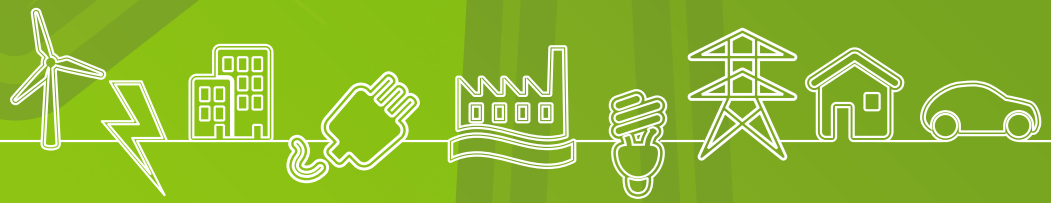
SP Energy Networks Distributed Generation Looking Back Report

SP ENERGY NETWORKS



www.spenergynetworks.co.uk

SP Energy Networks
Distributed Generation Looking Back Report

"2013/14 has been a significant year for us, with many of our key activities implemented. I am delighted that we introduced our heatmaps, began our Quote + trial and made great progress with our flagship LCNF project, ARC. Our stakeholders and customers have recognised and appreciated our improvements"

Paul Brown, Connections Director

Our Distributed Generation customers expect exceptional service. We have worked hard over the past 24 months to meet and exceed this expectation. We have listened to the needs of our stakeholders and customers and we will continue to do that. This 'looking back report' outlines the work we completed in 2013/14 to respond to the needs of our customers. It reports on the activities completed in both our licence areas, SP Manweb plc (SPM) and SP Distribution plc (SPD).

It is also important to note that this 'looking back report' details only the activities we completed in the year against the workplan we set out at the beginning of the year. It does not detail necessarily, all other ongoing activity and our response managing more strategic issues. These continue to be addressed through the DG-DNO working group, where we play an active role and through other similar bodies such as the Scottish Renewables group and Energy Island Programme (joint venture between Welsh Government and Isle of Anglesey County Council).

Objective

- This 'looking back report' details the work completed in 2013/14 in response to issues that our customers and stakeholders told us about
- This report focusses on the key improvements we achieved in the year and tracks our progress against all the actions we set out to complete
- The plan addressed issues faced by customers who connect at low voltage (<400V) and those who connect at high voltage (at 11,000V; 33,000V or 132,000V). These are recognised in market segments known as DGLV and DGHV respectively
- The plan sets out those actions that are applicable to either or both market segments, although is not always specific on the market segment the action is specific to
- The report identifies which quarter (set out in calendar year format) when each action was completed by

Contents

What our Stakeholders have said ...

SP ENERGY NETWORKS

"Communication is good, with connection engineers that we have encountered being very approachable and generally helpful"
Dean Needle, Derwent Hydro

"ScottishPower tend to deal with requests very promptly. The staff have all been helpful and polite. I have been very happy with the service so far"
Charlotte Norton, Seren Energy

"Timescale for quotes has improved dramatically" Paul Owen, Freedom Group

"Service has been great, but personally I believe that too many details and accurate information is requested when the projects are at an early stage of development. I would appreciate if the process could be more flexible. We have discussed this with yourselves and we are working together to improve the process"
Javier Querejeta, Belectric

"I am very happy with the service, albeit the quotations take a little while to receive, the detail more than makes up for this"
Jenny Brady, Solarfields UK

"Noticed a huge improvement within the DG team, with increase in numbers of staff to cope with the amount of grid applications"
Andrew Dempster, Lark Energy

"I have worked with ScottishPower for some time and in general have found the service works well" Anonymous

"Interaction with customers is at an all-time high, appreciate the overall level of service" Chris Walker, Muirhall Energy

"The budget estimates received were better than any from any other power company" Anonymous

"What a huge improvement in service from quote to acceptance to connection. Long may it continue" Paul Winter, Hart Builders

"SPEN have responded to the needs of our members at Scottish Renewables. When we said that the feasibility study process didn't work, SPEN listened and developed the innovative 'Quote +' solution. This provides the flexible design process DG customers need, without compromising queue position and project timescales. This is another example of SPEN leading best practice in the industry."
Alice Waltham, Chair, Scottish Renewables Working Group

"We are aware that all of the DNO's have now produced 'heat maps' to support the work of the DG community. However, and as stated previously, it is refreshing to find support to the level provided by SP. Also, we are not aware of the level of sophistication within any similar tool from any of the other DNO's. In conjunction with the increase in frequency of the 'open workshops' and access to contract managers and planning engineers we believe that the new interactive heat maps should benefit both SP and the DG developer and their agents"
Bob Weaver, Director, PowerCon UK

