

By E-mail

Olivia Powis
Senior Manager
Smarter Grids and Governance
Ofgem

Your ref

Our Ref

Date

14th May 2015

Contact / Extension

Wendy Mantle

0141 614 5777

Dear Olivia,

Quicker and More Efficient Distribution Connections

Further to the open letter issued on 19th February 2015, please find attached the response from SP Energy Networks on the questions raised in relation to Quicker and More Efficient Distribution Connections.

If you have any queries on this response or any further questions, please do not hesitate to contact either myself or Wendy Mantle on the number above.

Yours sincerely,



Stephanie Rogan
Licence Development Consultant
SP Energy Networks

Enc.

QUICKER AND MORE EFFICIENT DISTRIBUTION CONNECTIONS

Further to the open letter issued on 19th February 2015, please find below the response from SP Energy Networks on the questions raised in relation to Quicker and More Efficient Distribution Connections.

INTRODUCTION

SP Energy Networks (SPEN) welcomes the opportunity to comment on the proposals put forward to assist quicker and more efficient distribution connections.

The number of connections requiring reinforcement is a low proportion of the total number of connection applications received. However, the values can be high and we recognise that the availability of electricity infrastructure would greatly assist the development and regeneration of areas identified for growth.

SPEN are currently developing strong links with key stakeholders within our licenced areas with a view to developing Integrated Energy Investment Planning. We consider that the co-ordination and joining up of our asset data and energy investment plans with future city energy demand will ensure we develop a network that is fit for purpose and meets the changing needs of our customers.

Appendix 1 includes a small sample of projects currently under discussion that without funding, or an appropriate funding mechanism, may not progress.

We have contributed to the analysis undertaken so far on the review of further mechanisms to assist customers connecting to our network. Jointly with UKPN, we provided input to the RAV Buy Back model included as Appendix 1 to the Consultation.

In addition, SPEN have initiated a number of changes and innovations to assist the provision and utilisation of capacity on our network, including:

- **Accelerating Renewable Connections (ARC):** An initiative, led by SPEN, to facilitate improved access to the distribution network to connect renewable generation. The key aims are to accelerate the time to connect new generation projects, enable connections to be facilitated around constraints on the network, both Distribution and Transmission voltages and create an enduring process that can rolled out across SPEN's network areas. More details can be found on our web-site:
<http://www.spenergynetworks.co.uk/pages/innovation.asp>
- **Flexible Networks for a Low Carbon Future:** To provide economic, Distribution Network Operators (DNO) led solutions to increase and enhance the capability of electricity distribution networks. Crucially, these solutions will be capable of being implemented quickly and will help to ensure that distribution networks do not impede the transition to a low carbon future. This solution aims to provide a 20% increase in network capacity through a number of innovative measures, and will create customer benefits by enabling more customers to make the transition to new low carbon generation and demand technologies. More details can be found on our web-site:
<http://www.spenergynetworks.co.uk/pages/innovation.asp>
- **Capacity Management:** Under the DCUSA open governance process, SP Distribution plc has proposed two changes to the Connection Charging Methodology (DCP 114 and DCP 115) which seek to update the National Terms of Connection to clarify DNOs rights to take appropriate action where customers are found to be either over-utilising or under-utilising

their agreed capacity. If approved, this change will allow DNOs to reflect committed capacity more in line with actual usage/requirements of our customers. More details can be found on the DCUSA web-site www.DCUSA.co.uk

SCENARIO 1 – DNO funds (via DUoS) cost of anticipatory reinforcement (costs are socialised as no initial connection customer)

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?

Through initiatives such as Integrated Energy Investment Planning, working with Local Authorities etc., the DNO is able to identify areas that may benefit from strategic investment. This approach requires careful consideration and forecasting by the DNO to ensure assets are fully utilised and provide appropriate benefits to DUoS customers.

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

The element of DUoS funded reinforcement within DNOs revenue allowance is limited. Further barriers relate to the changing political and economic priorities may impact on the certainty of projects and the future energy needs of geographic areas.

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

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?

The RAV Buy-back model is suitable for specific types of developments, such as demand led regeneration projects with local council support. Projects with well advanced planning applications will be required in order to mitigate risks of under-utilised capacity. Analysis of historic planning data suggests that for some local areas 70% of applications progress to full development. Such information will be key when designing the appropriate investment.

