

Statement of the Basis of
Transmission Owner Charges
Applicable from 1st April 2019

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STATEMENT OF SP TRANSMISSION plc's BASIS OF ITS TRANSMISSION OWNER CHARGES

This statement is produced by SP Transmission plc (SPT), the Transmission Owner (TO), which sets out the basis of charges for the provision by SPT to NGENO National Grid System Operator (NGESO) of transmission services as specified in the System Operator Transmission Owner Code (STC).

This statement is effective from 1 April 2019.

The charges shall consist of a General System Charge, Site Specific Charges and Other Charges as set out below in Parts 1, 2 and 3 below respectively.

Introduction

SPT is obliged, under Special Condition (SC) 8C of its electricity Transmission Licence, to prepare a statement approved by the Authority setting out the basis upon which charges will be made for the provision of transmission services in such form and detail as shall be necessary to enable NGESO to make a reasonable estimate of charges to which it would become liable for the provision of SPT's services. These services include the planning, development, construction, maintenance and operation of new and modified connections to the licensee's transmission system.

Special Condition 8C requires that the statement shall in respect of connection to the licensee's (SPT) transmission system include:

- a. a schedule listing those items (including the carrying out of works and the provision and installation of electric lines or electrical plant or meters) of significant cost liable to be required for the purpose of connection (at Entry or Exit Points) to the licensee's transmission system for which Site Specific Charges may be made or levied and including (where practicable) indicative charges for each such item and (in other cases) an explanation of the methods by which and the principles on which such charges will be calculated;
- b. the methods by which and the principles on which Site Specific Charges will be made in circumstances where the electric lines or electrical plant to be installed are (at the licensee's discretion) of greater size or capacity than that required;
- c. (the methods by which and the principles on which any charges (including any capitalised charge) will be made for maintenance, replacement and repair required of electric lines, electrical plant or meters provided and installed for making a connection to the licensee's transmission system;
- d. the methods by which and the principles on which any charges will be made for disconnection from the licensee's transmission system and the removal of electrical plant, electric lines and ancillary meters following disconnection; and
- e. such other matters as shall be specified in directions issued by the Authority from time to time for the purpose of this condition.

Principles

This statement sets out SPT's charges for the provision of transmission services to NGESO. In order to calculate the charges of providing these services, SPT must apportion its assets to one of two charging categories, General System Charge and Site Specific Charges.

The **General System Charge** recovers all costs for providing, replacing and/or refurbishing SPT's transmission infrastructure assets, and all costs associated with the replacement and/or refurbishment of Pre-Vesting transmission connection assets. **Site Specific Charges** recover all costs for providing, replacing and/or refurbishing connection assets. These charges enable SPT to recover, with a reasonable rate of return, the costs involved in providing the assets, installed solely for and only capable of use by an individual User, that afford connection to the transmission system. These costs may include civil costs, engineering costs, and land clearance and preparation costs associated with the connection assets. No land purchase costs are included.

Connection and Use of System Boundary

In general, connection assets are defined as those assets solely required to connect an individual User to the SPT transmission system, which are not and would not normally be used by any other connected party (i.e. "single User assets"). For the purposes of this statement, all connection assets at a given location shall together form a connection site.

Connection assets are defined as all those single User assets which:

- a. for double busbar type connections, are those single User assets connecting the User's assets and the first SPT owned substation, up to and including the double busbar bay;
- b. for teed or mesh connections, are those single User assets from the User's assets up to, but not including, the HV disconnector or the equivalent point of isolation;
- c. for cable and overhead lines at a Transmission Voltage, are those single User connection circuits connected at a Transmission Voltage equal to or less than 2km in length that are not potentially shareable.

Shared assets at a banked connection arrangement will not normally be classed as connection assets except where both legs of the banking are single User assets under the same connection agreement.

SP Transmission plc recognises that the industry is changing and the need to optimise existing assets for connections. For example, a single user asset may become shared by two or more Users, meaning that the relevant assets should be re-classified as infrastructure and connection charges for those assets shall cease whilst so categorised. Where a previously shared use asset ceases to be shared following permanent disconnection of a User, re-classification of the relevant infrastructure asset to be a single user asset should be made upon replacement at the end of the asset's book life, in order to reasonably protect the remaining User from material impacts beyond their control.

Indicative Gross Asset Values ("GAV(s)") of connection assets for illustrative purposes are given in Appendix 1.

SPT may, at the request of NGESO carry out other work, which is not covered by General System Charge or Site Specific Charges, including, for example, outage rescheduling, dealing with applications for connection, or obtaining Consents. The principles for calculating such Other Charges are also set out in this statement.

