

Quicker and more efficient connections – an update on industry progress

Progress update

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Contact: Olivia Powis

Team: Energy Systems Integration

Tel: 020 7901 3879

Email: olivia.powis@ofgem.gov.uk

Overview:

Last year we explained the process of getting a new electricity connection and we consulted on different and, in some instances, new ways of making it easier to connect. We then invited Distribution Network Operators (DNOs) and stakeholders to bring forward schemes that could serve as trials under these different models. We also gave DNOs actions and timescales to make more efficient use of existing network capacity.

This paper summarises the progress that DNOs have made on the actions which we set out in our publication on 'Quicker and more efficient connections' in September 2015. We also outline the trials proposed by stakeholders, as well as schemes that have previously been successfully implemented using these, or similar, models.

Context

Getting a new electricity connection to the local distribution network promptly is important. Along with service and choice of provider, one of the most important factors in getting connected is whether or not the network has enough spare capacity to accommodate a new connection.

If a lot of work is needed then it can take a long time for a connection to be completed. But it is not just about the time. For some customers, the network reinforcement costs can affect whether or not their project goes ahead.

Delays can be avoided if the capacity which remains is used more efficiently or if new capacity is created in anticipation of future connection requirements. This can be done by finding smart ways to reduce the need for additional capacity on the network – or by reinforcing the network in anticipation of future connection requirements.

We asked DNOs to take a number of steps to help make more effective use of the remaining spare capacity. We also invited DNOs and stakeholders to come forward with trial schemes to find solutions which will benefit new customers without making other customers worse off.

Associated documents

You may find the following associated documents helpful:

- [Quicker and more efficient connections – next steps](#) (September 2015)
- [Quicker and more efficient connections](#) (February 2015)
- [How to get an electricity connection](#) (August 2014)
- [A guide to electricity distribution connections policy](#) (April 2014)
- [Non-traditional business models](#) (September 2015)
- [Position Paper: Making the electricity system more flexible and delivering the benefits for consumers](#) (September 2015)

Contents

Executive Summary	4
1. DNO/ENA progress on making better use of existing network	6
Reducing the need for reinforcement via network management	6
Reducing the need for reinforcement by managing connection offers	9
Provide more flexible terms for recovering connection charges	11
2. Proposed Trials	13
Significant numbers of DG developments in one area	13
Urban development	15
3. Case studies of existing schemes	16
Appendix 1 - Draft principles for milestones in connection offers	19
Appendix 2 – Queue Management Action Plan	25

Executive Summary

This paper is an update on how Distribution Network Operators (DNOs) and other stakeholders are taking forward the actions we outlined in our September 2015 document on quicker and more efficient connections.¹

The need for reinforcement is driven by the extent to which a new connection adds to the peak demand on the network and whether this exceeds the remaining capacity. If a new connection can avoid adding to the peak, or if the profile of the peak can be reduced, then reinforcement can be avoided. This is arguably the most efficient way of enabling growth. To achieve this, the network needs to be managed in a different way than it has been in the past, with increased use of sources of Flexibility. For more information on the work we are doing on making the electricity system more flexible please refer to our Flexibility position paper we published last year.²

Using the existing network more efficiently can avoid the need for costly reinforcement and customers can be connected to the grid more easily. So in September 2015, we published a plan for DNOs (individually and collectively (via the Energy Networks Association (ENA)) to complete, that should help use existing spare capacity more efficiently. DNOs were asked to complete these actions by December 2015.

We report on DNO progress against those actions in Section 1. Key areas of development in this area include -

- Improved visibility and availability of flexible connections, flexible payment terms and consortia for connecting customers.
- Development of a set of principles and rules for the introduction and enforcement of milestones in connection offers.
- Development of an action plan for industry to progress more effective queue management.

We recognise that there will still be instances when these and similar measures do not avoid the need for additional capacity to be created. So we invited DNOs and other stakeholders to come forward with trials that might enable reinforcement to take place in anticipation of future connection customer requirements.

We have received proposals for six schemes. We describe these in Section 2. These proposed trials encompass a range of projects at different stages of development.

¹ <https://www.ofgem.gov.uk/publications-and-updates/quicker-and-more-efficient-connections-next-steps-0>

² <https://www.ofgem.gov.uk/publications-and-updates/position-paper-making-electricity-system-more-flexible-and-delivering-benefits-consumers>

What is being proposed and how this might fit within existing regulations is also different for each trial.