For suitable developments there are a number of benefits for parties in adopting an approach such as this.

- For the economic development community, this approach should remove some barriers to increased investment in the electricity distribution infrastructure and for this to be delivered in a more timely fashion.
- Connecting customers will only pay for their connection and an appropriate share of the reinforcement cost that is required to support it– they would not need to fund more extensive reinforcement, with the uncertainty as to whether any future reimbursement might be forthcoming from second-comers.
- End-customers will obtain a range of protections both prior to delivery, through the Ofgem assessment process, and then via the reimbursement mechanism which will be used to refund their initial investment. Both customers and the DNO will benefit from the certainty of this process thus mitigating the risk of stranded investment. These are essential elements to the process.

Whilst the DNO will also benefit through improvements in the overall integrity and sustainability of the network that will result from larger strategic developments, as opposed to a more piecemeal connection-led approach, the risk associated with this approach is that subsequent connection customers do not utilise the capacity created. This approach should be at the discretion of the DNO

and based on careful consideration and forecasting to ensure assets are fully utilised and providing appropriate benefits to DUoS customers.

Elements of the RAV Buy Back model are similar to the Strategic Wide Works (SWW) process introduced for Transmission. To apply a similar scheme to Distribution, the following require further consideration:

- **Minimum Threshold:** Only high value projects (minimum threshold is £100m for Transmission) are eligible for submission under the SWW mechanism. Consideration should be given to a minimum threshold under this proposal to avoid submitting a proposal in every situation.
- **Defined Process:** The timescales for the SWW is 18 months and can be longer. The level of scrutiny applied has made this process challenging in terms of resource for both the Transmission Owners and Ofgem and the process is currently under review. If the RAV Buyback model was to be adopted a clearly defined process is required to ensure unnecessary delays in delivering the projects are avoided.
- **Assessment Timescales:** Timing to develop robust costs can be an issue. For SWW, initial design cost estimates are developed to enable an initial submission but only when tender prices are received do more robust project costs materialise. The timing of this does not necessarily follow the funding submission process which involves two stages: A Needs Case submission followed by a Project Assessment. Under a strategic investment proposal for Distribution it may be possible to combine these stages as there would be less requirement for optioneering etc.

We are very supportive of this approach, which could assist with the delivery of projects such as those included in Annex 1 of this response, however with regard to the suggested proposals included within Appendix 1 to the consultation, “Other potential features of the model”, we do not agree that adding a benefit/penalty is appropriate or necessary, nor do we agree that normal connection regimes should be suspended and/or a premium added to connection costs. It is a DNOs duty to operate an efficient and well-managed system, which, in addition to the proposed assessment regime, should mitigate any need for such features.

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

Included in Appendix 1 are details of a small sample of projects currently under discussion that without funding, or an appropriate funding mechanism, may not progress.

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

We consider that the minimum scheme rules should continue to apply to all.

It should not be a requirement for customers to only be able to connect to the area of strategic investment as, to meet the needs of projects such as those listed in Appendix 1, the infrastructure solution would identify the connectees and the required capacity. This new infrastructure would likely be the most efficient connection point for these connectees and therefore the current “minimum scheme” rules would apply. In addition, new customers should be given the choice of where they connect.

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?

A premium is not appropriate for this approach, a robust assessment process and longer timescales to recover investment costs should mitigate the need for a premium to be added to connection costs.

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

Current regulations enable initial contributors to be reimbursed up to five years following the connection¹. For particular types of development, e.g. regeneration projects, which are likely to be planned over a longer time-period it would be appropriate to extend this timescale to reflect the planned development phases of such schemes.

Extending the period of reimbursement to 10 years is a fairer approach as it increases the chances of DUoS customers benefiting from additional second comer payments.

Increasing the opportunity to recover costs will encourage anticipatory investment by ensuring that the end-customer has a high probability of being reimbursed for the full cost of the investment, whilst also avoiding the creation of a perverse incentive which could encourage developers to delay their applications until the second-comer period has expired. Such behaviour could have the effect of slowing the whole regeneration process, as well as placing the end-customer at an increased risk of bearing some part of the cost.

However, we do not consider it appropriate to extend the period beyond 10 years as this would make the process more difficult to justify to new customers who would need to pay towards assets that are beyond 10 years old.

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?

