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For the attention of Olivia Powis

14 May 2015

Dear Olivia

**Ofgem consultation on quicker and more efficient distribution connections**

Thank you for the opportunity to respond to the above consultation (Ofgem letter dated 19 February 2015). This letter should be treated as a consolidated response 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.

Having carefully considered the consultation document we believe that each scenario described has strengths and weaknesses for consideration across a range of connection scenarios but with each having merit for particular circumstances of connection. A further commentary about our interpretation can be found in the appendix to this letter.

Ofgem has requested details of particular developments that could have benefitted from the new scenarios and this has been provided in the appendix to this letter. We believe this information to be confidential and therefore we request these details to be redacted if this letter is published.

If you have any questions please do not hesitate to contact me as below.

Yours sincerely



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## Appendix

### UK Power Networks commentary on quicker and more efficient distribution connections

#### General comment: categorisation of work elements for connection charging purposes

It is noted that the consultation paper appears to use the generic term 'reinforcement' to refer to works that may be considered as either 'reinforcement' or 'extension assets' within the terminology used in the Common Connection Charging Methodology. It is important that consideration is given to the different charge treatment for these work elements within the charging methodology especially in relation to operation of the Electricity (Connection Charges) Regulations 2002 for both operation of additional charges and for customer refunds.

#### Scenario 1: DNO funds (via DUoS) cost of anticipatory reinforcement (costs are socialised as no initial connection customer)

This proposal has the following features:

- This approach is in response to new connection requests
- Reinforcement costs to be socialised in anticipation of new connections
- DNO to anticipate where an increase in local demand and generation is going to arise and where more capacity is needed on the network
- Ofgem to allow DNO to recover revenue for these costs in the price control settlement
- Encourage DNOs to invest strategically in the network (i.e. before existing capacity has been reached) if in time this leads to a lower overall cost of reinforcement

We agree with Ofgem it is important to recognise that approximately 70% of all reinforcement is already recovered through DUoS charges. Under Scenario 1 the DNO would anticipate where future new connections would require network reinforcement and such that the reinforcement work would be carried out in advance of any specific new connection requirement.

Clearly with this option there is some risk that the reinforcement will ultimately not be used, or not be fully used, and for this reason DNOs will need to consider candidate projects carefully. It may be the case that this option is normally most appropriate where there is a known requirement for reinforcement for existing customers, but where a marginal increase in spend would additionally provide for anticipated new connections.

Ofgem has commented (footnote 9 on p5) on UK Power Networks £100m strategic investment in London. This concerns proposals to provide increased capacity [REDACTED]

[REDACTED] We believe that where such funding can be agreed within a price control settlement this can lead to effective network investment.

However, we are concerned that the existing funding arrangements are dependent on the reopener mechanism in cases where the project is not included in a price control business plan. The reopener mechanism is based upon spend having been incurred, and involves the DNO taking on a degree of risk and therefore it will be less likely for the DNO to be prepared to make the investment given doubt concerning the recovery of expenditure. We believe that a new mechanism

is required for project proposals to be formally developed, robustly assessed, and agreed with Ofgem during any price control period.

**Q1. Would a DNO be sufficiently confident about future connections demand and the benefits to DUoS customers to justify this approach? If so, in which circumstances?**

It will be important for DNOs to consider candidate projects carefully. There may be numerous factors to take into account in order to provide an appropriate level of certainty and such factors are likely to be different across a range of different projects.

In many cases the on-site build commence stage will provide an appropriate level of certainty, especially where initial connections are to be made to the existing network prior to reinforcement (i.e. where there is a level of spare capacity). In such cases the initial connections will provide sufficient confidence to act as trigger for the reinforcement works to commence, that will ultimately provide capacity for the subsequent connections. However, it is noted that this approach would not actually shorten the time scales for reinforcement.

In other cases there will be sufficient confidence resulting from a variety of signals e.g. local authority development strategy, planning approvals, associated infrastructure projects.

Given that the existing connections boundary requires 'extension assets' to be paid for in full and for 'reinforcement' normally by proportion, it may be the case that this option is most appropriate where there is a known requirement for reinforcement for existing network customers, but where a marginal increase in spend would additionally provide capacity for anticipated new connections also.

In any event it is noted that this scenario may work better for projects already underway at the time of a price control where there is greater certainty about project need and the project may be included in business plans. For projects that will commence part way through a price control period the DNO would be exposed to a greater degree of risk resulting from uncertain forecasts. We believe that a new mechanism is required for project proposals to be formally developed, robustly assessed, and agreed with Ofgem during any price control period.