Key Improvements Heat Maps

The Challenge

- We have experienced a significant increase in the number of Distributed Generation connections across both of our licence areas in the last 24 months
- Inevitably this led to a number of enquiries seeking a DG connection on circuits that were or are reaching the limit of available capacity
- It was apparent that more often than not, our customers needed better information upfront, allowing for quicker, more efficient decision making
- Better information up front allows customers to make more informed decisions, reducing costs and avoiding the need for connection offers to be developed where they are unlikely to be progressed

Our Response

- We felt that it was necessary to provide all our customers with clear and concise information and data that allows customers to undertake their own assessment of their connection needs before requesting a formal connection offer
- We introduced 11kV 'heatmaps' in both of our licensed areas, which have been widely acknowledged as industry leading, and we have provided supporting data with our 'heatmaps' to allow our customers to undertake their own network studies
- We have developed 33kV 'heatmaps' that show each 33kV substation and circuit geographically to enable our customers to assess the most suitable location for their generation
- Our 11kV SPD 'heatmaps' were published online in September 2013 and our SPM 'heatmaps' published in January 2014. In addition, we have issued hard copies via disc to those customers who request them. These have been extremely well received by our customers and to date we have issued in excess of 100 copies *(http://www.spenergynetworks.co.uk/pages/connection_opportunities.asp)*

The Output

DG 11kV Heat Maps

DG 11kV Heat Maps

DG 33kV Heat Map

Key Improvements Quote +

The Challenge

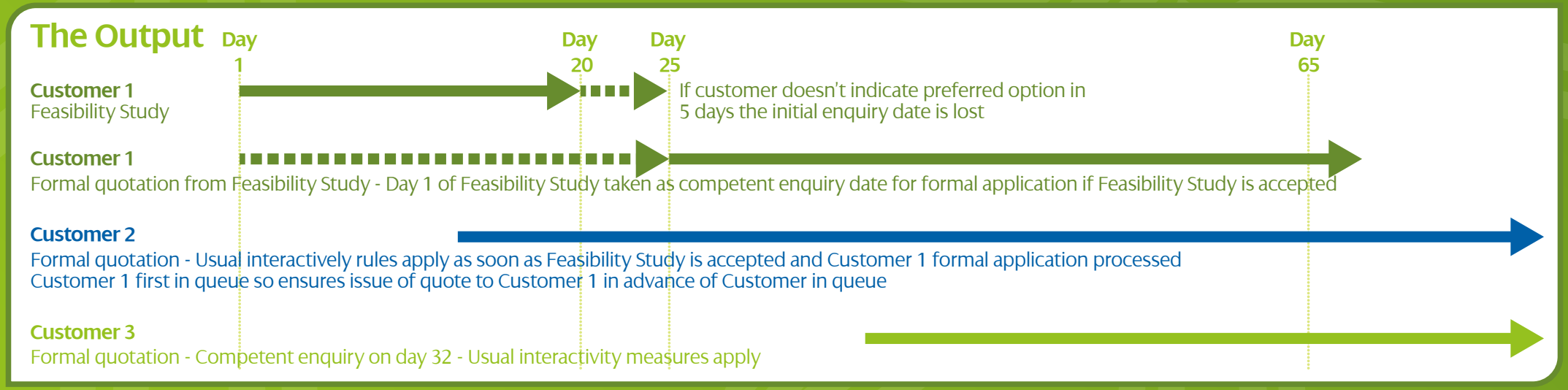
- Our customers felt that the current feasibility study process didn't meet their needs, in that there are no guaranteed standards for completion and they do not establish a place in the interactive queue
- Our customers often want to know quickly whether a connection is possible at reasonable cost, and what alternative options might exist (smaller size of generator etc)
- A formal connection offer doesn't meet these requirements either, but as formal connection offers are issued free of charge, customers frequently use this option to understand the likely cost of connection
- Often customers seek revisions to offers to establish what might be economical at the location the generator is proposed to be installed

Our Response

We trialled our 'Quote +' product, providing customers with a high level feasibility study whilst still maintaining their place in the interactivity queue. This proved to be a successful trial and customers gave feedback that they would like the service to be introduced permanently.