Transmission Owner Revenue Restriction

Special Condition 3A of SPT's Transmission Licence establishes the charge restriction that determines the Allowed TO Revenue (TO_t) that SPT may earn from its TO services:

$$TO_t = BR_t + PT_t + OIP_t + NIA_t + TIRG_t - K_t$$

- TO_t means the amount of Allowed Transmission Owner Revenue in Relevant Year t.
- BR_t means the amount of Base Transmission Revenue in Relevant Year t as derived in accordance with the formula set out in Part C of Special Condition 3A.
- PT_t means the allowed pass-through items revenue adjustment made in Relevant Year t as derived in accordance with Special Condition 3B (Calculation of allowed pass-through items).
- OIP_t means the outputs incentive revenue adjustment made in Relevant Year t as derived in accordance with the formula set out in Part D of Special Condition 3A.
- NIA_t means the revenue adjustment made in Relevant Year t in respect of the Network Innovation Allowance as derived in accordance with Special Condition 3H (The Network Innovation Allowance).
- $TIRG_t$ means, for each Relevant Year t, the aggregate of the annual revenue allowances for each transmission investment project specified in Schedule C of Special Condition 3J (Transmission Investment for Renewable Generation), as derived in accordance with that condition.
- K_t means the correction term in Relevant Year t as derived in accordance with the formula set out in Part E of Special Condition 3A.

Excluded Services Charges

Part C of Special Condition 8B of SPT's Transmission Licence establishes charging provisions for excluded services. In addition to the charges arising from SPT's charges for the provision of transmission services (Allowed TO Revenue) to NGESO referred to as Other Charges, SPT will also invoice excluded services charges monthly to NGESO for Post-Vesting connection assets, including asset replacement.

These excluded services charges consist of capital charges only as all operation and maintenance charges are recovered under Allowed TO Revenue.

PART 1

General System Charges

The General System Charge recovers all costs for providing, replacing and/or refurbishing SPT's transmission infrastructure assets, and all costs associated with the replacement and/or refurbishment of Pre-Vesting transmission connection assets. These activities are undertaken to the standards prescribed by SPT's Licence, to provide the capability to allow the flow of bulk transfers of power between connection sites and to provide transmission system security.

The General System Charge is set to recover the Allowed TO Revenue, taking account of any connections charges, if any, which are remunerated under Special Condition 3A.

No service provided by SPT shall be treated as an excluded service in so far as it relates to the provision of services remunerated under the General System Charge as set out in the STC and associated procedures. In accordance with the STC and associated procedures, SPT will invoice one twelfth of the General System Charge (which may be subject to amendment) to NGENSO.

PART 2

Site Specific Charges

Site Specific Charges are set to recover costs associated with Post-Vesting connection assets specified in the TO construction agreement and/or the connection site specification for the relevant connection site. In accordance with the STC, the capital costs of providing new connections or modifying existing connections to SPT's transmission system will be recovered from NGESO.

Capital Charges

Capital charges reflect the cost of purchase and installation of connection assets.

Payment Options

The capital cost of constructing or modifying connection assets, including overheads can be paid in one of four ways as set out below. SPT will consider on a case-by-case basis a combination of the options. It should also be noted that all offers made by SPT, in response to a new or modified connection application by NGESO, will initially be made on an indicative basis. Should a firm price offer be requested, a fixed connection charge will only be provided at a later date after tender returns for major plant items and other material expenditure have been received

Option 1 Annual Charges, Indicative Price

For connections where NGESO elects to pay all or part of the actual installation costs by annual charges, over a period of up to 40 years, the annual charges are calculated as follows:

Gross Asset Value (GAV^1)	=	Connection Price
Annual Charge	=	Depreciation Charge + Return Charge
Depreciation Charge	=	$GAV^1_{adj} / 40$
Net Asset Value (NAV^2)	=	$GAV^1_{adj} \times ((39.5 - \text{Asset Age}) / 40)$
Return Charge	=	$NAV^2 \times \text{Return}^3$
Capital Charge (CC)	=	One-off payment by NGESO to SPT
Adjusted GAV (GAV^1_{adj})	=	$GAV^1 - CC^1$
Asset Age	=	Age at 1 st April each year, rounded up to the nearest year
RPI_n	=	(May to October average RPI in year n-1) / (May to October average RPI in year n-2)

The depreciation period for Post-Vesting connection assets may, by mutual agreement, be less than 40 but not more than 40 years.

¹ Indexed annually by RIP_n

² NAV is based on a revalued GAV^1

³ Return refers to a reasonable percentage return

One off-works (i.e. works requested in excess of the minimum scheme) will be paid as a one-off capital charge, rather than annual charges. Therefore only sole-use connection assets may be paid for by annual charges.

Option 2 Annual Charges, Firm Price

The Connection Price is based on a firm price estimate of the costs of the connection works, and is calculated as in Option 1, except that the firm price may include a risk margin to allow for possible variances above the estimate, which might occur for any reason. Due to the current long lead times for new connections (e.g. the transmission outage programme, which can be as much as 5 years, and the expected time to obtain planning Consents), it may not be feasible for SPT to offer firm prices.

Option 3 Capital Contribution, Indicative Price

For connections where NGESO elects to pay for the installation costs in full, NGESO will make milestone payments, based on fair and reasonable estimate of the value of work to be done at each stage, with the final payment made, following a reconciliation of the actual costs incurred in completing the connection assets and paid in advance of commissioning the connection.

The capital contribution is calculated as follows:

Gross Asset Value (GAV) = capital contribution (construction costs plus margin)

Option 4 Capital Contribution, Firm Price

Full capital contribution based on a firm price estimate of the costs of the connection works. The connection price will be calculated as in Option 3 except that the construction costs will include a risk margin to allow for increases, which might occur for any reason.

Should NGESO choose this option, milestone payments will be paid at the stages agreed in the TO construction agreement.

