <https://www.ukpowernetworks.co.uk/electricity/distribution-energy-resources/timed-profile>

<sup>3</sup> [http://www.smartnetworks.org/project/nia\\_ukpn0018/documents](http://www.smartnetworks.org/project/nia_ukpn0018/documents)

<sup>4</sup> [https://www.ofgem.gov.uk/system/files/docs/2017/11/reform\\_of\\_electricity\\_network\\_access\\_and\\_forward-looking\\_charges\\_-\\_a\\_working\\_paper.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/11/reform_of_electricity_network_access_and_forward-looking_charges_-_a_working_paper.pdf)

For the reasons mentioned above, we support a comprehensive review to ensure future arrangements are coordinated across all parts of the system, whilst creating a level playing field for all participants. Ultimately, this may not lead to significant modification to existing arrangements in all areas covered by the review. Any proposals to reform current arrangements that come from this review must be fully justified by clear benefits to users of the electricity system.

We fully support the joint ENA response to this consultation which focuses on the questions in chapter 5 regarding the delivery of this review and any resulting reforms. As demonstrated in table 1 of your consultation document, there are key links between almost all areas of network access and charging. This was evident in the work carried out by the task forces set up under the Charging Futures Forum where it became apparent that a meaningful assessment of options in a particular area could not be carried out in isolation.

Therefore, to ensure that future arrangements are cohesive and to avoid any unintended consequences or inconsistent user experience, all areas must be evaluated simultaneously. This leads us to believe that this review would best be delivered under a comprehensive Significant Code Review (SCR). Our view is that this SCR and any resulting reforms would be best coordinated by Ofgem with the full support of the industry as demonstrated in the approach to the task forces mentioned above.

The review will potentially identify changes that can deliver benefits to consumers and can be delivered to an accelerated timescale once an initial comprehensive evaluation against all areas of this review has taken place. The review should therefore be carried out in such a way that these “quick win” solutions are deliverable in a timely fashion rather than waiting for the full conclusion of the SCR. We would actively support any such changes and modifications to implement these changes where necessary.

It is important to remember that although there is a clear benefit to making more efficient use of existing network capacity, expanding the network to create new capacity will remain an important part of enabling the continued adoption of low carbon technologies. We do not suggest that efficient approaches to network reinforcement should be within scope of this review. However, this is an opportunity to develop arrangements that simultaneously encourage users to make best use of the existing capacity while also providing signals to network operators when network reinforcement might be the most efficient option and provides the maximum net benefit to consumers and the electricity system. These signals would be a valuable input into the wider decisions being made regarding network reinforcement.

Within the scope of this review, billing processes and systems will be a significant topic, both under the review stage and potentially as a vehicle for the ultimate solution. Given their role in the current DUoS billing process for smaller users of the networks, we believe that for this area of the review, energy suppliers are well placed to provide support in a similar capacity to the network companies. This will ensure the right expertise is feeding into the review and the development of the future arrangements.

Appended to this letter we provide specific responses to the questions set out in your consultation. We are aware that this consultation is to gather views on the scope of areas to be covered by this review but we have also taken this opportunity to share some of our initial thoughts in these areas. These comments are offered to help set the context for the review and where it may identify benefits most efficiently.

We have successfully delivered and continue to develop initiatives in areas relevant to network access and charging. Details are provided in our specific responses to your consultation questions. We welcome further specific engagement in any of these areas where you feel this would be beneficial.

We hope that you find this response useful and look forward to taking an active role in the proposed review and ultimately delivering any reforms that benefit all users of the electricity system. If you have any questions, please do not hesitate to get in touch.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'James Hope', with a stylized flourish extending to the right.

James Hope  
Head of Regulation and Regulatory Finance  
UK Power Networks

## **Appendix – Response to Individual Questions**

**Question 1: Do you agree with the case for change as set out in this chapter? Please give reasons for your response, and include evidence to support this where possible.**

We agree with the case for change as set out in the consultation document. For many years, UK Power Networks have been exploring and successfully implementing methods to encourage our network users to provide flexibility services that can be used to achieve efficiency in network development. Often these initiatives will raise questions around users' current and proposed network access rights and also around how users will subsequently be charged.

As organisations from many sectors are developing more solutions, and the complexity and degree of interaction increases, we agree this is the right time to launch a comprehensive review into the relevant arrangements.