Similar to the SWW process in Transmission, where, following comprehensive assessment, Ofgem approve a project, funding should be provided through agreed annual uplifts in the DNOs allowed expenditure, which is then collected via the annual iteration process through which allowed revenues are adjusted in respect of incentive performance etc. Consideration will need to be given to the recently approved DUoS charging methodology change whereby DNOs are required to give 15 months' notice to setting DUoS charges to recover allowed revenues. If a project is approved during the year there will be a delay to when the additional expenditure can be added to the revenues to be recovered from DUoS charges.

In addition, if the DNO needs to commence any works before the annual adjustment to revenues, the associated expenditure will need to be collected retrospectively at the next annual adjustment, with an appropriate uplift for the time value of money.

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

ICPs would not be prevented from competing for the new connections.

As part of our ***"Incentive on Connections Engagement (ICE) Draft Improvement Work Plans"***, we are commencing a trial which will allow alternative connection providers to undertake part funded connections (e.g. reinforcement), where an appropriate opportunity arises. Using the findings from the trial we will develop an approach that allows alternative connection providers to undertake part funded connections as an enduring process.

¹ The Electricity (Connection Charges) Regulations 2002

Further details of our ICE Draft Improvement Works Plans can be found using the following link:

http://www.spenergynetworks.co.uk/news/pages/improving_the_service_for_our_connection_customers.asp

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

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 is funded outside of the DUoS customer base and therefore the DEVco (and its partners) carry the financing and stranding risks. Current rules would accommodate the basis of this approach, which is perhaps more suited to larger projects with single developer.

For the reasons detailed in Q12 and Q13 below, we do not consider it appropriate that subsequent customers should be restricted to connecting within the enhanced area, or that a premium rate should apply. We do, however, agree that an extended recovery period would assist the financing for such projects.

This option removes the risk of DUoS customers funding assets that may not be fully utilised.

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

A number of schemes within Wales have been able to secure funding to assist with strategic infrastructure from the Welsh Assembly. Such funding is limited and is not available in all areas covered by our licences, the DEVco proposal could provide a further mechanism for such funding.

As stated above, larger projects with single developers could benefit from this type of approach.

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

We consider that the minimum scheme rules should continue to apply to all. It should not be a requirement for new customers to only be able to connect to an area of strategic investment, the choice of where to connect should not be removed.

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

A robust assessment process and longer timescales to recover investment costs should mitigate the need for a premium to be added to connection costs.

For the DEVco model, DNOs would be charging the premium on behalf of the Developer, this has the potential to cause inconsistency and less transparency in connection charges.

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

Current regulations enable initial contributors to be reimbursed up to five years following the connection. For particular types of development, e.g. regeneration projects, which are likely to be

planned over a longer time-period it would be appropriate to extend this timescale to reflect the planned development phases of such schemes.

Extending the period of reimbursement to 10 years is a fairer approach to cost sharing by increasing the changes of initial connectees benefitting from second comer payments, which could assist financing of such schemes.

However, we do not consider it appropriate to extend the period beyond 10 years as this would make the process more difficult to justify to new customers who would need to pay towards assets that are more than 10 years old.

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?

Beyond the legal and regulatory issues in relation to a DNOs duty to connect, ring-fencing areas of network for particular types of customers would not assist DNOs to efficiently plan and operate their networks. Allowing only a particular type of scheme to connect to the new infrastructure could require further reinforcement to allow other customers to connect and could increase the overall reinforcement costs to DUoS customers.

The DEVco would also have to consider that second-comers may not materialise as quickly and therefore they may not recover the investment costs. It would not be appropriate to include additional premiums to connection costs to cover the risk of any such shortfall due to a restricted scheme.

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?

We agree with Ofgem's comment at the end of Appendix 3, in that a consortium approach may be appropriate for a specific set of circumstances and therefore we support that such arrangements should be discussed, and developed, with customers on a case by case basis.

SCENARIO 4 – Other ways of making it easier to connect

4.1 Reducing the need for reinforcement via network management

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?

Engineer Standard EREC P2/6 covers security of supply requirements is currently under review, however its biggest impact is at the larger demand levels. It does not specify what levels of capacity the DNO needs only the level of demand that requires to be secured under first and second circuit outage conditions. Other considerations such as the CI/CML incentive (and customer expectations of the level of service) tend to drive the design requirements of lower voltage network connections.