**Q2. What other barriers are there to DNOs taking this approach? How might these be overcome?**

The arena in which this scenario is envisaged working is one where Ofgem's policy framework is not totally clear. With this in mind guidance to DNOs from Ofgem of the level and type of justification they require would be helpful to help mitigate the risk of investment disallowance.

It may be necessary to make provision in the Common Connection Charging Methodology to describe the circumstances under which such DNO investment will be made. It will need to be clearly defined in order to exclude circumstances where it would be more appropriate for a customer contribution to be required.

We believe that a mechanism is required for project proposals to be formally developed, robustly assessed, and agreed with Ofgem during any price control period. We are concerned that the existing funding arrangements are normally dependent on the reopener mechanism which is based upon spend having been incurred, and therefore involves the DNO taking on a degree of risk. In these cases it will be less likely for the DNO to be prepared to make the investment given doubt concerning the recovery of expenditure.

**Scenario 2: DNO funds (via DUoS) cost of anticipatory reinforcement when initial connection takes place (to be reimbursed by subsequent connection customers)**

This proposal has the following features:

- DNOs to invest in additional reinforcement work to support an initial connection with the specific intent of accommodating further connections
- In an area where DNO has received a connection request and is aware of future additional connection requests
- Additional reinforcement to be initially funded by DUoS customers
- Costs recovered from subsequent connection customers through the 'second-comer' rule
- DNO has to be sufficiently confident that subsequent connection customers will appear

In principle this arrangement is already accommodated within the Common Connection Charging Methodology provisions for an 'enhanced scheme' where the DNO can elect to install additional or larger capacity assets for purposes unconnected with the new connection. Under this arrangement it is normally the case that the connecting customer will pay less for enhanced scheme reinforcement as the denominator in the Cost Apportionment Factor will be higher, but in any event the connecting customer benefits from the lower connection charge that would result from either the enhanced scheme or the 'minimum scheme' (Common Connection Charging Methodology paragraphs 5.4 – 5.6 refers).

However, we recognise the limitations and risks of the above approach and therefore we can see benefits in the RAV Buyback Model approach. With this arrangement the DNO is provided with an opportunity to seek Ofgem approval of the proposals such that there is no doubt that the costs will be recoverable. We believe these arrangements could be accommodated as proposed in appendix 1 of the consultation document including the benefit/penalty mechanism in relation to utilisation of the new assets.

**Q3. What are your views on this type of approach and the RAV Buyback Model? Are there any elements which are essential, not required or should be changed – and why?**

We see benefits in the RAV Buyback Model approach but this should not replace the existing enhanced scheme arrangements which we believe should remain in place. It would appear that RAV Buyback may be appropriate for larger schemes with high costs whereas the enhanced scheme currently works well for low and medium cost projects.

**Q4. Please give details of any projects or schemes this type of arrangement could have helped progress which would have not otherwise gone ahead?**

[REDACTED]

**Q5. What would justify requiring subsequent connection customers to only be able to connect to the new, enhanced part of the network?**

We would propose for any new arrangements to be more flexible than as described in the paper. For distributed generation connections in particular it may be the case that the exact location of the required connection has not been established at the time of application and ultimately changes to be outside a defined geographical area, but where it is still appropriate for the connection to be made to the new or reinforced assets that are subject to these arrangements. It may be better to allow the arrangements to apply either to a geographic area, or to a section of network or for a defined development, dependent on the particular circumstances of the connection. We believe that allowing such matters to be defined on a case by case basis and with the agreement of Ofgem would better meet the requirements of all parties and not act to the detriment of any party. Any arrangements that are put in place need to be in the interests of all customers and not potentially anti-competitive to some.

**Q6. What would justify a DNO charging a premium to subsequent connection customers to reimburse DUoS customers for the risk they bear in funding this work? What might be the impact of this? How should the premium be calculated?**

Whilst we would not object to a risk premium approach, we would also suggest that it may add a layer of complexity that is unnecessary. However, if it is to be included in the arrangements then it could sometimes be applied by simply recognising the capacity diversity between any number of new connections that will make use of the new assets. For example if a reinforced network has a spare capacity of 20MVA it may be possible to connect a number of new customers where the sum of their capacity requests is say 25MVA given the diversity of use between them. This 'diversity' will not always apply and so a risk premium may also be appropriate and could be set at a level agreed with Ofgem.