For example, we have successfully developed and implemented various initiatives which are relevant to the topic of network access. These include the successful roll-out of our Flexible Plug and Play innovation project (now known as Flexible Distributed Generation (FDG) connections)<sup>5</sup> and time profiled connections for charging of electric vehicle fleets<sup>6</sup>.

We have been able to successfully implement these initiatives with new customers as they are agreed at the time of connection, allowing the chance to define access arrangements and reflect this in their connection offer and charge accordingly. However, as we look ahead to questions around re-allocation or dynamic allocation of access, we are dealing with customers who have been connected to the network with only a vague definition of their access rights. Having a more definitive, widely accepted definition of access rights will support the development of new innovative products and arrangements that are clear and transparent to customers.

We also recognise the role of improving network charging arrangements to send more cost reflective signals to customers of their impact on the network. This approach has the benefit of being less restrictive as it will allow users to respond to these signals rather than being restricted to a defined set of "access products". However, it is important to note that this must be balanced against the complexity of providing these signals to customers.

It is important that the benefits and any weaknesses from potential options for reform are fully explored and understood before changes are implemented. This will ensure that any modifications taken forward are fully justified. As described further in the responses, some changes could result in very significant implementations which would add cost and complexity to the electricity system. This should be a core part of the evaluation of which options for reform most efficiently deliver the desired benefits and be backed up by an Impact Assessment for any significant reforms.

**Question 2: Do you agree with our proposal that access rights should be reviewed, with the aim to improve their definition and choice? Please provide reasons for your response and, where possible, evidence to support your views.**

We agree that network access rights should be included in this review and believe that better definition in some of the areas explored further in the questions below have the potential to support the development of innovative arrangements for users to make more efficient use of the electricity system.

Beyond the physical connection capacity, access rights are often ambiguous for users of distribution networks. The current arrangements for connection and charging may imply a level of access to the wider system but use of the system, once connected, is rarely explicitly governed in agreements at distribution level. Only recently have new agreements been developed at a distribution level which define the use of the system beyond a simple overall capacity. As these agreements develop and become more complex, they

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<sup>5</sup> <https://www.ukpowernetworks.co.uk/electricity/distribution-energy-resources/flexible-distributed-generation>

<sup>6</sup> <https://www.ukpowernetworks.co.uk/electricity/distribution-energy-resources/timed-profile>

rely on improved definitions of customers' access rights and start to test interactions with other areas, such as the way customers are charged for their usage. Therefore, we agree that access rights and their definition should be included as part of this wider review.

When exploring improvements to the definition of access rights of existing users, consideration will have to be given to the terms under which they connected to the network and the way they currently use the network. This should help to ensure that any potential reform does not have any unintended negative impact on existing users.

**Question 3: Specifically, do you have views on whether options should be developed in the following areas as part of a review? Please give reasons for your response, and where possible, please provide evidence to support your views:**

**a) Establishing a clear access limit for small users, with greater choice of options (as considered under b) and c) below) above a core threshold – do you agree with our proposal in paragraphs 3.5-3.10 that this should be considered? Do you have views on how a core threshold could be set?**

We believe that clarifying the access rights of small users will be an important part of ensuring efficient development of the distribution system especially as uptake of low carbon technologies increases. We understand the intent behind defining a core level of access to ensure future arrangements reflect that access to the electricity network is an essential service to customers. However, we do not agree with the proposal to consider this approach in the review as it has the potential to lead to a requirement to make decisions on sensitive matters, such as where to draw the line on essential needs. It is also likely to be a significant administrative burden on both facilitators and customers with the risk that it does not encourage the right response from customers. We give some detailed reasons for this view below.

We believe that this review should instead focus on identifying and rewarding flexibility through customer behaviour and technology-enabled solutions. As an example, this could include access products that encourage users with electric vehicles to flex their charging behaviour based on local network conditions, potentially through technological means. This could be combined with a greater focus on capacity based charging to better reflect the impact of the users' behaviour on the network and encourage uptake of these flexible access products. This would allow any flexible behaviour to be encouraged and rewarded in an equivalent way, regardless of the source of the flexibility; whether low-carbon technologies or traditional loads. Additionally, this would ensure that it remains each customer's choice what level of engagement they have with the energy system and avoid an unnecessary administrative burden for those that choose not to engage.