Where NGESO has elected either Option 3 or 4, SPT will require the relevant capital contribution to be paid either in advance of the commencement of the connection works (which may be phases over the construction period according to the payment schedule set out in the TO Construction Agreement) or based on the allocated and depreciated NAV of a commissioned asset.

NGESO can choose to make a capital contribution based on the allocated and depreciated NAV of a commissioned asset. For a capital contribution to take account at the start of charging year n , NGESO may, at most once per year, make a full or partial capital contribution of at least 10% of the NAV prevailing as of 31st March in year $n-1$. NGESO shall notify SPT of the capital contribution amount no later than 1st September in year $n-1$, and pay the capital contribution 45 days prior to the start of charging year n which will be applied to the NAV prevailing at the start of year n . As the capital component of the connection charge for year n will reduce as a result of the capital contribution, a reduced rate of return element will be payable and a lower security requirement will be required in charging year n and subsequent years.

Calculation of the Gross Asset Value (GAV) and Net Asset Value (NAV)

The GAV represents the initial total cost of a connection asset to SPT. For a new connection asset it will be the costs incurred by SPT in the provision of that connection asset. Typically the GAV is made up of the following components:

- Construction costs – costs of bought in services
- SPT Engineering – Allocated equipment and direct engineering costs
- Interest During Construction – Financing Cost

The GAV of an asset is re-valued each year normally using the average of the Retail Price Index (RPI) between May and October,

$$\text{i.e. } GAV_n = GAV_{n-1} \times RPI_n$$

Where $RPI_n = (\text{May} - \text{October average RPI Index in year } n-1) / (\text{May} - \text{October average RPI Index in year } n-2)$

The NAV of each asset for year n , used for charge calculation, is the average (mid-year) depreciated GAV of the asset. The following formula calculates the NAV of an asset with a 40 year life, where A_n is the age of the asset (number of completed charging years old) in year n :

$$NAV_n = GAV_n \times (39.5 - A_n) / 40$$

PART 3

Other Charges

Over and above the General System Charge and Site Specific Charges mentioned above, SPT may incur other costs, which include but are not limited to:

- Costs associated with processing applications for connection to the system
- One-off Costs associated with new connections
- Costs of rearranging outages at NGENSO's request

Any costs incurred by SPT as a result of NGENSO's requirements that are not otherwise recoverable through General System Charge or Site Specific Charges will be charged to NGENSO according to the following principles.

Application Fees

Application fees are payable in respect of NGENSO applications received for new or modified connections to SPT's transmission system. The application fee is intended to cover engineering costs and other expenses involved in preparing an offer of terms, and are dependent upon the size, type and location of the User's scheme as shown on the map in Appendix 2.

With the exception of offshore applications, NGENSO can elect to pay a fixed price application fee in respect of their application. Alternatively, onshore applications can elect to pay a variable application fee, which is based on the actual costs incurred.

The fixed price fees for applications are detailed in Appendix 2.

If NGENSO chooses to pay a variable application fee, SPT will charge NGENSO the fixed price fee in the appropriate table detailed in Appendix 2 and carry out reconciliation once the actual engineering and out-of-pocket expenses have been established. Actual costs will be based on the SPT charge-out rates detailed in Appendix 3. Where actual costs exceed the advance, SPT will issue an invoice for the excess. Conversely, where SPT does not use the whole of the advance, the balance will be refunded.

Should NGENSO notify SPT of changes in the planning assumptions after receipt of an application fee, SPT may levy an additional charge.

In exceptional circumstances where NGENSO has requested an application which involves significant costs over and above normally expected (e.g. substantial system studies, specialist surveys, investigations) to process an offer of terms then SPT reserves the right to vary the applicable fixed fee quoted in Table A, B, C and D. Under these circumstances, SPT will following discussion with NGENSO, advise the appropriate applicable fee.

SPT will refund application fees and consent payments either on commissioning or against the charges payable in the first three years of the new or modified agreement. The following conditions apply:

The refund will be net of external costs;

Where a new or modified agreement is signed and subsequently modified at NGENSO's request before any charges become payable, SPT will refund the original application fee. SPT will not refund the fees in respect of the subsequent modification(s).

Feasibility Studies

If NGESO requests a feasibility study in connection with alterations to or extension of the SPT network a fee is payable based on an advance of SPT engineering and out-of pocket expenses. The fee payable by NGESO will vary according to the size of the study and the amount of work involved. Where actual engineering and out-of pocket expenses exceed the advance, SPT will issue an invoice for the excess. Conversely, where SPT does not use the whole of the advance, the balance will be refunded.

A schedule of charge-out rates for different classes of SPT staff is attached at Appendix 3.

One-Off Costs and Additional Works Requested

To provide or modify a connection, SPT may need to carry out works on the transmission system, which although directly attributable to the connection may not give rise to additional connection assets. These costs are defined as "one-off" costs. Where these costs cannot be justified by planning standards and are incurred as a direct result of NGESO's construction application, they will be included in the TO Construction Offer and charged accordingly.

Liability for one-off charges is established with reference to the principles laid out below:

- Where a cost cannot be capitalised into either a connection or infrastructure asset, typically a revenue cost
- Where a non-standard incremental cost is incurred as a result of a User's request, irrespective of whether the cost can be capitalised
- Termination Charges associated with the write-off of connection assets at the connection site.