As we said in our previous publications, the existing regulatory framework already allows DNOs to undertake this type of investment. Section 3 highlights examples of previous case studies where a DNO has put in place specific arrangements to enable reinforcement to take place in anticipation of future connections. We describe how these worked and the steps the DNO took to safeguard the interests of its wider customer base.

Next steps

(i) Making more efficient use of the network

We welcome the progress that has been made by DNOs and other stakeholders following our September publication, but we note that in some areas further work is required that will involve engagement between the industry and wider stakeholders. We will continue to provide updates on the work in this area and encourage customers to engage with DNOs on the issues highlighted.

(ii) Progressing trials for investment ahead of need

We will continue to work through the issues associated with each proposal with individual DNOs and stakeholders in the coming months. We will publish periodic updates on a trial-by-trial basis to share what we learn.

We also recognise that new schemes/trials may emerge which are not included here. We would like to assure stakeholders that they should feel free to contact us if they have a proposal that they would like to discuss as we will continue to look for solutions in this area.



1. DNO/ENA progress on making better use of existing network

1.1. In our September 2015 update, we set DNOs a number of actions to improve the existing connections process. We grouped these into:

- reducing the need for reinforcement via network management;
- reducing the need for reinforcement by managing connection offers; and
- providing more flexible terms for the recovery of connection charges.

1.2. We asked DNOs and the Energy Networks Association (ENA) to update us on their progress by the end of December 2015. Their response is summarised below.

Reducing the need for reinforcement via network management

1.3. The cost and time for connection should be reduced if the DNO can find ways of avoiding the need for reinforcement or the costs are shared with a wider group of customers. The steps taken by DNOs to achieve this are outlined below.

Flexible connections

1.4. Following successful trials, many DNOs now allow new customers to connect to the network, without reinforcement, even when the capacity requested by that customer exceeds the peak limits. DNOs do this on the basis that the customer agrees to being constrained off when the network approaches its capacity limits. These types of 'flexible' connection agreements are sometimes referred to as non-firm connections, constrained connections or active network management schemes.

Request	We asked DNOs to make information publicly available – through the ENA – about the different arrangements for flexible connections that are offered across the DNOs.
Action update	The ENA has developed a webpage containing a summary of information on flexible connections from all DNOs and National Grid – with further links to company websites: http://www.energynetworks.org/electricity/futures/flexible-connections.html .

Making customers aware of flexible connections offers

1.5. Stakeholders said that flexible connections were not always offered in some network areas, while others (independent generators and community groups) noted that they are not always aware that a flexible connection offer might be available.

Quicker and more efficient connections – an update on industry progress

- 1.6. It is important that connecting customers facing high connection costs are aware that there may be alternative ways to connect to the network.

Request	We asked DNOs to clearly outline on connection offers that there may be alternative methods of connecting to the network.
Action update	
Electricity North West Ltd (ENWL)	Discussions held with customers prior to issuing quotation regarding flexible connection offers. Planned engagement with customers on the issue in 2016.
Scottish Power Energy Networks (SPEN)	<p>SPEN issues flexible offers to customers with actively managed connection options. In the future, SPEN is looking to provide greater information on the options available to customers including:</p> <ul style="list-style-type: none"> • The network/geographical areas where Active Network Management options may be available • Guidance for developers on Flexible Connection offers including a process to understand the implications of constraints. <p>By the end of February 2016, SPEN will include appropriate wording in its connection offers to ensure that customers are aware of alternative means of connection that may be appropriate for their needs.</p>
Western Power Distribution (WPD)	<p>WPD has put information in the relevant offer letter templates explaining that it has alternative connection options available. This information directs customers to the relevant section on the WPD website where the customer can access full details of the pros and cons of an alternative connection. The following information is included in the offers:</p> <p>Alternative Connections</p> <p>If a customer is willing to temporarily reduce their export capacity at times of peak network usage, then WPD has a range of <i>Alternative Connections</i> which may allow connection with reduced costs and/or improved connection timescales. WPD's website has further information on the types of connection on offer and the areas these are available in:</p> <p>www.westernpower.co.uk/Connections/Generation/Alternative-Connections</p>
Northern Powergrid (NPg)	<p>This information will be included in connection offers with the exception of small works (since it is unlikely to be relevant to small works). Similar content is also available on NPg's website as a connections Frequently Asked Question (FAQ) on the topic of flexible connections:</p> <p>https://www.northernpowergrid.com/help-and-information/getconnected/flexible-connections-could-flexibility-reduce-my-connection-cost-or-timescales</p>
Scottish and Southern	In SSE's 'Plans and Commitments for connections customers', it has committed to introduce an improved connection offer in the