The reasons we believe defining a core level of access for small users is not the best approach are set out below:

- Setting a core threshold would require a definition to be made for essential needs which would likely be subjective and potentially sensitive. Additionally, stakeholders are also likely to have differing views on what needs are deemed essential.
- If a definition for essential needs can be agreed, knowledge would be required for each individual customer's arrangements to be able to define a customer's core threshold in electrical terms. For example:
  - Washing – customers may use a gas hot water system or electric shower
  - Cooking – customers may have a gas stove or an electric stove.

The type of appliances each customer has to provide for their needs could have a significant impact on the electrical requirements to meet these needs. Obtaining and maintaining this detailed information for every domestic customer would be complex, prone to error and expensive to administer.

- We recognise the role smart meter data may play in helping to inform a view of essential/basic customer usage but any arrangements would need to consider how fairness would be maintained between customers with and without smart meters installed.



- If the core threshold is bespoke to individual customers or groups of customers and usage within this limit is treated beneficially, this may lead to questions around the fairness/equity of such arrangements.
- The assumption that the electricity usage associated with basic needs is not flexible may not always be correct. This could lead to unintended consequences such as:
  - The full potential of flexibility not being realised as users are not incentivised to flex all power consumption where possible.
  - The possibility of unnecessarily excluding certain customers from participating in flexibility activities and the associated benefits if all their power consumption falls within the core threshold definition.

**b) Firm/non-firm and time-profiled access – do you agree with our proposal outlined in paragraphs 3.15-3.21 that these options should be developed?**

Answered jointly with question c) below.

**c) Duration and depth of access, discussed in paragraph 3.25-3.32 - would these options be feasible and beneficial?**

We agree with the proposal to develop the definition of access rights for larger users in the areas identified in the two questions above. In general, the aim of defining network access rights should be to support agreements between the network operators and its users that best reflect the system conditions and their impact on it. For example:

- Where users are connected to an unconstrained network, their access rights may only need to define their agreed import/export capacity.
- Where firm capacity on the network is exhausted, non-firm agreements could allow more users to make use of the system without the need for costly reinforcement.
- Where the constraints on the network are particularly time dependent, time-profiled access agreements could make better use of the capacity that is available on the system outside of peak times.

Consideration must be given to how conditions on the network change over time and how this may impact agreements with customers that are based on well-defined network access rights.

As detailed in our response to question 4, network access rights must be reviewed alongside the associated charging arrangements that will support any agreement made on the basis of a defined level of network access.

An example of where better defined network access rights will support flexible technologies is in the case of distribution connected energy storage installations. Energy storage has many use cases one of which is to support the distribution network in areas of constraint. If network access rights are agreed with a storage operator to ensure storage is operated in a way that supports the network rather than adding to constraints, this can be reflected in subsequent connection and use of system charges.

**Firmness**

Non-firm connection arrangements are being rolled out across distribution networks and are having a positive impact on the amount of DG able to efficiently connect to the network. These arrangements have been very successful in allowing more DG connections without the need for costly reinforcement where customers accept that the connection may be curtailed when constraints materialise on the network when running in abnormal conditions.

The success of these arrangements show that non-firm access has benefits to customers and leads to efficient use of existing capacity on the network. Therefore, we believe firmness of access is a key area to be explored when considering future access arrangements under this review.

### **Time profiled**

We have developed basic time-profiled connection offers for loads that have a predictable time profile (such as charging of fleets of electric buses). As with non-firm connections described above, this has been used to avoid the need for costly reinforcement and makes better use of existing network capacity.

We are continuing to develop these connections offerings to have more sophisticated time profiles to match the local network conditions. As with firmness, we believe such arrangements have the potential to deliver benefits to customers and support an efficient approach to network reinforcement so should be included in the review of network access arrangements.

### **Short-term**

If it can be determined that such arrangements are valued by customers, it would be worth exploring how these arrangements could be formalised. An example of where this may be appropriate is the deployment of energy storage on a temporary basis to address a specific system need.

However, we can foresee a risk that such offers, if not well-managed, could lead to inefficient stranded investment that could unnecessarily increase costs to the wider customer base. This would need careful consideration if this area is included in the review to explore the value it provides to customers.

