



SP Transmission - Getting Connected

A guide for applying to connect to the GB Transmission Network

About Us

SP Energy Networks (SPEN) is part of the ScottishPower Group of companies. We provide electrical power on behalf of supply companies through a network of cables and overhead power lines that we own and maintain.

We are dedicated to delivering a safe and reliable electricity supply to all of our customers 24 hours a day, every day of the year. Through our transmission and distribution network we provide electrical power to: SP Manweb plc (SPM) serves 1.5 million customers in Merseyside, Cheshire, North Wales and North Shropshire and SP Distribution plc (SPD) serves 2 million customers in Central and Southern Scotland.

Our Distribution Network

It's our job to move electricity to and from homes and businesses over our network. Another important part of our business is providing customers with new or upgraded connections to our network. For further information on connecting to our distribution network please visit:

https://www.spenergynetworks.co.uk/pages/getting_connected.aspx



Our Transmission Network

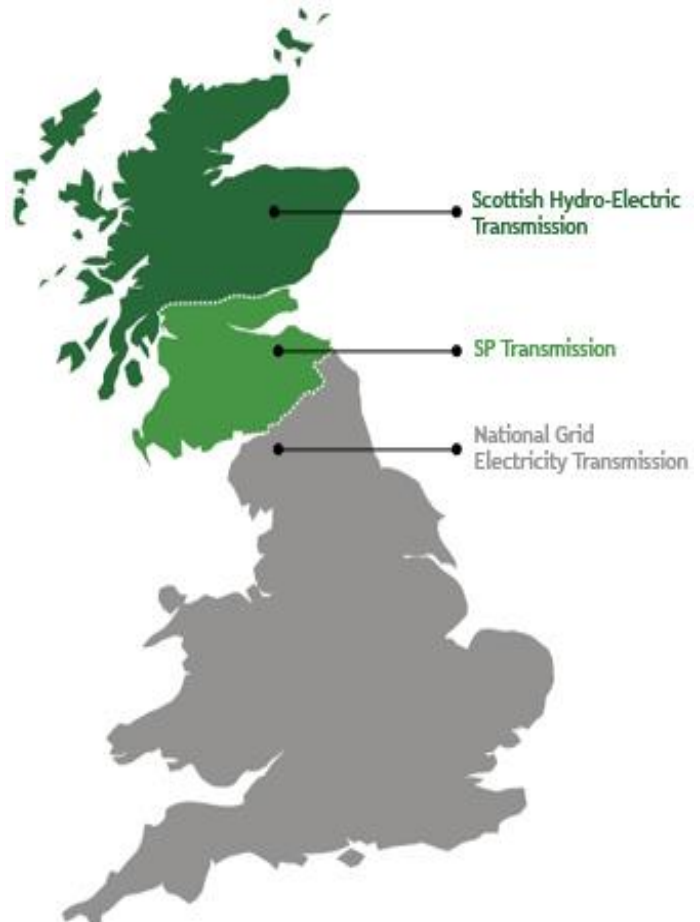
SP Transmission plc (SPT) is responsible for the transmission of electricity in central and southern Scotland. We take electricity generated from power stations, wind farms and various other sources and transport it through our transmission network, consisting of approximately 4000 kilometres of overhead lines and 360 kilometres of underground cables. We have 140 substations in central and southern Scotland and in 2016 our system maximum demand was 3.4GW and over 8.7GW of generation was connected to our network.

Our transmission network is crucial to the delivery of the Government's renewable energy targets due to its location which covers an area of outstanding renewable resource. We have a unique role in connecting renewable energy generation and bulk transfer of renewable electrical energy from Scotland into England & Wales benefiting stakeholders well beyond our licence area.

Getting Connected: the roles explained

SP Transmission

Following the introduction of the British Electricity Trading & Transmission Arrangements (BETTA) in 2005, SPT is now designated as a Transmission Owner (TO). Whilst we retain ownership of our transmission assets, we have a licence obligation to maintain, design, develop and deliver new or modified connections to our network. The System Operator - Transmission Owner Code (STC) defines the high-level relationship between the GB System Operator (SO) and the Transmission Owners. The STC sets out the roles, responsibilities, obligations and rights of the GBSO and all TOs.



National Grid Electricity Transmission

Under BETTA, National Grid Electricity Transmission plc (NGET) were designated as the SO and given responsibility for operating the National Electricity Transmission System (NETS) in England and Wales and Scotland.