- Customers can request a feasibility study for 3 different capacity options at a particular location for a nominal fee to cover the design and assessment cost
- We will then provide an estimate within 20 days for each of the 3 options requested, and if the customer decides to progress with a formal application for one of the 3 options within 5 days of the offer the design and assessment fee is deducted from the formal quotation offer
- For interactive purposes, day 1 of the feasibility study would be taken as the competent enquiry date of the formal application, so the customer would receive the formal quotation offer and be able to progress with the project within the usual timescales

The Output



Key Improvements
Accelerating Renewable Connections (ARC)

Progress Update

- Active Network Management Technology installed at Dunbar Grid Supply Point, Berwick & Eccles to be completed end Summer 2014
- Productive discussions held with NGET to date regarding the use of ANM to allow generation projects to connect ahead of wider transmission reinforcements – Draft paper and contract proposal to be submitted to NGET by end June 2014
- First Actively Managed Connection expected to be live by end July 2014 (existing generator currently curtailed under N-1 network condition), with further 10 schemes noting their interest to in connecting under Active Network Management network solution
- Internal Active Network Management Stakeholder Group established in order to accelerate Active Network Management into Business As Usual (BaU) policy and processes. This cross business group will work in parallel with existing ARC project team with the objective to implement ANM into BaU by 2015

On-Line Curtailment Assessment Tool Prototype

- Development of new on-line curtailment assessment tool commenced
- Prototype will be presented at next ARC Stakeholder workshop to obtain views & feedback (Scheduled for 26th June)
- Tool will be developed to enable generators obtain up-to-date available capacity information on both 11kV & 33kV circuits
- Generators will also be able to obtain on-line curtailment analysis forecast for various generation technology types
- Only limited number of circuits will be targeted initially within the trial area to develop tool
- Roll out of full scale on-line tool across will not available until completion of trial (the earliest that the on-line tool is likely to be available – Summer 2015)

Looking Back Our Workplan In Summary

Customer Service

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
1.1	Monitor Customer Satisfaction	1.1.3	Conduct surveys, review results and formulate an action plan to implement any findings	Q4	SPEN survey completed in Qtr 3 and the ICE DGLV and DGHV work plans published in April 2014
		1.1.4	Communicate the results and implementation plan with Customers and Stakeholders	Q1	As above
1.2	Checklist of What Customers can Expect	1.2.1	Publish the Guidance Leaflet – Our Connections Process Explained onto SPEN website and issue at Customer Surgeries and Forums	Q2	Guidance communicated at regular Customer Surgeries and Forums throughout 2013; Surgeries ongoing in 2014
		1.2.2	Develop a Guidance Leaflet explaining Our Enquiry Application Detail Requirements and publish on SPEN website and issue at any future Customer Surgeries / Forums	Q2	Guidance communicated at regular Customer Surgeries and Forums throughout 2013; Surgeries ongoing in 2014
1.3	Account Managers	1.3.1	Appoint Account Managers to establish contact with the Customer upon receipt of a new enquiry and discuss the actual requirements and timescales for each enquiry	Q2	Account Manager contact details published on SPEN website on attached link: http://www.spenergynetworks.co.uk/pages/connections_-contact_us.asp
1.4	Recruitment of Non-Technical Support	1.4.2	Develop additional support functions that can be utilised as required, e.g. ad hoc wayleave and civil resource to support future peak workload during busy periods	Q2	Development of additional resource capacity to manage any future workload peak as and when it is required

Looking Back Our Workplan In Summary

Application Process

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
2.1	Iterative Process	2.1.1	Review SPEN's existing Feasibility Study product and consider how it might be enhanced to better meet customer requirements. Consult with Customers and Stakeholders	Q3	Our 'Quote +' proposal has been well received from our stakeholders; Further detail provided on our website at www.spenergynetworks.co.uk/userfiles/file/Feasibility_Study_Proposal.pdf
		2.1.2	Communicate to all Customers and Stakeholders revisions to SPEN's Feasibility Study product and associated processes	Q3	Our 'Quote +' proposal communicated at all Customer Surgeries and Forums
2.2	Database of Turbine Specifications	2.2.1	Develop a national database of all turbine specifications for all Customers within UK	Q3	Information fed into ENA to support work in this area
2.3	Options for Extension of validity	2.3.1	Continue engagement with other DNOs and progress changes to the Connection Charging Methodology Statement to take account of impact of interactivity	Engage	The current SPEN view is that we will grant an extension upon request so long as there is no impact on another party in doing so
		2.3.2	Develop clearer guidance on SPEN Policy on Extensions to Validity and communicate to Customers and Stakeholders	Q2	Internal SPEN Policy and Guidance completed and distributed. External Guidance leaflet issued on SPEN website on the attached link: http://www.sppowersystems.co.uk/dgis/indicative_costs.asp
2.4	Contestable Works as part of Same Application	2.4.2	Give consideration as to what additional information could be provided within licensed quotation letters to provide greater clarity of contestable activities	Q4	The 33kV dual offer template has been in use for 6 months now; it has been generally well received from our customers; An 11kV dual offer template is being developed and will be issued for consultation to our customers and stakeholders; if successful, this will be implemented by September 2014