Engineering Standards (such as EREC G83 and G59) are introduced to assist with the connection process and to ensure that all connections meet certain minimum requirements and do not have an adverse impact not only on network reliability but also on power quality issues (harmonics and voltage waveform quality) and other legislative requirements such as ESQCR. Therefore any proposals to lessen the technical standards to increase the speed of the connections process should

not lead to a detrimental impact on these aspects which the DNO has to manage and maintain compliance with.

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

In addition to current standards, the potential impact of the new European Network Codes on connections, particularly generation connections, need to be considered. The new Requirements for Generators network code establishes a set of criteria and processes which covers generation down to 800W, and as these will be applied as European Regulations we have no discretion to modify the standards or processes set out in these.

4.2 Reducing the need for reinforcement by managing connection offers

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

Where previously DNOs charged upfront A&D charges on larger connection applications, this option was removed in 2008 when Ofgem clarified the legal position. Since that time the number of unaccepted applications has risen significantly and the associated abortive A&D charges have been socialised within charges made to other connection applicants who proceed with their connection.

DNOs recently undertook a review of such fees and in December 2014 collectively wrote to DECC setting out a business case for the re-introduction of Assessment and Design charges². The business case proposed small upfront charges to customers to create a cost signal that will reduce abortive work and allow DNOs to free up design resource, enabling them to:

- Reduce the average time to provide a formal connection offer, which in turn will reduce the time it takes for the customer to get connected
- Increase the amount of quality customer interaction by providing additional time for upfront discussions, leading to proposals being more closely tailored to customers' business plans/needs. This will allow more flexibility to meet customers' demands e.g. requests for meetings, scoping discussions, etc.
- Have more time to fully consider the connection options including smart-grid solutions that may provide a quicker and lower-cost means of connection

The re-introduction of A&D fees will positively influence customer behaviour by being set at a level to balance the cost signal without being a barrier to customers requiring a formal quotation, and also reduce the socialised charges resulting in more cost reflective 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?

SPEN, where possible and with the agreement of all parties, will consider developing network solutions to accommodate interactive projects whereby a shared infrastructure solution is designed and the costs shared between parties to assist quicker and more efficient connections.

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

Robust post-offer management of connection offers/acceptances is key to efficient capacity management.

² Letter from David Smith, Chief Executive of ENA to Robert Kinnaird, DECC dated 23rd December 2014 and accompanying document "Business Case for upfront Assessment and Design Charges" by Derek Fairbairn, Northern Powergrid, on behalf of all DNOs.

SPEN's current terms and conditions for connection allows termination of an offer if the customers works and our works are not completed 12 months after the Target Date, by giving 4 weeks' notice. In addition, should our works not have commenced 12 months after the date of the Offer, we reserve the right to terminate the Offer. We also require customers to provide quarterly updates on progress being made to achieve Planning Programme Milestones.

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

As mentioned in the introduction, a number of changes have been initiated by SPEN, including:

Accelerating Renewable Connections (ARC)

An initiative to help new green energy projects connect to the local power network earlier by working with local communities and electricity consumers. ARC will help communities to develop ways of using locally-produced energy, allowing generators to produce more and helping all parties benefit from reduced costs. The project is led by SP Energy Networks working in partnership with Community Energy Scotland, Smarter Grid Solutions and the University of Strathclyde.

Together we are trialling Active Network Management (ANM) – a system which allows us to connect new generators to the power network more quickly and cheaply where previously the network was believed to be at fully capacity. ARC has been launched in the East Lothian and Borders region our electricity distribution network – an area of 2,700 square kilometres stretching from North Berwick down to Holy Island, and inland as far as Hawick and Galashiels.

The current connection application process has limitations, particularly where the volume of applications is high. Sub-optimal outcomes can arise because design decisions have to be taken with limited information which is superseded by new applications. The project will identify ways to address this shortcoming by trialling changes to the existing connections process in collaboration with stakeholders.

The objective will be to trial a new connections process and to supplement this with new commercial arrangements and technology to accelerate the connection of renewable generation connections. Ultimately this will enable the economic production of greater amounts of low carbon electricity in a timely and lower cost manner.

Flexible Networks for a Low Carbon Future

Flexible Networks for a Low Carbon Future will provide Network Operators with economic, DNO led solutions to increase and enhance the capability of electricity distribution networks.