Energy Power Distribution (SSE)	first quarter of 2016, which will include a new section on alternative connection options.
UK Power Networks (UKPN)	UKPN has added a paragraph to all new connection offers made with effect from 2 January 2016, advising customers of the possibility of an alternative method of connection and a link to the relevant section of the website: http://www.ukpowernetworks.co.uk/internet/en/our-services/list-of-services/electricity-generation/flexible-distributed-generation/

Consortia

1.7. There can be circumstances where prospective connection customers come together in a consortium and share the associated reinforcement costs. This can reduce the cost burden that would fall on individual connection customers.

1.8. Although we realise a consortium approach may not be practical in all situations, we believe that DNOs should encourage and facilitate the establishment of consortia where appropriate.

Request	We therefore asked all DNOs to clearly publicise the potential advantages of forming a consortium and the arrangements available for consortia.
Action Update	
ENWL	Information published on website: http://www.enwl.co.uk/our-services/connection-services/generation/consortia-arrangements
SPEN	SPEN hold local workshops to support groups of customers and support their connections to the network.
WPD	Information published and consortia register available (to register interest and get in touch with other connectees): http://www.westernpower.co.uk/Connections/Generation/Facilitating-sharing-of-information-for-potential.aspx
NPg	Information published on NPg website, and NPg will review the arrangements following stakeholder feedback. https://www.northernpowergrid.com/help-and-information/getconnected/what-is-a-consortia-or-joint-venture
SSE	A consortia register is available via its Heatmap tool to assist developers in identifying others that may be interested in forming a consortium: https://www.ssepd.co.uk/generationavailability/ Further information is published on its website, noting the option to share the costs of reinforcement. https://www.ssepd.co.uk/AlternativeGenerationConnections.aspx
UKPN	UKPN has added a page to its website with its approach to consortia. UKPN also emailed a link to the new page to all customers on its Distributed Generation (DG) mailing list and has been approached by a number of customers expressing an interest. UKPN will continue to monitor and review as necessary.



Quicker and more efficient connections – an update on industry progress

	http://www.ukpowernetworks.co.uk/internet/en/our-services/connections-work-outside/electricity-generation/consortium-approach/
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Changes to engineering standards

1.9. More flexibility in assessing what work must be done for individual connections (while ensuring wider network reliability) could reduce the need for reinforcement. At present this assessment is carried out in line with the requirements of engineering recommendation P2/6.

Request	We noted that a distribution code review panel is reviewing engineering recommendation P2/6. The analysis, which compares the merits of the current arrangements to others, will be completed by May 2016.
Action Update	The ENA is on track to complete this analysis by the end of May 2016.

Reducing the need for reinforcement by managing connection offers

Managing the connections queue and introducing milestones

1.10. We think that better management of the connections queue could potentially release capacity on the distribution network, avoiding the need for reinforcement. We generally believe that connecting customers will benefit from a regime when capacity that has been allocated to one customer but is not being used (and there is little prospect of it being used) can be withdrawn and reallocated to other customers.

1.11. One way to achieve this would be by introducing milestones in connection offers which, if not met, would allow the DNO to withdraw its offer. We understand that this is not a straightforward issue, and DNOs would benefit from a common set of principles to underpin these milestones. We wanted stakeholders to be involved in developing these principles.

Request	We asked the ENA (DNO-DG Steering Group) to develop a set of principles and rules that will apply to using milestones in connection offers. The DNO-DG steering group should provide high-level principles to us by December 2015. The principles would then be subject to wider consultation with stakeholders before being implemented.
Action update	The ENA, through the DNO-DG steering group, has developed an initial set of principles which have been submitted to us. The principles have been considered, along with proposals for common milestones, by DNOs and DG representatives and form a useful basis for a wider public consultation. The ENA will widen these principles to take account of storage devices in advance of the

	<p>consultation. The draft principles are in Appendix 1 (please note that they may be further refined before being issued for public consultation).</p> <p>We would like the ENA to carry out an industry-led public consultation on these principles. The consultation should be carried out end of March 2016, and report back to Ofgem and the DNO-DG steering group with a proposed plan to enact the agreed principles and milestones by end of June 2016.</p>
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Releasing unused capacity

1.12. We also noted that operational sites underusing capacity for long periods of time can contribute to a lack of available capacity for new connections. The modification proposal DCP 115³, which we approved in July 2015, amended the national terms of connection to clarify DNOs’ rights to act when customers underuse their capacity. We expect that this will let DNOs proactively approach customers underusing capacity.