### **Depth**

The concept of shallow network access for customers that can demonstrate their demand on the network is matched locally by generation (minimising the impact on higher voltage levels of the network) could be reflected in future arrangements. How this lower impact is reflected in charges may depend on how access to the network is defined and charged for in the broader future arrangements. Other points to consider are:

- How such arrangements will be formalised. Such schemes will need to be assessed to determine what impact they have on the various levels of the network.
- Although the locally matched demand/generation may limit power flows on the wider network, the customers will still be benefiting from the other services provided by the wider system such as balancing for voltage and frequency control. The cost of providing these services should still be reflected in network charges.
- The reliability of the matching between demand and generation. If the demand and generation are not reliably matched, particularly at the time of constraints on the network, the customers' usage could still be a driver for reinforcement.

### **d) At transmission or distribution in particular, or are both equally important – as discussed in this chapter?**

The current arrangements for many of the areas discussed above currently differ between distribution and transmission. Therefore, in the context of future arrangements, they will have to be considered differently. However, we believe the review should consider the areas identified above across both distribution and transmission to ensure that the objective of a level playing field between the two is achieved.

### **Question 4: Do you agree with the key links between access and charging we have identified in table 1? Why or why not? Do you think there are other key links we have not identified? Where possible, please provide evidence to support your views.**

We agree with the specific links outlined in table 1 of the consultation document. Broadly speaking, these detail the wider interaction between access and charging and a large part of the proposed review will need to explore this interaction and ultimately determine which approach is suitable in each situation. This is one of the key reasons we believe this review needs to be comprehensive and delivered under one framework with clear leadership as detailed in our response to question 11.

For example, the review will include exploring whether an emphasis on an access or charging based approach is best for different customer groups such as large/small and demand/generation. The factors that

should be considered in making these decisions should focus on customer choice, complexity, required levels of engagement and how “future-proof” the resulting arrangements will be.

The distinction between access choices and forward looking charges is not binary and future arrangements may rely on a balance of the two. For example, a customer choice regarding their level of access may be used to inform a capacity charge element of their DUoS bill. This is one of the reasons we believe a fully comprehensive SCR is the best option to take account of these interactions and deliver consistent future arrangements.

**Question 5: Do you agree with our proposal that targeted areas of allocation of access should be reviewed? Please give any specific views on the areas below, together with reasons for your response. Where possible, please provide evidence to support your views:**

**a) Improved queue management as the priority area for improving initial allocation of access, as outlined in paragraphs 3.41-3.44?**

We agree that improved queue management is an area that could have a positive impact and could be achieved via incremental changes rather than needing full reform. Therefore, we also agree that this area should be prioritised and delivered to an accelerated timescale, however, as detailed in our response to question 11, it should form part of the comprehensive review under Ofgem coordination for the following reasons:

- Some improvements to queue management may rely on specific arrangements with those in the queue regarding their access to the network (duration, time profiling etc.). If this were not aligned with the wider review of access rights it could cause issues when interacting with any future arrangements that come as a result of the review. There may also be interaction with existing connected users’ implied access rights which could cause confusion if implemented before the full review takes a position on defining existing access rights.
- We recognise that there may be a need for regional differences to queue management improvements but if not coordinated at a system level, customer experience could differ between regions leading to confusion, particularly with developers who work across multiple regions.

We agree that this area could be prioritised in terms of identifying “quick wins” and accelerating the delivery of them. However, we believe there may be higher priority (in terms of importance) issues to be explored regarding how the initial allocation of any newly defined access rights are assigned to existing network users. If a reform leads to future arrangements more dependent on definition of access rights, bringing all existing and future customers onto a level playing field will be essential.

**b) Not to consider the potential role of auctions for initial allocation of access as part of a review at this time, as discussed in paragraph 3.44?**

We agree with this position. Whilst we recognise there may be some merits to an auction-based approach which reveals the value of network access to customers, it could have negative impacts on the process such as:

- A fundamental shift away from cost-reflective charging to value-reflective charging.
- A large administrative burden, to both facilitate the process and for the users engaging in the auction.
- A significant hurdle for users to gain access, particularly less informed/engaged users of the system.
- In circumstances where there is limited capacity, access may be allocated to those with the “deepest pockets” rather than those who value it the most.