Crucially, these solutions will be capable of being quickly implemented and will help to ensure that distribution networks do not impede the transition to a low carbon future. Our solution will aim to provide a 20% increase in network capacity through a number of innovative measures. This will create customer benefits by enabling more customers to make the transition to new low carbon generation and demand technologies.

The project involves enhanced network monitoring and analysis to precisely determine existing performance, and the deployment of novel technology for improved network operation - including flexible network control and dynamic rating of network plant and equipment.

To ensure representative and replicable outputs, the project involves three carefully selected trial areas from across the two licence areas (SP Distribution and SP Manweb). These trial areas cover various network topologies and customer demographics and are located at St Andrews in Scotland, Wrexham in Wales and Whitchurch in England.

The primary driver for the project is to allow higher levels of low carbon technology to be accommodated on the distribution network without adversely affecting quality of supply, but also allow reinforcements where appropriate to be deferred until greater certainty on the nature of future loads can be gained. This then allows appropriate business decisions on reinforcements to be made without the risk of stranding assets or inefficient network investment.

The three key elements of the project

- Determine more accurately the existing capacity headroom
- Allow that headroom to be exploited in a safe, reliable and cost-effective manner using 'Smart Grid' network interventions
- Provide incremental increases in headroom in a timely and cost-effective manner.

The specific issues facing us in these three locations are mirrored across the UK electricity distribution network, and this project will be able to provide generic solutions and recommendations to address these. This is an excellent opportunity to develop and demonstrate innovative solutions through the Low Carbon Network Fund and also provide learning to the rest of the UK electricity distribution industry.

Capacity Management

Under the DCUSA open governance process, SP Distribution has proposed two changes to the Connection Charging Methodology (DCP 114 and DCP 115) which seek to change the National Terms of Connection to clarify DNOs rights to take appropriate action where customers are found to be either over-utilising or under-utilising their agreed capacity. If approved, this change will allow DNOs to reflect committed capacity more in line with actual usage/requirements of our customers.

The change will allow DNOs to serve notice to customers to:

- Disconnect connections which have been de-energised for longer than 6 months; and
- Re-declare the Maximum Import/Export capacity if less than 75% of the current agreed capacity is taken in the preceding 12 months.

Identifying and withdrawing unused reserved capacity has the potential to reduce the need for reinforcement in some areas.

4.3 Flexible Terms for the recovery of connection charges

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

Payment terms are continuously under review and currently phased payments are offered, however payments must always be in advance of committed expenditure.

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

Connection terms should apply on a consistent, and transparent, basis.

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

The needs case and project assessment processes will need to be robust in order to reduce the risks to customers.

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

In addition to enhanced funding mechanisms, technical innovation projects, such as those detailed in Q22, will assist the delivery of more efficient network 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?

Each proposal has the potential to address specific customer requirements and SPEN is keen to work with stakeholders and customers to develop solutions to enable quicker, more affordable connections, and as described, a number of initiatives are under way.

The RAV Buy-back model has the potential to assist regeneration projects within our licenced areas, which are characterised by having a number of small independent developers, planning approvals and support of local authorities. Working to develop a strategic solution rather than an incremental, connections led solution, will assist all parties.

Further development of the proposals included in this consultation could provide additional mechanisms to help DNOs help their customers to connect to our network.

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 measures or mechanisms described in this paper?

Facilitating regeneration and assisting communities to develop is important to our stakeholders and should be considered as part of the assessment and decision process on strategic investment.

APPENDIX 1

PROJECT 1	
Driver	Regeneration / Economic Growth
Type of Connection	Demand
Load Required	23.7 MW
Characteristics	<ul style="list-style-type: none"> • 86 small developers • Residential and commercial end connections

PROJECT 2	
Driver	Enterprise Zone
Type of Connection	Demand & Generation
Load Required	32.4 MW Demand 66.7 MW Generation
Characteristics	<ul style="list-style-type: none"> • Development of former industrial sites • Residential, commercial and industrial connections • Solar and waste generation

PROJECT 3	
Driver	Recent large scale industrial investment
Type of Connection	Demand
Load Required	15.7 MW
Characteristics	<ul style="list-style-type: none"> • Encourage growth to service industrial investment • Housing Project • Industrial Estates