One-off costs is a charge equal to the cost of the works involved, together with a reasonable return.

Requests for diversions of transmission lines or cables, in connection with an application for a new or modified connection, including removal or relocation of towers will be treated as one-off costs.

The costs of abortive transmission construction works will be recovered as a one-off cost as set out in this statement

Any costs arising as a result of a User requesting a delay to the SPT construction works will be recovered as a one-off cost.

The costs of Category 1 and 3 inter-tripping schemes for generator connections (as defined in the Grid Code and the CUSC) will be recovered as one-off costs.⁴

⁴ Category 1 schemes are those which have been initiated by the User, either as a result of a variation to the design or to allow early connection of generation, which would otherwise be delayed until infrastructure works can be completed. Category 3 are schemes which the User has elected as an alternative to reinforcement of a distribution network affected by the generation connection.

Miscellaneous Charges

Other contract specific charges may be payable by the User, these will be set out in the TO Construction Offer or Agreement where appropriate.

Abortive Works Charges

If as a result of a modification application, received after commencement of the transmission construction works, SPT is required to make amendment to the transmission construction works and SPT has previously carried out some or all of the said works which are now no longer required ("Abortive Works") NGESO shall be required to make a payment to SPT in respect of all fees, expenses and costs of whatever nature reasonably and properly incurred or due by SPT in respect of the Abortive Works for which SPT is responsible or has or may otherwise become liable in respect of the Abortive Works.

Contestable Connection Works

Users may also elect to carry out certain contestable areas of connection works. Such arrangements would be subject to the assets being designed and installed to SPT's technical standards to ensure the ongoing security and operability of the transmission system. SPT may also require other agreements and indemnities to ensure that there are no adverse consequences for other Users of the transmission system as a result of the User's decision to "self-build".

Subject to these arrangements, SPT would adopt the self-build assets free of charge and assume responsibility for their ongoing maintenance.

Should a User wish to take advantage of the self-build option, this should be made clear in their formal application to NGESO, and SPT will work with the User to facilitate this option.

The scope of contestable works would be agreed before the application is deemed competent. Infrastructure works are non-contestable to avoid any potential impact on other Users.

SPT will charge the User on an indicative basis for any non-contestable items such as design approval, inspection and testing of the contestable works to establish that the assets are suitable for adoption by SPT.

The TO construction agreement would contain an estimated GAV for the new or replacement connection assets for charging purposes. The GAV would be estimated by SPT as though it was carrying out the full works.

Outage Services Charges

Where pre-arranged outages are rearranged at NGESO's request or where NGESO require additional services for planned or unplanned outages over and above the normal service provided under General System Charge, NGESO will be liable for outage service charges. These charges reflect the costs incurred by SPT in accommodating NGESO's request. They include, but are not limited to:

- Costs (including where appropriate, liquidated damages) of standing down contractors until outage starts. Costs will be derived from contractors' invoices and, in the case of liquidated damages, from the relevant agreement(s).
- Costs of overtime working to reduce outage time such as to reduce NGESO's costs in maintaining system security. Cost will be based on overtime hours worked on the particular outage.
- Costs of installing additional equipment, such as bypass arrangements.

Where an outage is rearranged at NGESO's request, SPT will use all reasonable endeavours to minimise the charge to NGESO by redeploying staff onto other work.

Charge-out rates to assess indicative costs for overtime working are given at Appendix 3.

De-Energisation and Disconnection Charges

Where NGESO wishes a supply to be permanently de-energised, a minimum of two business days' notice (or such other period as may be specified in the TO construction agreement and/or STC) to that effect should be given to SPT. SPT will arrange to de-energise the supply and read the metering equipment, where appropriate, for billing purposes. An additional charge will be made for this service if undertaken outside normal working hours.

Temporary de-energisation (and subsequent re-energisation) resulting from the failure by NGESO to comply with the terms of their relevant agreement, or carried out at the request of NGESO will be at the expense of NGESO.

Where it becomes necessary to disconnect a User (at the request of NGESO) that is to have SPT's equipment removed from site, for any reason, any payments outstanding in first providing that connection will become due forthwith.

If NGESO requests disconnection, this should be requested in writing. On receipt of such a request SPT will take all reasonable steps to remove the equipment in accordance with the NGESO's reasonable requirements. SPT should be consulted at an early stage and a programme for the removal of equipment will be subject to individual assessment.

On termination SPT retains the right to remove its equipment. Where it is cost effective to do so SPT will remove such equipment, and no charge will be made to NGESO. For assets where it is not cost effective to recover (e.g. buried cables) will normally be made safe and left on site, but if NGESO requires SPT to remove them, the cost of removal, will be payable by NGESO. All such equipment will remain the property of SPT until otherwise agreed in writing with SPT.

Termination Charges

Early Termination of Commissioned Connections

Costs of new connections will be fully recoverable from NGESO in all circumstances, including the liability to pay a termination amount where a connection agreement is terminated by NGESO.

If a connection charge is paid by annual charges and NGESO gives notice of termination of the connection agreement prior to the expiry of the economic life of the connection assets, SPT will require NGESO to pay a Termination Amount. This will recover the Net Asset Value (NAV) of the connection assets plus the cost of removing the connection assets if required.