Looking Back Our Workplan In Summary

Information Provision

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
3.1	Information on HV Network, Voltage Issues and Plans	3.1.1	Introduction of detailed heat maps onto SPEN website	Q3	SPD heat maps complete September 2013; SPM heat maps available on the SPEN website from 13th January 2014; 33kV heat maps will be available by June 2014; See attached link: http://www.spenergynetworks.co.uk/pages/connection_opportunities.asp
		3.1.2	Development of 11kV GIS plans to show all load and generation related issues per circuit	Q1	Excellent progress made to date; draft of the 11kV GIS plans will be available for comment on SPEN website by end of Qtr 2 2014
		3.1.3	Development of a database to monitor and review all generation enquiries and connections	Q3	Active monitoring of all generation enquiries and connections now in place
		3.1.4	Ongoing communication with Local Authorities regarding load and generation capacity availability	Q3	Appointment of new Account Manager to continually engage with Local Authorities

Looking Back Our Workplan In Summary

Technical

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
4.1	Innovation Collation and Rollout	4.1.1	Development of Power Networks Demonstration Centre (PNDC) with partners University of Strathclyde, SSE and Scottish Enterprise)	Q3	A series of demonstrations modules have been identified for trialling new technology covering a variety of topics is planned. For each module e.g. Demand Side Response, key business contacts have been identified to deliver those works from each PNDC project partner with PNDC staff tasked with producing learning from each trial
		4.1.2	Continuation of the existing Dynamic Thermal Rating (DTR) trial on 132kV network in North Wales	Ongoing	Work continues to implement the findings into BAU
		4.1.3	Development of Flexible Networks Project to provide 20% increase in network capacity via flexible network control and dynamic rating of network plant and equipment	Ongoing	This project is currently seeking an extension to allow the project deliverables to be completed and thereafter learning disseminated to stakeholders
		4.1.4	Continuation of ARC Project to trial a new connections process in East Lothian and the Borders of Scotland	Ongoing	The 2nd and 3rd ANM equipment are progressing through factory testing and will be installed during 2014
		4.1.5	Continue to work with other DNO's to consider other suitable projects under IFI and LCNF criteria	Q3	Ongoing engagement with other DNO's
4.2	Safeguard against Unnecessary Works	4.2.1	Continue the relationship with generator and renewable developers to improve new product availability	Q3	Ongoing open communication links to agree new technologies
		4.2.2	Continue the significant stakeholder engagement to ensure all parties are working towards increased capacity	Q3	Good progress being made with this; ongoing engagement with Stakeholders and Customers to progress capacity issues
		4.2.3	Development of non-firm connections to enable less costly connections	Q4	Progress good to date; key dependency is grid constraints. Positive engagement has been held with Grid to develop suitable commercial arrangements that will permit embedded generation to connect ahead of grid reinforcement

Looking Back Our Workplan In Summary

Technical (continued)

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
4.3	Consistency in Standards interpretation	4.3.1	Continue to trial and develop the use of AVR's to enable further network capacity, and review the findings with other DNO's to share learning points of AVR technology	Q4	SPEN will consider the use of an AVR as part of the design solution for DG customers, where appropriate and in-line with minimum scheme commitments; this policy was communicated at the most recent DG Technical Forum
		4.3.2	Actively participate in any new opportunities or trials to improve technology within the LCNF arena and develop further links with other DNO's and stakeholders	Q4	SPEN keen to engage in future trials and continually working to develop links with other DNO's and stakeholders
4.4	Use of Legacy Projects and Strategic Developments	4.4.1	Publish details on significant projects and innovative ideas on SPEN website	Q4	Update on all projects available on SPEN LCNF website: http://www.spenergynetworks.co.uk/innovation/
		4.4.2	Present at the Annual ENA LCNF conference	Q4	Presentation material available on SPEN LCNF website: http://www.spenergynetworks.co.uk/innovation/
		4.4.3	Actively engage with other DNO's and Stakeholders to ensure any developments and benefit is experienced at a national level	Q4	SPEN keen to engage in future trials and continually working to develop links with other DNO's and stakeholders