**c) To review the areas outlined in paragraphs 3.45-3.48 to support re-allocation of access?**

We agree that the areas identified should be included in this review as they will ensure that future arrangements reflect the fact that, as we move towards a more flexible system, users’ requirements are likely to change over time. Implementing ways to reflect these changing needs will benefit existing users and new



users of the system. Careful consideration will have to be given as to how these arrangements are implemented as detailed below against each area.

### **Use It or Lose/Sell It**

Making better use of unused capacity could result in more efficient network development. This would be supported by arrangements where there is an incentive on customers to consider their capacity requirements more closely and continue to assess their requirements as they change over time.

‘Use It or Lose It’ arrangements would have to be carefully managed to ensure they do not negatively impact the customer experience and maintain equity between different customer groups. They would need to account for the individual circumstances of the customer both in terms of:

- Their future requirements, i.e. they may have plans to use the capacity in the future or require it for contingency purposes.
- The terms under which they received their original connection, i.e. different customers will have made different levels of contribution towards network reinforcement which may have to be taken into account when applying Use it or Lose/Sell It arrangements.

### **Market Based Curtailment**

We agree with including this in the review. This is an area we have explored in some detail and have produced a report which details options for implementation.<sup>7</sup> We are ready to trial this initiative and are happy to engage further to ensure trials provide the best evidence base for the wider review.

This approach has many benefits including:

- It can be efficiently targeted at areas where constraints exist, minimising complexity for other customers connected to areas of the network that do not require constraint management.
- It can be operated on an entirely voluntary basis, i.e. users do not have to engage in the market but those who do, can realise benefits.
- It fits well with current arrangements and allows all customers (including demand, generation and those already connected to the network under a firm/non-flexible agreement) to participate and realise benefits.

### **Re-allocation/trading of access rights**

This is another area we have started to explore in detail with plans to begin a trial in the near future. Again, we would look to engage further to ensure the trials provide the best evidence base for making a decision on future arrangements.

Re-allocation or trading of access rights would not only help to make the most efficient use of existing capacity but could also provide a reliable signal to the network operators of the value placed on access to the network in particular areas, this could then ultimately feed into investment planning.

Effectively managing re-allocation/trading of access rights heavily depends on the definition of access rights and to some extent the arrangements under which capacity is initially allocated. There are other factors that would need careful consideration in the review, for example the impact this would have on the observed diversity between customers’ usage profiles which the network operators use to develop efficient networks. Trading arrangements could also encourage non-physical trading which may not be in the interest of end customers.

**Question 6: Do you agree that a comprehensive review of forward-looking DUoS charging methodologies, as outlined in paragraphs 4.3-4.7, should be undertaken? Please provide reasons for your response and, where possible, evidence to support your position.**

We agree with a comprehensive review of the current forward-looking DUoS charging methodologies and that it should be fully integrated with the review of network access rights. As identified in question 4, there are strong links between network access and charging and the future arrangements will be implemented using a balance of both. As detailed in our response to question 3, we believe that future arrangements

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<sup>7</sup> [http://www.smarternetworks.org/project/nia\\_ukpn0018/documents](http://www.smarternetworks.org/project/nia_ukpn0018/documents)

should focus on identifying and rewarding flexibility in a targeted way. Reflecting individual customer impact on the network to a high degree of granularity will be complex and could require a higher level of engagement from all customers. A more proportionate approach may be to identify where customers are willing and able to be flexible with their energy usage, defining this in terms of their access to the system and then rewarding them appropriately through network charges in a targeted way. We are aware this needs to be explored in the full context of all areas of the review including those identified in this question and give more detailed consideration to them below.

### **More cost reflective CDCM charges**

Achieving greater granularity of charging at HV and especially LV levels of the network will be very complex and costly to implement. Therefore, the proposed review should explore whether customer flexibility and choice is best achieved through access products or more granular charges. The review should also explore whether there are targeted approaches that achieve a reasonable amount of benefit without the need to implement full granularity at high cost/complexity.

### **More predictable locational signals in EDCM charges**

We support a review of the charging methodologies to ensure that they are appropriate for the evolving energy use environment. On that basis we support considering changes to improve predictability to EDCM charging and a review of the split of charges between those recovered based on capacity requirements and those recovered through unit-based charges.

Network investment decisions are long term and the associated costs of those decisions are set on a predictable basis. Consequently we believe there is value in customers' network charges being predictable as it will enable them to respond to any signals more reliably. Predictable and stable charges are achieved when consideration is made not only for forecast investment, but also considers the impact of historic investment. When considering pricing signals, they should reflect the potential to avoid future costs rather than reflecting only the benefit that network users may be seeing from previous investment decisions.