The Termination Amount will be calculated as follows:

NGESO will be liable to pay an amount equal to the NAV of such connection assets as at the end of the financial year in which termination or modification occurs, plus:

- The reasonable costs of removing such connection assets. These costs being inclusive of the costs of making good the condition of the connection site; and
- If a connection asset is terminated before the end of a financial year, the connection charges for the full year remains payable.

The calculation of termination amounts for financial year n is as follows:

Termination Charge_n	=	C_n + NAV_n + R where:
C _n	=	Outstanding Connection Charge for year n
NAV _n	=	NAV of connection assets at 31 March of financial year n
R	=	Reasonable costs of removal of redundant connection assets and making good

Reasonable costs of removal for terminated connection assets and making good the condition of the site include:

- modifications to protection systems should a circuit breaker be decommissioned as a result of a User leaving a site, and
- civil engineering works associated with restoring ground levels as a result of removing connection assets.

Re-Use of Connection Assets after Early Termination

Should the connection assets be re-used, such that SPT receives connection charges as a result of their use, part of the termination charge will be refunded to NGESO. The amount refunded will depend on the proportional extent to which the original income stream is replaced. The refund will be based on the NAV at the time the asset is brought back into use, less the cost of maintaining and storing the asset whilst out of service.

Should a period of more than 5 years elapse before re-use of the terminated connection assets, a partial refund of the termination payment will be made provided clear financial evidence of payment of such termination amount is provided by NGESO.

Early Termination of Transmission Reinforcement Works

When a TO construction agreement for a connection is terminated by NGESO prior to completion of the works then, in addition to the costs incurred at the time of termination for connection assets, NGESO must also pay, to SPT, the costs incurred at the time of termination for any transmission works which were required as a direct consequence of the NGESO Construction Application.

Early Replacement

If SPT considers that connection assets require to be replaced prior to the end of their normal economic lifetime, the replacement costs will be borne by SPT within the remaining economic life of the original connection assets. On expiry of the expected lifetime of the original connection assets, the connection charge will be recalculated taking account of the NAV of the replacement connection assets, together with the normal provision for depreciation.

Transmission Operation and Maintenance Costs

Operating and Maintenance charges for all transmission assets will be collected through General System Charges and are not addressed in this statement.

Charges for Land Purchase, Consents and Wayleaves

Any capital costs incurred in providing a new or modified connection relating to planning and other statutory Consents; all wayleaves, easements, servitude rights, rights over or interests in land or any other consent; and permission of any kind as required for the construction of the connection shall be paid to SPT by NGESO. These costs will cover all of SPT's engineering charges and out-of-pocket expenses incurred.

These out-of-pocket expenses may include planning inquiries or appeals; the capital costs together with reasonable legal and surveyors costs of landowners or occupiers in acquiring permanent easements, or other rights over land, in respect of any electric line or underground cable forming part of the new transmission connection.

Charges for legal costs associated with land purchase or access Consents would be due under the TO construction agreement for connection applications. Costs of this work will be charged in accordance with the charge-out rates in Appendix 3.

Any capital costs incurred by SPT in acquiring land, shall generally be treated according to their categorisation as either connection or infrastructure works and recovered through the TO construction agreement or through General System Charges respectively.

Civil Engineering Costs of Connection Sites

Where a substation site may accommodate infrastructure assets in one area of the building or outdoor compound, and sole-use connection assets for one or more Users in another area of the same substation site, the civil engineering costs including that share of the costs of preparing a level, drained site for the accommodation of the sole-use connection assets would be included in the connection costs. This share of civil engineering costs will be allocated based on the "substation footprint" of the sole-use connection assets at the substation site.

Energy Metering Systems

The charges to NGESO for the provision of metering systems will be on a similar basis as other SPT connection assets. The electronic components of the energy metering system have a 15 year replacement and depreciation period whilst the non-electronic components normally retain a 40 year replacement and depreciation period.

Appendix 1 INDICATIVE CONNECTION ASSET CHARGES

This schedule provides an indication of typical costs, exclusive of VAT, for additions to SPT's transmission system. The costs shown are current at the time of publication only and are subject to change without notice and may also vary depending upon system configuration, Consents, site conditions etc.

<i>Description</i>	<i>£k</i>		
	<i>275kV</i>	<i>132kV</i>	<i>33kV</i>
	Charge	Charge	Charge
Single Busbar bay	1,548	900	-
Double Busbar bay	1,806	1,084	-
Single Circuit Trident £/km		472	
Double Circuit Steel Tower £/km	2,099	956	-
Transformer cables, Per 100m (inc Sealing Ends)	1,636 (240MVA)	1,227 (180MVA)	787 (60MVA)
275/132kV 240MVA transformer	7,231		-
275/33kV 120MVA transformer	4,331		-
132/33kV 90MVA transformer	-	2,656	-
132/33kV 60MVA transformer	-	2,533	-

Factors which can affect these charges are:

- Standards governing the system,
- Length of cable/line required from existing system,
- Exit Point/ Entry Point capacity requirements in relation to available capacity of existing network, including the age of the assets and the condition of the network,
- Whether any extension or reinforcement of the existing network is by underground cable or overhead lines,
- Type of ground requiring excavation; type and extent of reinstatement necessary, including New Roads and Street Works Act requirements, need for road crossings,
- Generation capacity characteristics,
- Exit Point demand and characteristics,
- Special security of supply requirements – greater or less than SPT licence standards,
- Availability of wayleaves/easements for cables and lines including planning Consents,
- Availability of suitable substation sites including any necessary planning Consents,
- Circuit routing difficulties, substation site conditions and access to routes and sites, and
- Necessity of overtime working