Looking Back Our Workplan In Summary

Charging

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
5.1	Fair Deposit	5.1.1	Continue review of payment terms upon acceptance	Q1	The review of our policy in relation to payment terms has now concluded and now in final phase for approval/ implementation. The impact of 'capacity banking' remains a key consideration as part of our review
5.2	Itemised Breakdown of Costs, including Contestable Charges	5.2.1	Continue efforts to provide optimum breakdown of charges within quotations enabling customers to better understand make-up of connection charge	Q2	Full breakdown of costs available upon request; IT project for automated solution signed off and on track to be implemented by August 2014
		5.2.2	Continue efforts to provide optimum clarity and and associated works, proactively including notification of information requirements under Electricity (Connection Charges) Regulations.	Q4	As above

Looking Back Our Workplan In Summary

Choice

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
6.1	Address Barriers to Competition	6.1.1	Continue engagement with customers and stakeholders to understand better perceived barriers and to improve understanding more generally of SPEN processes and options available to customers wishing to pursue/ consider their competitive connection options	Q4	DG Account Manager fully operational in new role
		6.1.2	Review design approval requirements for generation enquiries	Q1	Design Document and guidance complete awaiting internal approval prior to publication on our website. Communication is ongoing with the DG community via the DG Technical Issues forum
		6.1.3	Work collaboratively with other DNO's to ensure fair competition for DG Customers	Q4	Working with the rest of the DNO group to progress this issue

Looking Back Our Workplan In Summary

Feedback

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
7.1	Risk-free Process Appeals	7.1.1	Document SPEN Appeals Process and review with Customers and Stakeholders	Q3	Initiative superseded by the ICE DGLV and DGHV work plans published April 2014
		7.1.2	Engage with other DNO's to discuss a common approach at national level	Q4	Continued communication with other DNO's to determine a common approach
		7.1.3	Formally communicate to all Customers and Stakeholders the SPEN Appeals Process	Q4	Initiative superseded by the ICE DGLV and DGHV work plans published April 2014
7.2	Customer Feedback Seminars	7.2.1	Continue with SPEN Customer Surgeries and DG Forums	Q4	Continued communication through regular Customer Surgeries and Forums; Dates of forthcoming Customer Surgeries shown on SPEN website on: http://www.spenergynetworks.co.uk/connecting_to_our_network/events.asp?NavID=23
		7.2.2	Produce a detailed Communication Plan per Customer Group	Q3	Initiative superseded by the ICE DGLV and DGHV work plans published April 2014
		7.2.3	Hold National and Regional sessions with other DNO's	Q4	Working with the rest of the DNO group to progress this matter.
		7.2.4	Develop an Application Tracking System to improve updates on each project	Q3	Initiative superseded by the ICE DGLV and DGHV work plans published April 2014
		7.2.5	Continue with Local Authority interaction to review ongoing capacity issues	Q4	New Account Manager now appointed and has provided a number of capacity reviews for Local Authorities that have requested this information
		7.2.5	Develop any appropriate initiatives or innovation suggestions from Customers	Q4	Working with the rest of the DNO group to progress

Looking Back Our Workplan In Summary

Feedback (continued)

Section	Topic	#	Workplan	Quarter Delivered (April 13/March 14)	Comments
7.3	Issues Log - also to capture new issues	7.3.1	Document Regional and National Issues	Q3	Work ongoing as part of the DNO DG Technical Working Group; Any issues not associated with this group to be retabled by DG community
		7.3.2	DNO workplan to rationalise issues	Q3	As above; any ongoing issues not adopted by DNO DG Technical Working Group to be retabled by DG community
		7.3.3	Review and resolve issues jointly as a DNO Group	Q4	Ongoing as part of the DNO DG Technical Working Group
		7.3.4	Communicate Implementation Plan and Results to Customers	Q4	Initiative superseded by the ICE DGLV and DGHV work plans published April 2014
		7.3.5	Development of a National DNO Technical Forum	Q4	SPEN DG Pre Contract Manager, appointed as a member of the DNO DG Technical Working Group and will contribute on an ongoing basis
		7.3.6	Reasonable securities for transmission works under new CMP 192 regime	Q4	SPD has been fully involved in the CUSC working group looking at the development of arrangements for the management of securities which impact on embedded generation as a result of Statement of Works applications with NGET. SPD has also met with Ofgem, SSE and customer representatives to discuss a possible interim solution. SPD, along with SSE have provided data to Ofgem as part of that process and await a response from Ofgem once they have considered the data further