<p>Request</p>	<p>We asked the DNO-DG steering group to also consider wider queue management issues such as, how to withdraw capacity from connection offers that have already been issued but which did not contain milestones. We expected this group to identify the different issues, and by December 2015 to have developed ways to resolve them.</p>
<p>Action Update</p>	<p>The ENA and DNO-DG steering group has investigated options to withdraw capacity via:</p> <ul style="list-style-type: none"> - powers under section 17 of the Electricity Act to take away unused capacity, - DNOs utilising DCP115 changes to ‘propose’ a reduction, - consideration of whether DG customers who make slight changes to connections requests (e.g. transformer location) should be treated as a new request and move to the back of the queue. <p>The group has put together a plan to investigate these options and will report back in September 2016. (See Appendix 2 for a more detailed action plan).</p>

³ Distribution Connection and Use of System Agreement (DCUSA) DCP114 - National Terms of Connection Amendments - Capacity Management (over utilisation) and DCP115 - National Terms of Connection Amendments - Capacity Management (under-utilisation)

Letter of authority

1.13. Stakeholders suggested that customers seeking a connection offer who do not own nor occupy the property being connected must have a letter explaining that they are acting with the authority of the end customer. This could reduce the number of speculative applications from parties that have no contractual relationship with the property they are seeking to get connected.

Request	We asked the DNO-DG steering group to explore the impact of rolling out the requirement of a letter of authority across different types of connections. We asked for an update on this work by December 2015.
Action update	All DNOs have now agreed to require a letter of authority from DG customers applying for a connection.

Provide more flexible terms for recovering connection charges

Widespread use of flexible payment terms

1.14. We recognised that financing can be a challenge for some customers, particularly for smaller community projects. For these schemes, deferring payment would clearly help. We encouraged DNOs to offer flexibility in their terms for connection payments and noted that some already provide flexible payment terms for connections (pre- and post-energisation).

Request	To ensure that all connecting customers are aware of the payment terms available, we asked each DNO to publish the availability and criteria for flexible payment terms by December 2015.
Action Update	
ENWL	Information is published on the ENWL website noting flexible payment terms are available for connections above £20,000 and pre-energisation only. http://www.enwl.co.uk/our-services/connection-services/help-faqs/frequently-asked-questions
SPEN	As part of SPEN's Work Plan, it committed to publishing information on its current payment policy and to seek feedback from stakeholders on current arrangements plus possible changes. In light of feedback, SPEN will review its terms and publish in Q1 2016.
WPD	Information is published on its website, noting that flexible payment terms are available for larger connections, and pre-energisation only. http://www.westempower.co.uk/Connections/New-Connections/Payment-terms.aspx
NPg	Information is published on its website noting that depending on the size and complexity of the electricity connection, it will either

	<p>require a single payment covering the full connection charge or where possible, it will split the charge into a number of smaller payments over a period of time and in line with costs incurred at the time. Payment instalments for larger connections will be agreed on a site-by-site basis, and more detail is on NPg's website: https://www.northernpowergrid.com/help-and-information/getconnected/connections-charges-payment-options/what-are-the-payment-options-for-major-connections</p>
SSE	<p>Information is published on its website, noting that for large connections or those that will not be completed for several years, staged payments will be offered automatically to the customer. For all other connections, SSE advises customers to let it know if they would prefer to make staged payments and this will then be offered. https://www.ssepd.co.uk/AlternativeGenerationConnections.aspx</p>
UKPN	<p>UKPN published its Connection Offer Credit Terms Standard [CON 00 025] to its G81 catalogue/webpage on 16 December 2015. http://library.ukpowernetworks.co.uk/library/en/g81/Miscellaneous/</p>

Assessment and design fees

1.15. The ENA has submitted a business case to the Department of Energy and Climate Change (DECC) requesting the reintroduction of 'assessment and design' fees. This would allow DNOs to charge upfront for issuing a quote in the expectation that this in turn would reduce the number of speculative applications that have to be produced. This could free up DNOs to improve the quality of 'genuine' quotes issued and avoid situations where remaining spare capacity on a network is allocated to projects that may never proceed.

1.16. The views expressed by stakeholders on this will be valuable to DECC's consideration of the issue.

Action Update

1.17. DECC intends to seek further evidence on the case for the reintroduction of assessment and design fees and will be discussing this with stakeholders.