Notes on Assets

Busbar Bays - Assumptions

Plant - the bay is considered from SPT standard bay drawings and tendered prices provided for protection, cabling, auxiliary systems, earthing are based on various assumptions

Civil - Normal base sizes & dimensions of concrete footings, good ground condition, includes landscaping but access works and drainage costs elsewhere

Busbar Bays - Exclusions

Plant - Overall Substation Protection, Main Control and SCADA systems. Auxiliary supplies such as AC/DC system and electrical design costs.

Transformer Assumptions

Cables

- Assumptions - All based on 1 circuit of 1 cable per phase, 100m straight, flat and unimpeded route

XLPE Lead/Alu sheathed cable supply, install, commission with High Voltage AC & Sheath Testing

earth Continuity Cable (ECC) & Link Boxes supply, Installation & Connection included.

DTS c/w terminations into Fibre Optic Terminal boxes on AIS support - on 275kV only.

Cable installed in ducts/trenching

Connection & Modifications to earth mat.

P&C Duct (1x90mm) included (Max 100m excluding cable(s))

Excavation waste disposal, site establishment/prelims, security & access costs included.

Standalone project(s) with its own design/project team.

Costs do not allow for any small quantity/MOQ surcharge that may be levied by cable supplier.

Others - VAT and inflation

Transformers - Assumptions

- 1) Costs include supply & installation of:
 - Auto/Grid Transformer
 - Auxiliary/Earthing Transformer (where applicable)
 - Neutral Earthing Resistor (where applicable)
 - HV Disconnecter Bay (c/w associated equipment)
 - LV Circuit Breaker (c/w associated equipment)
 - Protection Upgrade Modifications
 - LV Cabling Works (where applicable)

- 2) Civil Works to include the following:
 - Transformer Plinth/Bund
 - Disconnecter Bay Civils
 - Earthing Upgrade Works

Transformers - Exclusions

Plant - Bay protection, control and SCADA system, (considered under part of the Busbar Bay costs) auxiliary supplies such as AC/DC system (considered under part of the Busbar Bay Costs)

Civil - Piling

Others - VAT and Inflation

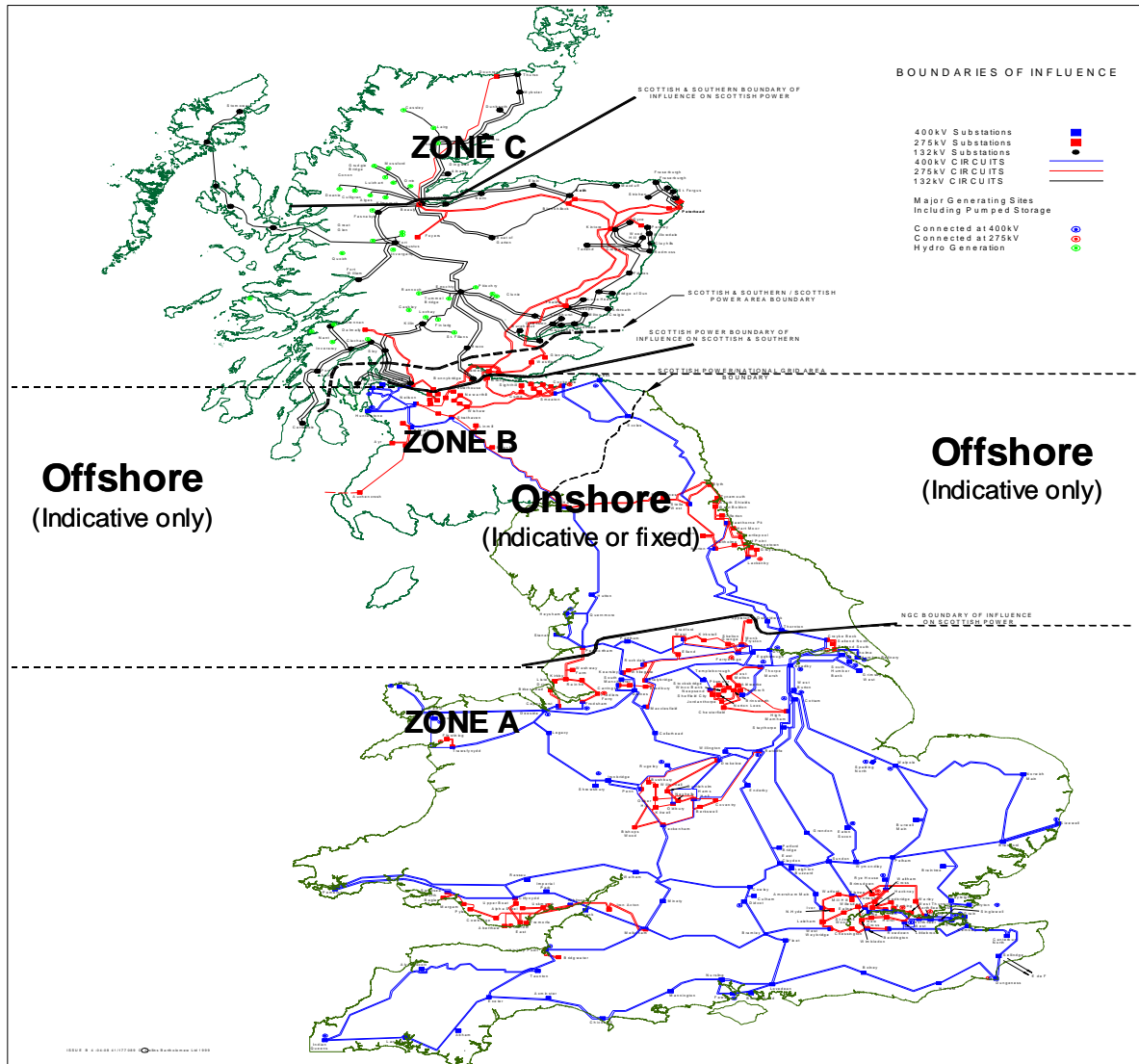
Illustrative list of Abnormal Services which may be reflected in the Site Specific Charges