Glossary of Terms

Term	Definition
ANM	Active Network Management; using technology to enable generators to connect in constrained areas on a commercially un-firm basis
ARC	Accelerating Renewables Connections; SPEN 'Low Carbon Networks' funded project to consider innovative methods for connecting DG quicker and cheaper
AVR	Automatic Voltage Regulator; this is a device which can be deployed on our overhead line network and controls the voltage to ensure the network remains within statutory limits
Budget Quote	A budget quote is provided to aid customers with up front planning of projects and is a simple review of the network within the vicinity of the proposed development and does not include detailed modelling of the system. A budget quote cannot be contracted
CIC	Competition in Connections; ability for a customer to seek connection to the network using a Lloyds accredited ICP of your choice
Collaborative Connections	These are connections where multiple customers are brought together to benefit from shared connection costs and shared assets to maximise the amount of generation connected in any part of our network
Contestable	When we talk about contestable work, these are the 'off the system' works, which can be completed by either ourselves or a Lloyds accredited ICP of your choice
CRAM	Connection Registration and Management. This was a legacy IT system utilised to manage CIC enquires where a Lloyds accredited ICP of your choice was being employed to complete the contestable works
CRM	Under our SP brand name of Athos, CRM is our new Customer Relationship Management system which will help us better serve our customers
Customer	A customer is defined as someone who is or has applied for a connection to our network
Customer Surgeries	These are held monthly for any customers who wished to discuss a project with us at any time in the process
DG	Distributed Generation; this is the connection of generation to any point of the distribution system, from 230V up to 33,000V in Scotland or 132,000V in England & Wales
DGHV	A relevant market segment defined as; Any Connection Activities (DG) involving work at high voltage or above
DGLV	A relevant market segment defined as; low voltage Connection Activities (DG) involving only low voltage work
Dual Offers	These are formal offers which facilitate the acceptance of either the full works or just the non-contestable works, with the contestable works completed by a Lloyds accredited ICP of your choice.
Feasibility Study	A feasibility study is a chargeable service to run a number of network models and advise what capacity is available where on parts of our network. This does not facilitate a connection offer, and does not carry any contractual link to a formal connection offer
Formal Connection Offer	A formal Connection offer facilitates a contract between us and the applicant to accept our offer and progress the construction works associated with the connection
GRP Enclosures	'Glass Reinforced Plastic' enclosures. Our traditional solution for a substation which requires a battery set is a brick building. GRP solutions utilise glass reinforced plastic technologies (GRP) to provide substation enclosures that can provide similar environments to brick-built substations
Heat-maps	These are maps of our HV network, colour coded based on the available capacity on any given circuit
ICP	Independent Connection Provider
IFI	Innovation Funding Incentive (IFI) was introduced by Ofgem to encourage Electricity Distribution, Electricity Transmission Network Operators to apply technical innovation in the pursuit of investment in and operation of their networks. It will be replaced by the Network Innovation Allowance (NIA) in 2015
Jointing	Jointing is a method of connecting two sections of cable together
LCNF	Low Carbon Networks (LCN) Fund was established by Ofgem as part of the electricity distribution price control that runs until 31 March 2015. The fund offers capital to support projects sponsored by the Distribution Network Operators (DNOs) to try out new technology, operating and commercial arrangements
Load management device	These are devices which seek to manage the local demand alongside any generator, essentially restricting export to our network
Market Segment	This is the regulatory terminology which defines DGLV and DGHV
Metering	This is the mechanism for settlement to ensure your generation receives the correct rates for your tariff and is a key part of the balancing and settling arrangements, which are laid down in the Balancing and Settlement Code (BSC), and is administered by ELEXON
Non-Contestable	Where we talk about on-site works, these are typically within either the customers land boundaries or the CDM boundary within which a Principle Contractor operates
On-site	On-site works are typically within either the customers land boundaries or the CDM boundary within which a Principle Contractor operates
Quote +	Quote+ is a new product which we are currently trialling, which provides options for our customers quickly whilst maintaining queue position.
RAdAR	Register of Adopted Asset Requests; this is our current IT system utilised to manage CIC enquires where a Lloyds accredited ICP of your choice is being employed to complete the contestable works
Substation	A part of our network where DG is connected and we transfer power across boundaries, either by voltage level or a customer's point of common coupling
Wayleaves	This is the process which secures the legal right for apparatus to be installed an any given location and secures the connection to your site for a defined period of time