2. Proposed Trials

2.1. In addition to making better use of the existing network, we invited DNOs and stakeholders to bring forward schemes that could serve as trials for anticipatory investment.

2.2. We wanted to use these 'real-life' examples to understand what might be possible under current regulations/legislation. We hope that these examples will help to establish models that can be employed across the industry.

2.3. In response we received details of six trials:

Trials submitted

DNO	Trial	Brief description
WPD	Spalding	Large number of DG applications
WPD	Grendon	Large number of DG applications
SSE	Grudie Bridge	Large number of Hydro applications
SP	Baltic Triangle and Ropewalks	Inner city regeneration with lots of small developers
UKPN	Ebbsfleet	Large Garden City regeneration project
UKPN/GLA	Old Oak Common	Large Opportunity Area city regeneration project

2.4. Most of these of these trials are still at an early stage and at this time we are not in a position to provide extensive detail on the schemes or how we plan to respond. We will however share this information with stakeholders in due course.

2.5. These trials these can be grouped into two broad types: one where there is a significant number of distributed generation (DG) applications in an area, and one where there is a plan to regenerate an urban area.

Significant numbers of DG developments in one area

2.6. We have received details of three schemes which all have the following common characteristics -

- A large number of DG connection applications in an area.
- The network is already – or nearly, congested and in need of further management/reinforcement to accommodate new connection applications.
- None of the applicants, as yet, has proceeded with their existing connection offer, as the high costs associated with being the first connection in an area (due to the High Cost Cap (HCC)⁴) is reported to be a barrier to developers.

⁴ The HCC is set out in the Common Connection Charging Methodology (CCCM). It sets that for generation

2.7. The relevant DNOs have presented proposals to enable reinforcement to take place in these areas which they believe would avoid adding to the costs paid by other customers (through distribution use of system charges). The models that have been put forward are -

- (i) Where the DNO builds an enhanced scheme to connect an initial connection request (first comer). The costs of the enhanced scheme would be recovered from the first and subsequent connectees (using the Electricity Connection Charges Regulations 2002 (EccR)).
- (ii) A variant on this approach could be where the DNO advertises on its website its intent to create additional capacity in an area. It would invite developers who want to use this capacity to come forward and give some form of user commitment to show their intent. The DNO would then build an enhanced scheme to connect an initial connection request (first comer). The costs of the enhanced scheme would be recovered from the first and subsequent connectees (using the EccR).
- (iii) A third variation would involve the DNO issuing prospective connection customers with a section 16 connection offer. This would indicate the cost of reinforcement they would have to pay. But the customer would be informed that they may also apply under section 22 for an 'aggregate capacity' offer, which would share the costs of reinforcement with other connection customers. This would effectively be a DNO-led consortium. The scheme would only proceed once enough customers had signed up to justify the provision of a minimum level of capacity.

2.8. We will engage with stakeholders on the above proposals and the extent to which they are permissible under the existing EccR, or the proposed revisions to this legislation.

2.9. We note that the last two approaches could avoid the scenario of the first customer who requests a connection, being faced with an extremely high cost of reinforcement, due to the application of the HCC. We are currently exploring whether in these situations it would be appropriate for the DNO to deviate from compliance with their Connection Charging Methodology by not applying the HCC to the first comer.

Urban developments

2.10. We have received details of three schemes in urban areas. All schemes have similarities:

connections only, reinforcement costs in excess of the high-cost project threshold of £200/kW shall be charged to the connecting customer in full as part of the connection charge.



Quicker and more efficient connections – an update on industry progress

- The locations are long-term, large urban regeneration or new development projects
- They potentially involve a lot of independent developers, each with their own project and timeframes
- An overarching body is in place to co-ordinate redeveloping these sites. These are in the form of Development Corporations, with accompanying powers and potential funding, or local authorities with an interest in the schemes moving forward.

2.11. The approaches put forward for funding the schemes cover two models that were outlined in our initial 'Quicker and more efficient connections' paper: (i) DNO investment from a first-comer, or (ii) developer/third party funded.

2.12. Some of these schemes are at a very early stage. But we have talked to the DNOs and stakeholders who have put these trials forward and highlighted the additional information that we would like see - this includes the criteria that could apply to each scheme to demonstrate the necessary certainty to justify the need for early investment.

2.13. We will continue to discuss these trials to see how they can be progressed, and understand whether they are permissible under current regulatory arrangements. We will also judge whether there might be any unanticipated effects on competition in the market for new connections.