Illustrative list of abnormal services which may be reflected in the connection charges:

- progression of work required other than in an orderly fashion in accordance with normal engineering policies and practices thus imposing additional costs;
- transformer/Substations sites not provided to SPT in suitable locations at normal prices or rents, taking account of both cable access and access by personnel;
- loads with abnormal characteristics, which affect the security standards of service on the system, for example, arc welders and large motors.

Appendix 2 APPLICATION FEES

Transmission Licensees' Boundaries of Influence Map



Fees will be applied depending on which zone the connection will be constructed. See Tables A, B, C or D. The boundaries of influence are set out in detail in the STC - Criteria for Assessing Those Transmission Systems Affected by a Construction Project,

All fees subject to other additional costs covering any other special design requirements e.g. subsea survey, advance wayleaving etc. being payable or underwritten by NGENSO.

All fees are subject to the addition of VAT.

No application fee is payable for any SPT initiated works.

The MW (mega-watt) value is the final value applied for.

Table A – Applications in Zone B – NGENO North where SPT Affected TO

<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Rate £/MW</i>
New Onshore Application	<100	9,955	70
	100 – 1320	15,928	36
	>1320	47,786	13
New Onshore Supply Point	Any	18,213	-
New Offshore Application – Per Connection Site	-	25,835	-
Statement of Works	-	266	-
Statement of Works Modification Application	-	1,065 Or 6,605	-
TEC Increase	<100	9,955	70
	100 – 1320	15,928	36
	>1320	47,786	13
<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Factor</i>
Modification Application	<100	9,955	0.75
	100 – 1320	15,928	
	>1320	47,786	
Modification Application to Existing Supply Point	Any	16,092	-
Embedded Generation Application	<100	9,955	0.3
	100 – 1320	15,928	
	>1320	47,786	
Embedded Modification Generation Application	<100	9,955	0.2
	100 – 1320	15,928	
	>1320	47,786	
Design Variation in addition to Standard Offer	<100	9,955	1.5
	100 – 1320	15,928	
	>1320	47,786	

Table B – Applications in Zone B – SPT South where SPT Host TO

<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Rate £/MW</i>
New Onshore Application	<100	19,326	135
	100 – 1320	30,920	67
	>1320	92,762	26
New Onshore Supply Point	<100	19,562	-
	>100	32,936	-
New Offshore Application – Per Connection Site	-	33,866	-
Statement of Works	-	533	-
Statement of Works Modification Application	-	2,663 Or 19,612	-
TEC Increase	<100	19,326	135
	100 – 1320	30,920	67
	>1320	92,762	26
<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Factor</i>
Modification Application	<100	19,326	0.75
	100 – 1320	30,920	
	>1320	92,762	
Modification Application to Existing Supply Point	<100	17,172	-
	>100	24,702	
Embedded Generation Application	<100	19,326	0.3
	100 – 1320	30,920	
	>1320	92,762	
Embedded Modification Generation Application	<100	19,326	0.2
	100 – 1320	30,920	
	>1320	92,762	
Design Variation in addition to Standard Offer	<100	19,326	1.5
	100 – 1320	30,920	
	>1320	92,762	

Table C – Applications in Zone C – SPT North where SPT Host TO

<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Rate £/MW</i>
New Onshore Application	<100	26,603	195
	100 – 1320	41,806	94
	>1320	121,615	41
New Onshore Supply Point	<100	19,402	-
	>100	32,385	-
New Offshore Application – Per Connection Site	-	33,300	-
Statement of Works	-	524	-
Statement of Works Modification Application	-	2,619 Or 16,236	-
TEC Increase	<100	26,603	195
	100 – 1320	41,806	94
	>1320	121,615	41
<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Factor</i>
Modification Application	<100	26,603	0.75
	100 – 1320	41,806	
	>1320	121,615	
Modification Application to Existing Supply Point	<100	17,052	-
	>100	24,289	
Embedded Generation Application	<100	26,603	0.3
	100 – 1320	41,806	
	>1320	121,615	
Embedded Modification Generation Application	<100	26,603	0.2
	100 – 1320	41,806	
	>1320	121,615	
Design Variation in addition to Standard Offer	<100	26,603	1.5
	100 – 1320	41,806	
	>1320	121,615	