As the SO, NGET is responsible for ensuring the stable and secure operation of the whole transmission system. The SO is also responsible for balancing the electricity demand across the whole of Great Britain with electricity supplied by generating stations on a minute-by-minute basis. As the SO, NGET provides transmission services to generators, electricity suppliers and large customers and will deal with all aspects of the contracts for the connection to and use of the electricity transmission system.

For further information on making an application to the SO to connecting to the GB Transmission System please visit <http://www2.nationalgrid.com/uk/services/electricity-connections/>

Customer

Any party seeking access to the GB Transmission System.

Getting Connected: the application process explained

Contractual Framework

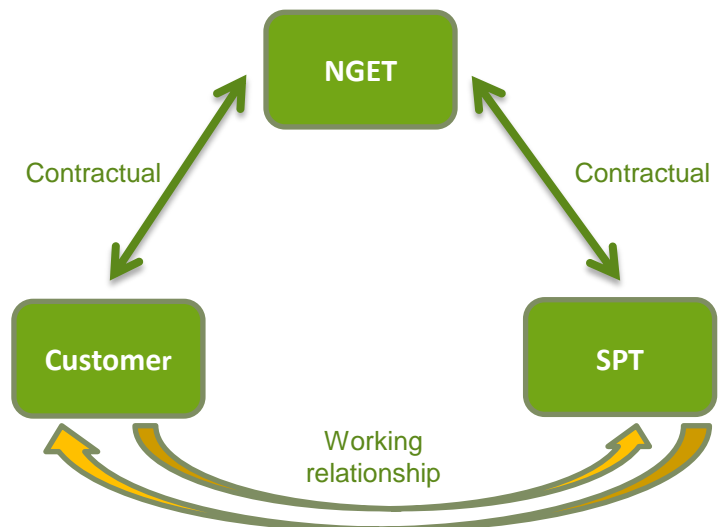


As a customer seeking a **Direct Transmission Connection** to the GB Transmission System you must apply directly to NGET as the SO.

The SO will in turn, make an application to SPT as the host TO, requesting a design and cost to connect your development to our network.

SPT will provide NGET with a Transmission Owner Connection Offer (TOCO). As your contractual relationship is with the SO, they will issue you with a Connection and Use of System Code Construction Agreement (CONSAG) detailing the scope of transmission works, costs, programme and Bilateral Connection Agreement (BCA) setting out requirements for compliance with Grid Code, Connection Use of System (CUSC) and Balancing and Settlement Code (BSC).

Whilst your agreement is with the SO, SPT is responsible for developing the design and construction of the assets that are required to connect to our network. We are committed to working with you through this process, offering guidance and support throughout the lifecycle of your project.



Every connection to the SPT network is unique however as a general guide:

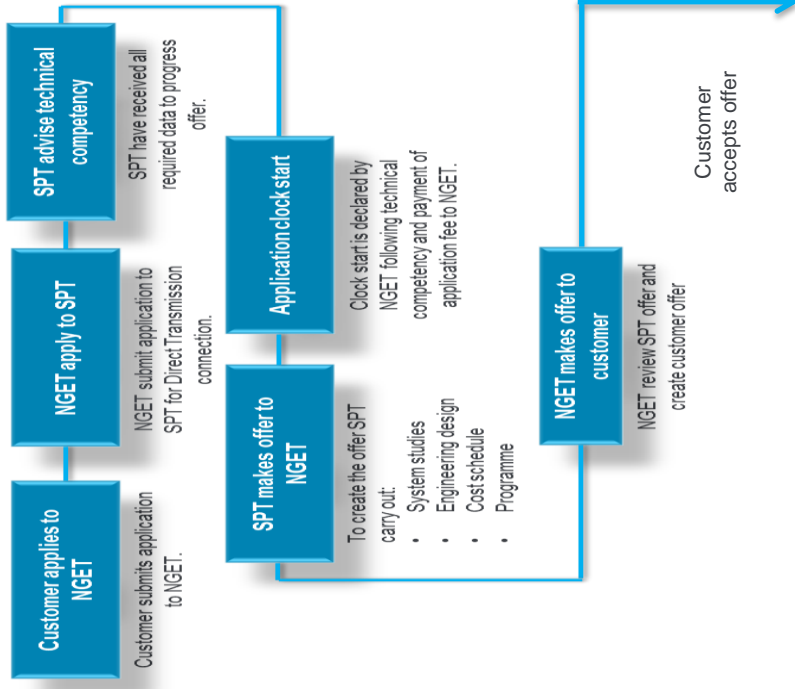
A **Direct Transmission Connection** is generation which typically connects to the SPT network at 132KV and above.