3. Case studies of existing schemes

3.1. We also received details of three schemes where Northern Powergrid (NPG) has previously undertaken this type of investment – within the existing regulations. In the following section, we present a brief outline of the projects, funding and actions taken by NPG. We feel these provide a useful insight into how this type of investment can be enabled under current regulations.

3.2. NPG has some principles it considers relevant to our 'Quicker and More Efficient Connections' policy development. There are aspects that are relevant in NPG's historical reinforcement arrangements, and with the trials in section two. The principles that NPG provided to us are summarised below:

- NPG supports a healthy competitive market, where the customers benefit and the best companies thrive, delivering better products and services through innovation
 - All new propositions should be investigated with the aim of making network access better and fairer for all
 - Customers should benefit from lower prices and improved service regardless of who provides them – competition in connections
 - A level playing field is ultimately required – for incumbents and new entrants (as well as one-off connection customers and large developers).
- Maintain fairness – do not create the opportunity for 'free riders'
 - Charges should reflect costs and avoid socialisation if it inhibits the right economic decisions being made on least cost solutions
 - Stimuli in the form of subsidies to encourage certain outcomes are a matter for government policy.
- Outcomes must be good for consumers as a whole and not benefit one sector over another
 - Policymakers and companies should consider disproportionate effects on the most vulnerable
 - Security of supply should not be compromised in the interest of low carbon.

3.3. Although NPG has developed these principles more recently, some of the fundamental approaches were considered when the following investment decisions were made, including the need to protect Distribution Use of System (DUoS) customers from any inappropriate balance of risk.

Case study 1 – A development agency project to regenerate manufacturing in an ex-industrial area

3.4. This scheme was established to create advance electricity capacity to help attract new companies to an ex-industrial area. Capital from EU regeneration funding was available at the time.

Overview of the scheme and funding:

- One new significant single end user would have triggered cable reinforcement to the site – this justified some investment by the DNO.
- The scheme was led by the Development Agency (lead contributor), who contributed 46% of the total cost of a 38MVA new primary substation.
- NPg contributed 14% (non-refundable funding).
- NPg contributed 40% (as a loan to be refunded if capacity not taken).

3.5. NPg's refundable contribution was based on a trigger capacity not being met by a certain date. In practice this meant that if an agreed percentage of capacity for new customers were connected within five years of completion, NPg would not seek a refund from the Development Agency.

3.6. This arrangement ensured that if sufficient new demand connection materialised, NPg's investment was justified – and if it didn't, DUoS customers were protected by the refund.

Case study 2 – A local authority project to regenerate a former industrial area

3.7. This scheme involved a local authority who wanted to offer serviced plots of land it owned to independent developers who would pay the final connection charges.

Overview of the scheme and funding:

- The local authority wanted to establish a new primary substation so that significant capacity would be available for developers
- Because the development was speculative, a funding arrangement was set up whereby the local authority paid the primary substation costs of:
 - 49% non-refundable amount of committed capacity
 - the remaining 51% was loaned by the local authority with payment milestones matching the asset build
- The payment milestones agreement allowed for contributions from future connectees to be recovered by NPg and refunded to the local authority
- DUoS customers were protected by the agreement as the development was initially speculative
- The local authority's clear, staged development plan allowed for capacity to be ringfenced based on that programme.

Case study 3 – Riverside development

3.8. This scheme involved a new riverside development alongside general city centre load growth. A new primary substation was developed and paid for by the DNO, as lead contributor, and other contributions from developers.

Overview of the scheme and funding:

- The city was experiencing increasing general load growth.
- In addition to this, NPg received multiple connection requests for various new developments.
- NPg provided several developers with connection offers, but in doing so, this would have taken major proportions of capacity from existing primary substations in other areas of the city (and involved multiple long cable schemes in urban routes).
- NPg therefore tried to negotiate with the various customers to look for a better solution and two developers agreed to work with them on a more proactive approach. This resulted in the need for a new primary substation and two new cables along complicated routes.
- NPg constructed a commercial agreement where the two developers would provide contributions based on their minimum cost connection schemes, and also accommodated cable routes within the design of a new foot bridge.
- NPg was confident that the project justified providing 89% of the initial funding – with the remainder provided by the two developer contributions. However, NPg had also made multiple other connection offers at the time which, if the developments had come to fruition, could have led to further contributions to the total cost, and so these strengthened the case for a DNO-led reinforcement scheme.