These principles regarding predictability will also apply if this review leads to reform that involves more cost reflective CDCM charges.

### **The balance between usage-based charges and capacity-based charges**

Capacity is the underlying driver of forward-looking network costs and it is important that customer's capacity requirements form part of the cost structure. However, the weakness with the current capacity charges is that they may not reflect the timing impact of a consumer's demand and its proximity to network peaks. The advantage of unit based charges is that when unit time bands are set to match the network peak, the units consumed will be a proxy for the demand used at that time. With the increasing installation of half hourly metering capability, through advanced and smart meters, the ability for network charges to reflect half hourly consumption through multiple time of use unit charges becomes far more practical. As distribution network use evolves to different network peak times, local or national customers' unit time bands could change in order to incentivise or discourage demand on the network.

We see this as being a key area for the review as capacity based charges are likely to rely on network access definitions so highlight one of the most fundamental links between access and charging to be explored.

### **Question 7: Do you agree that the distribution connection charging boundary should be reviewed, but not the transmission connection boundary? Please provide reasons for your response and, where possible, evidence to support your position.**

We are not aware of any evidence to suggest that the shallow connection charging boundary coupled with the Connect and Manage approach employed at transmission level is not effective. We therefore agree that the connection charging boundary at transmission level should not be included in this review.

At the distribution level, we agree with the principle that moving to a shallow connection boundary in distribution would put more focus on influencing customers' ongoing behaviour (i.e. encourage flexibility).

However, this would be a very significant change to the current arrangements which could lead to excessive complexity and potentially misalign the timing of signals with the timeframe of the decisions they can influence. We explore the strengths and weaknesses of the approach below but on balance we do not believe that a shallow distribution connections boundary would drive the right behaviour. These strengths and weaknesses need to be assessed and properly understood to inform decisions on future arrangements.

### **Strengths of shallow distribution connections charging boundary**

Moving to a shallow connection charging boundary would mean more of the cost of connections-related reinforcement would be funded through DUoS charges rather than forming part of the upfront connections charge. This would have the effect of incentivising customers to consider their use of the network once connected to minimise the need for reinforcement and the associated cost, potentially reducing overall costs to customers (connection and DUoS charges combined).

Adopting a shallow charging boundary could also simplify the connections process, particularly in congested areas where there may be complex interactions between other schemes and developments. In addition to this it could also lead to better coordinated, more efficient investment in reinforcement of the network where a network operator can make more holistic decisions that take into account the wider needs of the network alongside the requirements of connecting customers.

### **Weaknesses of a shallow distribution connections charging boundary**

Converse to the point made above, there is a significant risk that removal of the locational signal at the time of investment could instead lead to decisions being made by connections customers that lead to inefficient levels of reinforcement. These costs would potentially have to be recovered from the wider user base.

Decisions on the location of developments are predominantly made at the time of investment. Currently, the connection charge provides an effective locational signal of the impact a proposed development will have on the network through a higher connection charge where reinforcement is required. Moving to a shallow connection charge will remove this signal and, depending on changes to better target locational forward-looking DUoS charges, could result in a signal being sent, but at a time when there are very limited options to respond to it. Furthermore, an unintended impact of moving to a shallow connection charging boundary might be that developers will face lower connection charges at the expense of higher DUoS bills for end-users.

Making such a fundamental shift in charging arrangements will lead to a situation where customers have been connected to the network under different agreements and it is important to treat these customers equitably regardless of their connection terms. This could mean that two charging systems would have to run in parallel or a suitable means of bringing legacy customers onto a level playing field would have to be implemented. The complexity of administering legacy or transitional arrangements would have to be factored into any decision on reform. The transition between the charging arrangements could also lead to distortions in connections activity at the time of implementation if one arrangement is seen as preferable to the other.

Consideration would have to be given to what level of financial commitment is made by connecting customers to ensure there is protection for the wider customer base from having to pick up the cost of stranded reinforcement assets.

The connection charging boundary may also have a fundamental impact on other areas that may be considered for reform. For example, non-firm connections are a proven way to make more efficient use of the current network capacity. A shallow connection charge may remove the incentive for customers connecting to congested areas of network from considering non-firm access to the network. Interactions such as these should be considered as part of the proposed review.