However, it is noted that to facilitate this feature (over recovery of costs) changes may be required to both the Common Connection Charging Methodology and the Electricity (Connection Charges) Regulations. Also it is noted that Section 19 of the Act limits the DNO to recovery of costs that have been reasonably incurred and there is no provision for any premium in this respect unless that can be justified as having been reasonable incurred.

**Q7. Over what time period would it be reasonable to expect DUoS customers to be reimbursed for their initial funding?**

We would propose 10 years in line with the current work to amend the Electricity (Connection Charges) Regulations 2002.

**Q8. When might it be appropriate for a DNO to have an upfront revenue adjustment to cover this type of scheme? Or should existing mechanisms be used?**

We would support the RAV Buyback Model approach to be eligible for upfront revenue adjustment on larger schemes i.e. those with an EHV and/or 132kV work content and/or for capacity request over say 10MVA.

**Q9. Do you consider that this approach would have any implications on competition in connections?**

Subject to resolution of the existing charging and regulatory issues for contestable Dual Funded Reinforcement we believe it should be possible for these arrangements to be applied for ICP projects. However it must be recognised that in many cases individual applicants that are involved



with a large development may wish to use different ICP, IDNO or DNO solutions and in these cases it may be appropriate for only the DNO to carry out the infrastructure works.

**Scenario 3: Connection customer funds cost of anticipatory reinforcement when initial connection takes place (to be reimbursed by subsequent connection customers)**

This proposal has the following features:

- Where there is not enough certainty in the demand for future connections to justify a DNO (DUoS) investing in prospective reinforcement work
- A landowner, developer, local authority may choose to fund the work because they have an interest in enabling future connections
- Could provide quicker connections
- Could be an LA that wants to accelerate certain schemes which align to a social policy, such as community energy
- The customer would pay DNO for an enhanced capacity scheme that would provide for future connections.

We believe this option has advantages in cases where the DNOs assessment does not result in a level of confidence that would enable the DNO to make the investment. In any event we believe that the default position should remain for the costs to be allocated in line with the existing 'connection boundary' as provided in the Connection Charging Methodology.

We believe that these 'option 3' arrangements should not prevent a lead developer or consortium to alternatively continue to recover the reinforcement costs from its land sales to individual downstream builders or developers on a 'serviced plots' basis.

If the existing 'connection boundary' is to remain in place then it may be more appropriate for these 'option 3' arrangements to apply for clearly defined development areas that are separate or remote from any existing substantive networks. In these cases it is less likely that any surplus capacity increases will be used to reinforce adjacent networks.

**Q10. What are your views on the DevCo model and process set out in Appendix 2? Are there any elements which are essential, not required or should be changed – and why?**

The DevCo model provides a number of advantages over alternative scenarios and is particularly attractive for regeneration areas that involve multiple parties.

We believe that these arrangements should not prevent a lead developer or consortium to alternatively continue to recover infrastructure costs from its land sales to individual downstream builders or developers on a 'serviced plots' basis.

**Q11. Please give details of any projects or schemes this type of arrangement could have helped progress which would not have otherwise gone ahead?**

[REDACTED]

**Q12. What would justify requiring subsequent connection customers to only be able to connect to the new, enhanced part of the network?**

It is appropriate that connections are made to the infrastructure provided and funded for that purpose. The connecting parties should have no concerns about any network issues as the assets would be installed and operated by the DNO.

If a premium charge is to be applicable the connecting party may consider that its connection charge is likely to have been significantly higher if the DevCo were not to have been involved.

We note that connect restrictions would apply in any case if the connections provider was an IDNO.

**Q13. What would justify a DNO charging a premium to second-comers to reimburse the customer? What might be the impact of this? How should the premium be calculated?**

As for question 6 it may only be necessary to recognise the capacity diversity between the new connections that will make use of the new assets. For example if a new or reinforced network has a capacity of 20MVA it may be possible to connect a number of new customers where the sum of their capacity requests is say 25MVA given the diversity of use between them. The additional 5MVA charge would provide the 'premium'.

However in this case it is more appropriate for a premium to be charged as an independent third party has made the investment and taken on the risk with no other mechanism for its costs to be recovered.

It is noted that to facilitate this feature (over recovery of costs) changes may be required to both the Common Connection Charging Methodology and the Electricity (Connection Charges) Regulations. Also it is noted that Section 19 of the Act limits the DNO to recovery of costs that have been reasonably incurred although it may be possible for Section 22 to be used for this scenario.