Lessons learnt from these schemes

3.9. All these schemes took place within the existing regulatory framework and NPg was able to develop legal and connection agreements (section 22) that sat outside the standard connection agreements (section 16).

3.10. When real local load growth coincides with clear, staged development plans and connection offer activity, there is a much clearer case for the DNO to invest in significant reinforcement.

3.11. Two of the three schemes were able to move forward as a result of third party European/local authority funding, with some additional funding provided by NPg on one of these schemes.

3.12. However, the commercial aspects of all these arrangements were complicated and time-consuming for both the customer and DNO, but necessary in ensuring DUoS funding was adequately safeguarded.

Appendix 1 – Draft principles for milestones in connection offers

The DG-DNO steering group was tasked with fulfilling the following action from Ofgem’s Quicker and More Efficient Connections, next steps document:

Action	Who	What will be delivered and when
Develop a set of principles for when DNOs can withdraw capacity from DG projects which aren’t progressing.	ENA and industry: DNO-DG steering group	A set of high level principles to be agreed in the DNO-DG steering group and submitted to Ofgem by the end of December 2015 . These principles will then be subject to a wider consultation.

The group identified some high level principles that should apply to the milestones below. The group went further and developed some key milestones and the evidence required to substantiate them in the table that follows.

High Level Principles

In general, early milestones, particularly milestones before a project has achieved planning consent will be enforced more rigidly. Milestones will be enforced more flexibility after planning consent is granted and as a project nears completion.

Milestones will be introduced consistently. There will be no single milestone relating to funding progression. However, if other milestones, such as commencing works, are missed, then the fact that the DG customer is awaiting confirmation of funding mechanisms can be taken into account.

Once a milestone has elapsed and the DNO has received no evidence of it having been met, it will write a letter to the customer stating it will terminate the contract unless convincing evidence is provided within four weeks of the letter. The DNO will offer the customer the opportunity to discuss project progress in the letter.

The DG customer will need to demonstrate that it has tried to make progress (assessed against the evidence outlined in the table below) and demonstrate that delays are no fault of their own. Otherwise the milestone will not be considered met.

Milestones should be spaced out across the timescales for the project where possible. Milestone dates will be set either from the date of accepting the connection offer or working backwards from the agreed connection date, as appropriate. In general, construction-related milestones will work backwards from the target date while planning, design and TSO5-process-initiation will normally work forwards from acceptance, where reasonable.

⁵ The Transmission System Operator, presently National Grid Electricity Transmission plc in GB



Quicker and more efficient connections – an update on industry progress

Milestones and the associated specific time periods should be appropriate to the size and technology type of generation and voltage level of connection.

Individual DNOs may choose to apply less than all of the milestones above to certain specific groups of customers. For example, some may choose to apply fewer milestones to LV connection projects.

Quicker and more efficient connections – an update on industry progress

Milestone	Detail	Evidence	Time period
Initiated planning permission	<i>Projects can fall into two separate categories: 'A' if they are relatively straightforward and 'B' if they are larger projects likely to have more complex planning issues and be required to provide an Environmental Impact Assessment (EIA)</i>		
	<u>Category A</u> DG Customer must be able to provide evidence that it has initiated the planning process.	Submission of planning application.	Two months from offer acceptance date.
	<u>Category B</u> For projects which require Environmental Impact Assessment (EIA) the DG customer must be able to provide evidence that work on the assessment has been initiated. and DG Customer must be able to provide evidence that it has initiated the planning process.	Written confirmation from a third party undertaking the EIA work proving that the EIA has been commissioned. Submission of planning application.	Depends on specific circumstances of the project but agreed with DNO at offer acceptance, likely to be within two months of offer acceptance date. Depends on specific circumstances of project but agreed with DNO at offer acceptance, likely to be around 14 months from EIA initiation.
Secured planning permission	DG customer must provide evidence that it has done everything it can to secure planning permission. The DG customer will be allowed to follow the full planning process. If the DG customer has planning permission rejected, or a third party challenge is	The planning decision notice confirms planning permission has been granted and that this permission allows the DG Customer to meet the terms included in the accepted connections offer. DNOs can check progress against relevant planning portal.	Date set from acceptance date, recognising the agreed connection date. The milestone date will vary depending on technology and voltage*. This can follow the process set out under the Planning Rules: an appeal needs to be made within six months in England & Wales; three months