**Question 8: Do you agree that the basis of forward-looking TNUoS charging should be reviewed in targeted areas? If you have views on whether we should review the following specific areas please also provide these:**

**a) Do you agree that forward-looking TNUoS charges for small distributed generation (DG) should be reviewed, as outlined in paragraphs 4.19-4.23?**

As installation of distributed generation continues to grow, some areas of both the distribution and transmission network are experiencing constraints (and therefore associated costs) that are driven by the impact of generation. We support a review of TNUoS charges and believe it should focus on ensuring that all generation, large and small, is treated in an equivalent way and fairly applied. The approach used should ensure that charges reflect cost and do not discourage distributed generation from connecting in electrically efficient locations such as areas dominated by demand constraints or at a voltage level that better supports the network. Consequently, it might be beneficial to be mindful of charges for transmission connected generation in the review as charges are based on an arbitrary TNUoS demand/generation split.

**b) Do you consider that forward-looking TNUoS charges for demand should be reviewed, as outlined in paragraphs 4.24-4.27?**

**Please provide reasons for your response and, where possible, evidence to support your position.**

We support this being part of the review and as mentioned above, believe this should focus on the demand/generation split and how a more predictable and cost-reflective charge may improve customers' ability to provide reliable flexibility services.

**Question 9: Do you agree that a broader review of forward-looking TNUoS charges, or the socialisation of Connect and Manage costs through BSUoS at this time, should not be prioritised for review? Please provide reasons for your response and, where possible, evidence to support your position.**

We do not believe that a broader review of forward-looking TNUoS charges should be completely discounted at this time. It is important to ensure the review is broad and captures situations where changes to transmission charges might be more appropriate than those to distribution charges or where there is significant interaction between the two. This would be especially relevant if TNUoS charges for small distributed generation are included as this could have wider impacts which may not be captured in a more narrow scope. We agree that these areas are not a priority but, based on the above, findings of this review could inform other work in this area.

We agree that a review of BSUoS charges could be carried out separately to this review, as per the response to question 10 below, as there are fewer interactions in this area.

**Question 10: Do you agree that there would be value in further work in assessing options to make BSUoS more cost-reflective, and if so, that an ESO-led industry taskforce would be the best way to take this forward?**

We believe that a review is required to help fully understand the non-energy related benefits of balancing services so that improvements in the cost-reflective application of charges can be made. We believe this could be delivered as a separate ESO-led industry task force as long as there is sufficient collaboration or established links between the reviews and stewardship from Ofgem to ensure objectives are achieved. For example, the decision on whether to sharpen locational signals should be consistent across transmission and distribution to ensure all users are treated equitably and that there are no distortions which lead to inefficient connection decisions.

We would welcome further engagement on the plans and timelines for the separate review to better understand how learning and dependencies identified between the two reviews will be accounted for.



**Question 11: What are your views on whether Ofgem or the industry should lead the review of different areas? Please specify which of SCR scope options A-C you favour, or describe your alternative proposal if applicable. Please give reasons for your view.**

Answered jointly with question 12 below.

**Question 12: Do you agree with our proposal to launch an 'Option 1' SCR for areas of review that we lead on? Please give reasons for your view.**

In answer to questions 11 and 12, we reference and support the Energy Networks Association (ENA) response to this consultation which focuses on the questions relating to the delivery of the review and any resulting reform. We support the view that the SCR should be comprehensive in scope as described in Option C of your proposals and proposed changes delivered under Option 3 with the full support of industry.

As shown in table 1 of your consultation document there are specific links and interactions between almost all areas of access and charging. It would not be possible to evaluate, develop and implement a full set of future arrangements without accounting for these links and interactions. Running the review with multiple, parallel approaches to governance risks introducing misalignment between any arrangements being implemented and potentially leading to unintended consequences.

This is a view backed up by the experience of the task forces set up on this topic under the Charging Futures Forum. It quickly became apparent that it is very difficult to isolate individual areas of network access and charging due to the comprehensive and complex interactions between all areas. To make a meaningful assessment of potential options for change as part of the work which led to the final report from the task forces, possible arrangements in each of the areas discussed had to be organised into representative worlds that encompassed all areas of access and charging. This indicates that only a comprehensive assessment will lead to a cohesive set of arrangements that account for all interactions.