**Q14. Over what time period would it be reasonable to expect the customer to be reimbursed for their initial funding?**

We would propose 10 years in line with the current work to amend the Electricity (Connection Charges) Regulations 2002.

**Q15. What would justify the initial investor being permitted to restrict the type of schemes that would connect using the infrastructure it has paid for? For which type of schemes might this be appropriate?**

The arrangements could apply to a geographic area, or to a section of network or for a defined development, dependent on the particular circumstances of the connection. Providing an option for the DNO to offer ongoing 'reservation of capacity charges' may help to justify the initial investor being in a position to specify the parties that may connect as it would be paying ongoing charges for the capacity to be reserved.

It would seem appropriate for the investor to be able to restrict the types of schemes to connect as it would have made the initial investment. However the arrangements should also facilitate the investor to increase the scope of allowed connections over time so as to make high network utilisation more likely to the benefit of all parties.

There would need to be a mechanism to minimise risk of gaming opportunities e.g. where the investment is being made solely to frustrate adjoining development proposals by sterilising upstream capacity that otherwise could be used by others.

**Q16. Do you have any comments on the recommendations proposed in Appendix 3 to enhance consortium arrangements? What would justify these recommendations? Are there any other changes which would support consortium arrangements?**

In general we would support consortium arrangements as a means to secure efficient low cost connections. We note that the arrangements reported in appendix 3 are specifically for distributed generation connections.

However our experience to date is that there is limited customer interest for this approach. We have recently discussed this topic at a Customer Experience Workshop where developers advised that it is time consuming and difficult to achieve in practice.

Also, we have concerns that recent changes to the DG subsidy framework may result in more competition for viable sites making it less likely for developers to want to enter into consortium arrangements.

**Scenario 4: Other ways of making it easier to connect**

- Reduce the need for reinforcement
- Consider if 'security of supply' could be reduced (A stakeholder review of ER P2/6 is underway)
- Address spare capacity masked by open offers
- Restore 'up-front' A&D charges
- DNO to withdraw unused 'accepted' capacity
- Phase the recovery of connection charges over time

**Q17. What role, if any, could changes to engineering standards play in helping to accelerate the connections process without damaging reliability levels? In what circumstances would this be appropriate?**

We are exploring benefits that may result from Dynamic Transformer Ratings and Dynamic Line Ratings. Under such arrangements a circuit specific rating is assigned to network components in consideration of the actual installation conditions and demand profile. This approach will enable the maximum overall circuit rating to be determined and which is normally expected to be higher than that resulting from traditional methods. This will act to reduce reinforcement requirements and hence may reduce both costs time for connection in some cases.

We are also trialling a smarter storage network facility at our primary substation in Leighton Buzzard, Bedfordshire. This 6MW 'big battery' was awarded funding under Ofgem's Low Carbon Networks Fund. One key consideration for the trial is to determine if the battery will help avoid costly reinforcement of the substation and if used more generally whether it would reduce the need for conventional reinforcement which may speed up connection times in some cases.



Engineering Recommendation P2/6 is currently under review and it is possible that the results could lead to a reduced requirement for reinforcement provided that reliability levels are maintained.

We continue the process of investigating options to harmonise engineering standards across DNOs, where appropriate. Harmonisation of material specifications may result in equipment becoming more readily available which may have a positive impact on accelerating the connection delivery process.

**Q18. Which particular standards might most benefit the connections process if changed?**

We are continually reviewing our standards and policies in line with international research. The harmonisation of material specifications may result in equipment becoming more readily available which may have a positive impact on accelerating the connection delivery process.

**Q19. What benefits might the introduction of assessment and design fees bring?**

We support the re-introduction of up-front assessment and design charges as a means to reduce the number of speculative connection applications being received. Up front charging would provide an appropriate price signal to encourage customers to consider other options (e.g. requesting a budget estimate) dependent on the particular circumstances of the connection. Up front charging would reduce the number of formal applications for connection and therefore allow DNOs to allocate more time dealing with the applications that are more likely to proceed to construction. This is a particular problem in respect of connections for distributed generation where over the previous 12 month period only 15% of quotations issued have been accepted.

Up front assessment and design charges would also allow DNOs to more accurately predict future network capacity requirements resulting from a greater degree of confidence being assigned to projects having assessment and design charges paid.