	<p>made then an additional milestone will be added (on request) to allow them to go through the appeal process.</p> <p>If the appeal process went to Judicial Review, evidence of a submission would form a milestone but not the outcome as it is outside both the DG Customer and DNO's control.</p>	<p>Paperwork demonstrating that an appeal, or challenge has been lodged.</p> <p>Paperwork demonstrating that a Judicial Review, redetermination or appeal has been launched.</p>	<p>in Scotland from the date of a refusal notice <u>OR</u> when the local planning authority should have made a decision.</p> <p>This can follow the process set out under the Planning Rules: Judicial Review must be launched within six weeks of the preceding negative planning decision.</p>
Land rights	<p>DG customer has land rights for the generating station. ⁶</p> <p>If land rights expire, DG customer has re-obtained land rights for the generating station</p>	<p>Customer can provide paperwork to demonstrate that it:</p> <ul style="list-style-type: none"> (i) was an owner or lessee of the land on which the station is situated; or (ii) had entered into an agreement to lease the land on which the station is situated; or (iii) had an option to purchase or to lease the land the station is on; or (iv) had entered into an exclusivity agreement for the land the station is on. <p>Same as above</p>	<p>Six months from offer acceptance date.</p> <p>Six months from date of expiry of the land rights.</p>

⁶ This should distinguish between land rights and landowner authority which DNOs may require of DG for making an application.

<p>TSO interface</p>	<p>DG customer must do the following to progress the applicable TSO process. This could include statement of works, BEGA or BELLA or other transmission process as per the relevant governing industry codes:</p> <ul style="list-style-type: none"> - initiate process (including relevant application to TSO) - make payment(s) to DNO - provide information as reasonably required - accept resulting contract offers and/or variations requested; and - maintain relevant financial securities. 	<p>Instruction for DNO/ Confirmation of receipt of application from TSO.</p> <p>DNO has received payment.</p> <p>DNO/TSO has received information.</p> <p>The signed contract.</p> <p>Confirmation that securities have been paid.</p>	<p>All within timescale of relevant TSO processes, in accordance with its governance process, notwithstanding negotiations between TSO and DNO or TSO and customer which may require extensions of time).</p>
<p>Progress adoption agreement (if applicable)</p>	<p>Evidence that the DG customer’s ICP has submitted a design for approval and has started the process of getting an adoption agreement in place for contestable works.</p>	<p>Design submission received by DNO.</p>	<p>To be agreed with the customer, normally working back from connection date but no earlier than the date of planning consent.</p>
<p>Commence works</p>	<p>DG customer must provide evidence that it has attempted to follow its agreed construction plan.</p>	<p>Present to the DNO the DG customer’s programme of works (and/or ICP programme of works) and demonstrate how progress has been made in line with this programme</p>	<p>Date set working back from agreed connection date, according to construction plan.</p> <p>This should normally allow for two summer periods for plant at 22kV or above (EHV); one summer for HV and below.</p>



Quicker and more efficient connections – an update on industry progress

Construction of generating facility	DG customer to complete the construction of the generating facility.	The DG customer has made progress against all the milestones within the DNO or ICP programme of works to complete the project.	Date set from agreed connection date, according to construction plan.
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*A consultation should specifically ask for view on the dates appropriate to secure planning application for different technologies and voltage levels of connection. For example it could be 12 months for non-wind and up to five years from the original connection application submission date for EHV scale wind.

Appendix 2 – Queue Management Action Plan

Existing customers not utilising existing capacity
<ul style="list-style-type: none"> • Those DNOs which have a time limit within the connection agreement for customers to build out to the maximum export capacity to use those terms
<ul style="list-style-type: none"> • Examine utilisation of powers under section 17 of the Electricity Act to take away unused capacity
<ul style="list-style-type: none"> • DNOs use DCP115 changes to 'propose' reduction
Contracted but not Connected
<ul style="list-style-type: none"> • Consider and use existing terms in legacy contracts to terminate or propose new T&Cs (including new milestones)
<ul style="list-style-type: none"> • Phased payments or any other variations may act as a trigger to allow introduction of new 'best practice' milestones
Future Contracts
<ul style="list-style-type: none"> • Implement standard milestones in future connection contracts
<ul style="list-style-type: none"> • DNOs who don't already have terms, to amend connection agreements to include a time limit for DG customers to build out to maximum export capacity. Terms to allow DNOs to claw back this capacity after time limit expires.
<ul style="list-style-type: none"> • Investigate whether a diversity factor should be applied when assessing peak export capacity for network planning purposes