Generation connecting to the SPD network can also have an impact on the transmission network. Where SPD has identified that a **Distributed Generation Connection** (DG) will have an impact on the transmission network, SPD must apply to the SO in order for this impact to be fully assessed. Please see over for further details.

If you are unsure as to what type of connection you require we will be happy to discuss your options with you, please email transmissionconnections@spenergynetworks.co.uk

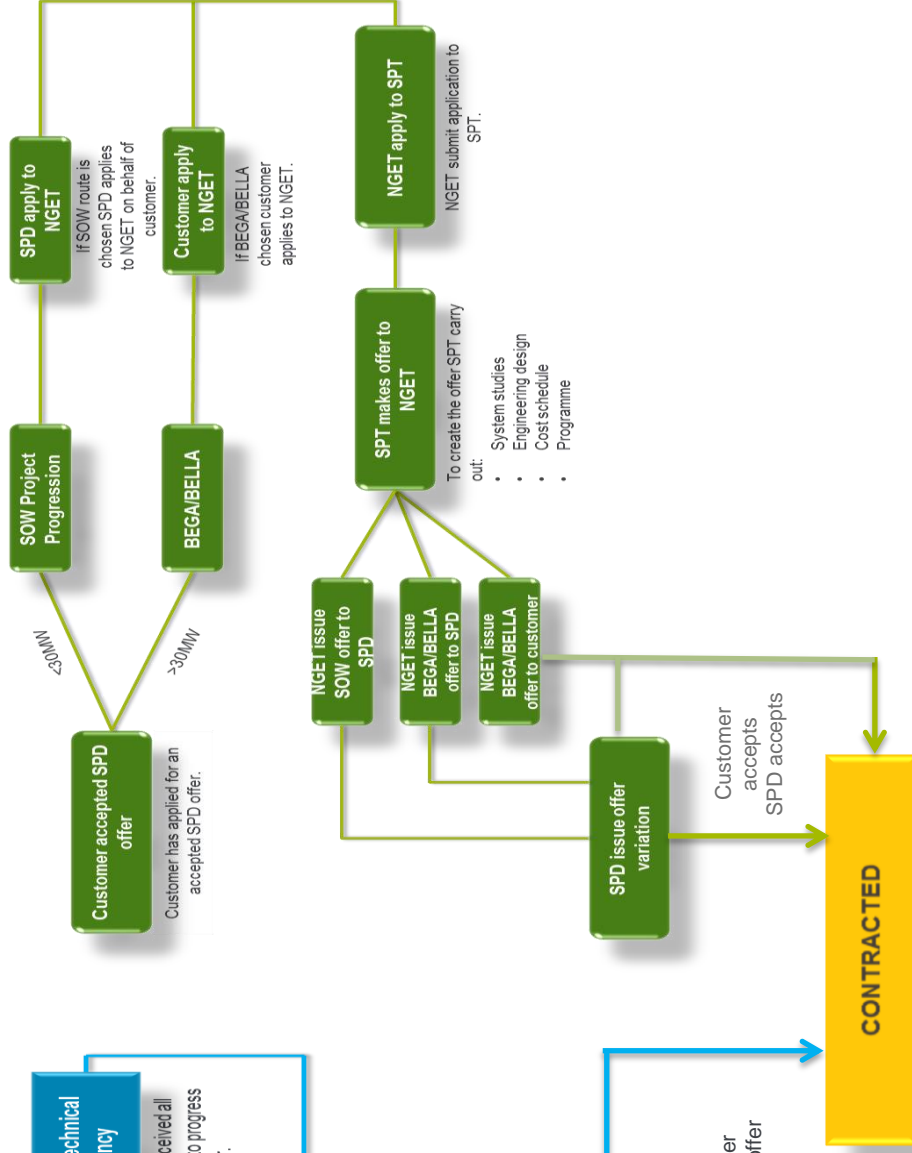
Getting Connected: the application process explained