Table D – Applications in Zone C – SHETL where SPT Affected TO

<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Rate £/MW</i>
New Onshore Application	<100	6,969	195
	100 – 1320	10,951	94
	>1320	31,858	41
New Onshore Supply Point	<100	2,390	-
	>100	8,234	-
New Offshore Application – Per Connection Site	-	25,835	-
Statement of Works	-	266	-
Statement of Works Modification Application	-	1,065 Or 6,605	-
TEC Increase	<100	6,969	195
	100 – 1320	10,951	94
	>1320	31,858	41
<i>Application Type</i>	<i>MW</i>	<i>Base Fee (£)</i>	<i>Factor</i>
Modification Application	<100	6,969	0.75
	100 – 1320	10,951	
	>1320	31,858	
Modification Application to Existing Supply Point	<100	1,793	-
	>100	6,176	
Embedded Generation Application	<100	6,969	0.3
	100 – 1320	10,951	
	>1320	31,858	
Embedded Modification Generation Application	<100	6,969	0.2
	100 – 1320	10,951	
	>1320	31,858	
Design Variation in addition to Standard Offer	<100	6,969	1.5
	100 – 1320	10,951	
	>1320	31,858	

Notes:

Application fees are calculated on the following basis:

New Onshore Application	=	Base Fee + (MW x Rate/MW)
CEC Increase	=	Base Fee + (CEC Increase MW x Rate/MW)
New Offshore Application	=	Number of offshore connection sites x Base Fee
On-Shore Modification Application	=	Base Fee x Factor
Off-Shore Modification Application	=	Base Fee x number of Transmission Interface Sites x Factor
Embedded Generation Application	=	Base Fee x Factor
Embedded Generation Modification Application	=	Base Fee x Factor

Statement of Works

1. In response to any Statement of Works request, SPT will provide a Statement of Works response which will inform only whether there are any transmission system works required. No formal terms of offer will be provided.
2. In the event the Statement of Works response provided by SPT to NGESO show that transmission works are required by the embedded distribution connection, NGESO will be required to submit a formal Modification Application.
 - a. For in area offers where SPT are the Host TO and where no significant network assessment required, the applicable fee for this Modification Application is £2,500. Where there is significant network assessment required, the applicable fee for this Modification Application is £15,500.
 - b. For out of area offers where SPT are the Affected TO and where no significant network assessment required, the applicable fee for this Modification Application is £1,000. Where there is significant network assessment required, the applicable fee for this Modification Application is £6,200.

Appendix 3 CHARGE-OUT RATES

<i>Grade</i>	<i>Rate (£/day)</i>
Section Manager or Internal Solicitor	1,093
Principal SPT Engineer	836
Senior SPT Engineer, Project Manager or Senior Wayleave Officer	698
PS Engineer or Draughtsman	587
Graduate Engineer	467
Craftsman (Linesman, Cable Jointer, Substation Fitter)	423
Admin support	369

All fees are subject to the addition of VAT.

Glossary of Terms

Affected TO	A TO who owns or operates a transmission system which is electrically impacted by a User's connection to a Host TO's transmission system
Allowed TO Revenue	as set out in TO's Transmission Licence
Authority	The Gas and Electricity Markets Authority (GEMA) established under Section 1 of the Utilities Act 2000
BETTA	British Electricity Trading and Transmission Arrangements
BETTA Go-Live Date	1 April 2005
Bilateral Connection Agreement	An agreement between the SO and the User covering the connection to the TO's transmission system.
Connection Site Specification	As defined in Section D, Part One, sub-paragraph 2.6.1 of the STC
Consents	In relation to any transmission system and or connection works: - a) all such planning (including Public Inquiry) and other statutory consents; and b) all wayleaves, easements, rights over or interests in land or any other consent; or for commencement and carrying on of any activity proposed to be undertaken at or from such works when completed c) permission of any kind as shall be necessary for the construction of the works
CUSC	Connection and Use of System Code
Entry Point	A point of connection at which electricity may be exported from a User's installation onto the Transmission System i.e. Generation
Exit Point	A point of connection at which electricity may flow from the Transmission System to the User's installation, i.e. Demand
Host TO	The TO which will electrically connect the User to a transmission system which is owned or operated by that TO
NGESO	National Grid Electricity System Operator Limited
Pre BETTA	Before 1 April 2005
Pre-Vesting	Means on or before 31 March 1990
Price Control	As set out in the TO's Licence
Post-Vesting	Means after 31 March 1990

Retail Price Index (RPI)	Table 36: RPI: All items index 1947-2013 "CHAW" published by the Office for National Statistics and as amended monthly
SO	System Operator. This being NGESO
STC	The System Operator - Transmission Owner Code
TO	An onshore or offshore Transmission Owner. This being SP Transmission plc
Transmission Interface Site	the site at which the Transmission Interface Point is located
Transmission Interface Point	means the electrical point of connection between the Offshore Transmission System and an Onshore Transmission System
Transmission Licence	Transmission Licence granted or treated as granted under section 6(1)(b) of the Act
Transmission Voltage	In Scotland usually voltages at 132kV or above.
User	A generation or demand customer connected to SPT's transmission system and party to NGESO's bilateral agreement(s).