UK Power Networks has contributed both to the ENA work and to the business case for introduction of up-front assessment and design charges.

**Q20. Could more flexibility in the way assumed available capacity is calculated help accelerate the connections process? Are there any other improvements to be made in how DNOs manage interactivity between schemes looking to connect to the same part of the network?**

The interactive connection application process should act to address situations where capacity has been offered but not accepted. However we believe that in many cases the interactive process is overly complex in particular for distributed generation connections and for connections more generally in London.

In one area we have experienced having 29 projects in an interactive queue and managing the resultant customer interactions has been complex, probably far beyond the level originally envisaged. Some customers have suggested the 30 day acceptance period does not provide them with sufficient time to raise funds etc. and that the acceptance period should be raised to 60 days. However this would then act to increase the number of customers within interactive queues often to unmanageable levels and we do not believe this would act in customers best interests.

We would support exploring options for simplification of the existing interactivity arrangements.

**Q21. When might it be reasonable to withdraw capacity it has previously offered to customers?**

We support arrangements that allow the DNO to withdraw unused capacity post offer acceptance. Such arrangements could include: timescales for commissioning, event milestones, and making reservation of capacity charges.

DG customers have made us aware of capacity hoarding/bagging issues whereby accepted schemes are slow-moving and perhaps unlikely to progress. As a result we have now introduced a slow-moving projects process whereby developers need to demonstrate that accepted projects have received planning permission (or are close to achieving) and can demonstrate progress is being made. Where either or both of these conditions are not met we will withdraw the offer. All projects are being reviewed on a three monthly basis to determine the rate of progress and therefore the likelihood of proceeding to completion.

**Q22. Are there any other changes which could be made to reduce the need for reinforcement?**

We have trialled 'flexible connections' for distributed generation and have plans to progressively roll out as 'business as usual'. Under these arrangements the distributed generator is connected without reinforcement on the basis that its output will be constrained during temporary periods when network operating parameters would otherwise be exceeded.

Our first trial area in Cambridgeshire has now moved to 'business as usual'. Our next trial areas are in Norfolk and Kent, and with other areas to follow.

**Q23. What would justify a DNO offering more flexible terms for connection charges? What might be the impact of this?**

We believe that the DNO should not be a party to arrangements that would recover charges over time in this way and that customers should consider the connection charge in the same way as for other capital elements of their projects. However for larger connections we do support customers being allowed to pay the connection charges by instalment in line with project phasing.

We believe that a DNO's lower financing costs should not be risked to reduce connection costs for developments which are by nature a higher risk. DNOs through the certainty of their revenues enjoy lower financing costs than most businesses. If DNOs offered more flexible payment terms to reduce up-front costs they would essentially be offering finance to a higher risk sector. This could lead to the overall costs of raising money for any DNO activity increasing (either through market perception of risk or through actual defaults) thereby increasing the cost of all the activities undertaken by the DNO. We do not believe that allowing risk to be transferred in this way is in the long term interest of customers.

**Q24. What type of schemes would most benefit from this arrangement?**

We believe that the DNO should not be a party to arrangements that would recover charges over time in this way and that customers should consider the connection charge in the same way as for other capital elements of their projects.

**Q25. What could be done to protect other customers from picking up any costs which cannot be recovered from the original connection customer?**

Please refer to responses for questions 23 and 24 as above.

**Q26. Are there any other measures that would reduce the cost impact of connecting to the network?**

We have not considered any other new arrangements but clearly the 'competition in connections' framework provides customers with both ICP and IDNO alternative options for new electricity connections.

Summary and next steps

**Q27. Which of the arrangements described above would deliver the greatest benefit to the connections process without placing additional risk or cost on the generality of customers, and why?**

All scenarios have benefits as outlined in our answers to the earlier questions – we do not have a specific preference or strong view on which option provides the greatest benefits compared to costs and risks as this may vary on a scheme by scheme basis.

**Q28. Should wider benefits beyond energy system benefits (such as those provided by NTBMs) be taken account of in DNOs' or third parties' considerations of any of the measures or mechanisms described in this paper?**

We should not rule out alternative innovative mechanisms and note that in some cases these may promote connections that would not otherwise be made leading to higher network utilisation and increased cost sharing opportunities.

We would be interested to explore if any NTBMs could be trialled by DNOs identify any barriers to their development.

**Q29. Do you have any other suggestions for delivering quicker and more efficient connections?**

No additional proposals to those covered in the scenarios and questions above.