Direct Transmission Connection



Embedded Generation Connection - Generation customers who are >30MW and connecting to the SPD (SP Energy Networks Distribution) network are deemed as 'large' and are required to have either a BEGA (Bilateral Embedded Generator Agreement) or BELLA (Bilateral Embedded Licence Exemptible Large Power Station Agreement) in place with National Grid. For further information on BEGA and BELLA agreements, please visit the NGET website www.nationalgrid.com/UK

Distributed Generation Connection



Generation customers who are <30MW and are applying to connect into the SPD (SP Energy Networks Distribution) network are deemed as 'small' and will only have contractual relationship with SPD, unless they wish explicit access rights to the transmission network. Where SPD deems that this generation has an impact on the SP Transmission network, they will submit a Statement of Works (SOW) Project Progression application to National Grid (SO). For further information for generation seeking to connect to our distribution network please visit our website www.spenergynetworks.co.uk/gettingconnected

Getting Connected: the connection offer explained

When SPT are developing your connection offer we have to consider the **design** of the connection; the infrastructure of the transmission system; initial outage requirements; asset details; **cost** and **programme** information.

- **Design** – SPT will design the connection in accordance with industry standards and our licence, which obligates us to design and operate the network in an economic, coordinated and efficient manner. Prior to and during the design process, SPT will liaise with you to ensure we are optimising solutions where possible. Part of your offer may refer to Transmission Owner Reinforcement Instructions (TORI's); these are transmission infrastructure works that may be required prior to the connection. For more information on our Transmission Owner Reinforcement Instructions please visit our Stakeholder Reports section at www.spenergynetworks.co.uk/aboutus
- **Costs** – The indicative costs provided in a TOCO are derived from previously tendered projects and concept engineering design assumptions. Cost updates are provided through the development of the project and actual costs are reconciled at project completion. For further information on the charges contained within your offer from the SO, please visit: <http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/Connection-Charges/>
- **Programme** – Following the technical approval of the design solution we will build a programme around the scope of works within the TOCO, these elements will include connection assets and TORI works. Please note however the connection date offered to you may be driven by a TORI.

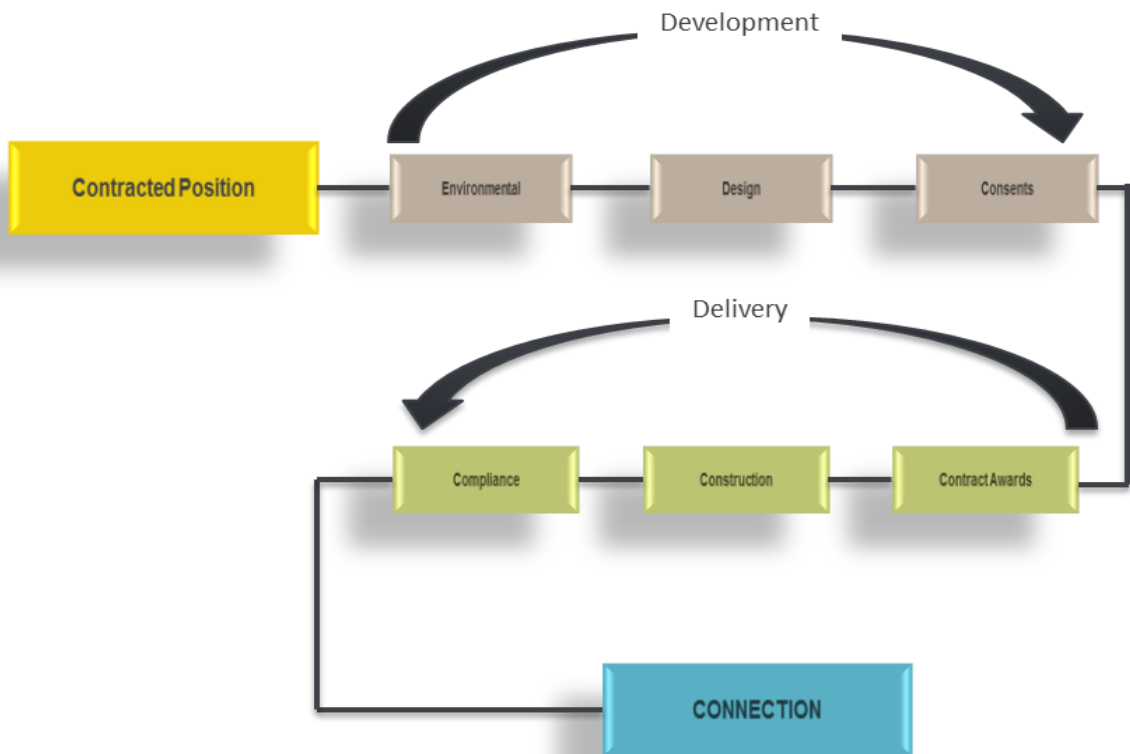
Below is an example of a typical programme building block for a 132kV overhead line project.*