For the same reasons we believe that the changes required to implement the reform resulting from this review would be best delivered from an Option 3 SCR and that this option is most compatible with Option C for scope. A coordinated, end-to-end approach to delivering the required code modifications will avoid unnecessary duplication and any potential misalignment of the intent of the code changes being directed.

UK Power Networks and the wider industry have shown they fully support the work being undertaken in this area through the active participation in the task forces. UK Power Networks have every intention of continuing this active role in the review and implementation of any resulting proposals for change. This is a view backed up by the joint response from ENA members. We see our role as being just as involved under any of the options for delivery of this review. Our reasons for supporting the comprehensive options are to ensure a cohesive output from this work which will deliver an effective outcome and a consistent customer experience.

Our responses to previous questions in this consultation give detail of the various initiatives we have implemented and those we are exploring further. It is our intention to ensure that where these initiatives align with the objectives of the SCR, they can be implemented in a timely fashion to start delivering benefits to customers. We do not believe that a comprehensive scope of the SCR will prohibit this. In fact, having these "quick win" initiatives within the scope of an SCR that is delivered in phased manner will give confidence that they are aligned with wider objectives and therefore support their adoption.

**Question 13: Do you agree with the introduction of a licence condition on the basis described in paragraphs 5.11 and 5.12 and Appendix 5? Why or why not? Do you have any comments on the key elements set out in table 7 of Appendix 5a, or consider there are any other key elements which should be included? Please give reasons for your view.**

Answered jointly with question 14 below.



**Question 14: Do you have any comments on the draft wording of the outline licence condition included at Appendix 5b? Please give reasons for your view.**

Based on our joint answer to questions 11 and 12, we do not believe that a licence condition is required to deliver this review. UK Power Networks, along with the other network companies as demonstrated in the ENA response to this consultation, are fully committed to working with Ofgem, the wider industry and all relevant stakeholders to ensure this review is successful and leads to meaningful, beneficial change. As mentioned above, we believe this is best delivered through a comprehensive SCR led by Ofgem with the resulting code modifications also being led by Ofgem with full support from industry.

If, ultimately, the review is carried out under options differing from the above, we have concerns about the ability to assess compliance with such a licence condition. Much of the wording of the proposed licence condition is subjective. For example the licensee must develop, assess and deliver improvements which “the licensee considers will best deliver improvements to the existing Relevant Arrangements...”. Assessment of compliance with this requirement would be subjective with the potential for differing views between parties. Therefore, compliance with the condition overall would have to be judged based on this subjective view.

The network companies, along with wider industry, have demonstrated their commitment to this review through their support of the preceding activities delivered through the network access and forward looking charges task forces formed under the Charging Futures Forum. This support would continue to ensure successful delivery of this significant review and the changes that are found to be necessary to support the most effective set of arrangements without the need for a licence condition.

If, ultimately, it is decided a licence condition is needed to deliver reform in this area, we would welcome further engagement ahead of the necessary statutory consultation of the licence modification to ensure any new conditions are fit for purpose. DNOs have a specialist Licence Drafting Working Group which can be called on to help in this area as required.

**Question 15: What are your views on our indicative timelines? Do you foresee any potential challenges to, or implications of, the proposed timelines and how could these be mitigated?**

The timelines proposed for an SCR reflect the comprehensive nature of such a review. We therefore support the timescales presented for delivery of modifications under the SCR and note that they align with the timescales of the RII0-ED2 price control period for implementation.

As mentioned above, we believe that some changes could be made ahead of the final delivery of modifications under an SCR where they align well with the objectives and other proposed modifications. We would support an approach to the SCR that allows for these changes to be progressed by industry with guidance/direction from Ofgem.

**Question 16: What are your views on our proposals for coordinating and engaging stakeholders in this work?**

Stakeholder engagement and contribution will be essential in delivering this review. Reaching the widest set of stakeholders possible will be important since the potential changes coming from the review could impact all users and facilitators of the electricity system. We agree that the channels identified in your consultation will be important to ensure wide coverage and facilitate input from all necessary parties.

Option C for the scope of an SCR will ensure that stakeholders experience consistent and coordinated messaging and engagement in this process which further supports our view that this is the right option. We agree that industry task forces coordinated/led by Ofgem are the right way to support delivery of this work and look forward to contributing through this approach.