Project Task	Signed Off	Financial Sign Off	Project Delivery Strategy		Preliminary Engineering Design	Detailed Engineering		Invitation to Tender (Typically Civils)	Contract Award (Typically Civils)	Site Access	Comm	
Consents Task				Place Environmental Contract	Landowner Agreements		Submit S37	Receive S37				
Date	Jan-17	Feb-17	Mar-17	Jun-17	Mar-20		Feb-20	Feb-21	May-21	Dec-21	Mar-22	Oct-23
Timeframes	2 Months							2 Months	8 Months	19 Months		
			4 Months		32 Months			12 Months				
	82 Months (6 Years 9 Months)											

* Timeline is a general guide only

Getting Connected: the connection process explained

Contract Process



Development

Following acceptance of our TOCO by the SO, SPT will commence the development stage of your connection project. Typically this will involve the placing of **environmental** and **design** contracts along with other enabling surveys such as utility searches, earthing studies, geotechnical survey; to allow for the preliminary design to be completed. Once the strategy and stage by stage construction sequence has been determined, a full detail **design** will be undertaken in parallel to applying for the appropriate **consents** prior to the completion of the tender documentation.

Delivery

Once all consents are in place, the completed tender documents are issued to the market and **contracts are awarded**. SPT deliver projects under a disaggregated procurement model, allowing for cost efficiencies to be passed onto you via the out turn costs as detailed in the contract. The procurement process for customer connections follows the same rigorous standards that are in place for our regulated investment works and takes advantage of Iberdrola's global purchasing, further driving cost efficiencies. SPT will manage the **construction** of your connection through all site works and the NGET **compliance** process for connecting to the transmission system. The works are then fully commissioned by SPT allowing for the **connection** of your generation the SPT network.

Getting Connected: communication and engagement

- **Pre application meetings** - Prior to submitting an application to the SO for a connection to the SPT network, SPT welcome the opportunity to discuss with you your project requirements and provide you with an indicative view of what your connection may look like. This can be done either by telephone or as a face to face meeting.
- **Pre / Post offer meetings** – Once you receive your offer from the SO, SPT will be happy to discuss with you any questions you may have. Where possible, we will work with you to identify any opportunities to optimise the design such as underground cable instead of overhead lines; shared solutions with other parties; non firm access; increased customer works.
- **Portfolio reviews** – The SPT team will aim to meet with you on a quarterly basis to review your portfolio of connections, sharing progress on connection and generation sites, shared enabling works and other business updates.
- **Development Interface meetings** - Along with the commercial portfolio reviews, the SPT team will meet with you to review any practical project interface issues to ensure we are working in an efficient and coordinated manner with you. These meetings vary from project to project but typically include earthing arrangements, provision of LV supply, design requirements for access, platform and build specifications, landowner and legal agreements.
- **Construction Interface meetings** – We will meet with you on a monthly basis along with National Grid to discuss programme milestones, risks, contract changes and actions log.
- **Commissioning meetings** – Set out the procedure for the commissioning of new, or modified connection or infrastructure assets on the TO Transmission System and outlines the associated responsibilities and requirements of all parties. These meetings usually start 6 months from the connection date.
- **Compliance meetings** - These meetings are used for the exchange of information in respect of compliance requirements between the SO, SPT and you, prior to completion of your connection to the GB Transmission System. They outline the structure for the organisation of data and the means of communication. These meetings usually start 6 months from connection date.

If you would like help or advice on your options, we will be more than happy to help you, simply email us at transmissionconnections@spenergynetworks.com

You can also visit our website at www.spenergynetworks.co.uk

For application documents please visit the National Grid Electricity Transmission website www.nationalgrid.com/UK