

Issue	Revision
10	1

# **The Statement of Use of System Charges**

**Effective from 1 April 2014**

Based Upon:

The Statement of the Connection Charging Methodology  
and  
The Statement of the Use of System Charging Methodology

*contained within*

Section 14 Parts I and II respectively  
of the Connection and Use of System Code

**nationalgrid**

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• Plant: SGT Cost was provided by NG Internal Procurement and The indicative prices provided for protection, cabling, auxiliary systems, earthing are based on various, HV and LV protections are included in the 400kV and 132kV bay costs and SGT transportation to site, installation and stage 1 commissioning included in the SGT Costs.	34
• Civil: nominal base sizes, good ground condition, access works elsewhere, shallow/ deep bund, oil Containment drainage elsewhere and Firewall (generic brick wall).	34

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Exclusions	34
• Plant: Bay protection, control and SCADA system (considered under part of the Bay Costs), below ground earthing, auxiliary supplies such as AC/DC system (considered under part of the Bay Costs).	35
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## Introduction

This statement is published in accordance with the Transmission Licence of National Grid Electricity Transmission plc (National Grid).

This document sets out the annual tariffs for Transmission Network Use of System charges and the parameters used to calculate these; details of the Balancing Services Incentive Scheme which forms part of the Balancing Services Use of System Charges; and fees charged by National Grid in relation to applications for connection, use of system and engineering works.

Further information on the methods by which and principles upon which National Grid derives Use of System charges is set out in the **Statement of the Use of System Charging Methodology** which is included in Section 14 of the Connection and Use of System Code (CUSC) which is available on our website at:

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/The-CUSC/>

If you require further detail on any of the information contained within this document or have comments on how this document might be improved please contact our **Charging Team**, preferably by email at:

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# Schedule 1

## Basis of 2014/15 Transmission Network Use of System Charges

The Transmission Network Use of System Charges for 2014/15 found within this document have been calculated using the methodology described in the Statement of Use of System Charging Methodology. Part of the tariff calculation utilises a DC Load Flow (DCLF) Investment Cost Related Pricing (ICRP) transport and tariff model. The following tables provide a summary of some of the parameters utilised to calculate tariffs within this model.

Table 1.1: TNUoS Calculation Parameters

Parameter	Value/Basis
Transport model network, nodal generation & nodal demand data	Based upon various data sources as defined in Section 14 of the Connection and Use of System Code (CUSC)
Reference node	ECLA40_WPD
Expansion constant	£ 12.901218 /MWkm
Annuity factor	5.8%
Overhead factor	1.8%
Locational onshore security factor	1.8
Offshore civil engineering discount	£ 0.392321 /kW

Table 1.2: Onshore Wider Cable and Overhead Line (OHL) Expansion Factors

TO Region	Cable Expansion Factor			OHL Expansion Factor		
	400kV	275kV	132kV	400kV	275kV	132kV
Scottish Hydro Electric Transmission Ltd	10.20	11.45	20.77	1.00	1.20	2.59
SP Transmission Ltd	10.20	11.45	22.58	1.00	1.20	2.87
National Grid Electricity Transmission plc	10.20	11.45	22.58	1.00	1.20	2.87

Table 1.3 Onshore Local Expansion Factors (All TO Regions)

2dp	400kV	275kV	132kV			
			Single Circuit <200MVA	Double Circuit <200MVA	Single Circuit >=200MVA	Double Circuit >=200MVA
<b>Cable Expansion Factor</b>	10.20	11.45	22.58	22.58	22.58	22.58
<b>OHL Expansion Factor</b>	1.00	1.20	10.33	8.388	5.912	3.950

Table 1.4 Offshore Local Expansion Factors

<b>Offshore Power Station</b>	<b>Local Expansion Factor (to 2 d.p.)</b>
Robin Rigg East	144.21
Robin Rigg West	144.21
Gunfleet	83.15
Barrow	95.29
Ormonde	71.32
Walney 1	61.71
Walney 2	59.00
Sheringham Shoal	43.80
Greater Gabbard & Galloper	43.85, 41.84
London Array	44.48

Further Local Expansion Factors used to calculate Local Circuit Tariffs applicable to generation connecting to offshore transmission infrastructure during 2014/15 will be published in future revisions of this statement following the completion of the tender process relating to the sale of the relating offshore transmission assets.

### Schedule of Transmission Network Use of System Wider Zonal Generation Charges (£/kW) in 2014/15

Table 1.5

The following table provides the Wider Zonal Generation TNUoS tariffs applicable from 1 April 2014.

Zone	Zone Name	Tariff (£/kW)
1	North Scotland	27.677503
2	East Aberdeenshire	22.969442
3	Western Highlands	28.352458
4	Skye and Lochalsh	33.790236
5	Eastern Grampian and Tayside	24.024932
6	Central Grampian	21.972427
7	Argyll	20.852311
8	The Trossachs	18.422122
9	Stirlingshire and Fife	18.016942
10	South West Scotland	16.459351
11	Lothian and Borders	14.184762
12	Solway and Cheviot	12.726271
13	North East England	9.870034
14	North Lancashire and The Lakes	9.148501
15	South Lancashire, Yorkshire and Humber	7.606594
16	North Midlands and North Wales	6.165723
17	South Lincolnshire and North Norfolk	4.646521
18	Mid Wales and The Midlands	3.547902
19	Anglesey and Snowdon	8.572750
20	Pembrokeshire	6.553368
21	South Wales	3.780117
22	Cotswold	0.750983
23	Central London	-3.779931
24	Essex and Kent	1.432611
25	Oxfordshire, Surrey and Sussex	-0.834128
26	Somerset and Wessex	-2.707392
27	West Devon and Cornwall	-4.700054

The above tariffs are a combination of a locational element that reflects the cost of providing incremental capacity to generation on an area of the main integrated onshore transmission system, and a non-locational residual element which ensures that the appropriate amount of transmission revenue is recovered from generators. For 2014/15 the generation residual element to two decimal places is £5.81/kW.

Wider Generation charges are levied by reference to the Transmission Licensee's substation to which the party is connected or deemed connected. Transmission Licensee's substations are assigned to a generation zone as shown on the zonal maps.

If a party is unclear from looking at the geographical map which zone the relevant National Grid substation is assigned to, then those parties should refer to the electrical version of the map of Generation Use of System Tariff Zones as at 1 April 2014 for clarification. Confirmation of the zoning of a particular generator can be obtained by contacting National Grid's Charging Team.

Small Generators' Discount

In accordance with Licence Condition C13 in National Grid's Transmission Licence, small generators connected to the 132kV transmission system are eligible for a reduction in the listed Generation TNUoS tariffs. This discount has been calculated in accordance with direction from the Authority and equates to 25% of the combined generation and demand residual components of the TNUoS tariffs. For 2014/15, this figure has been calculated as £8.964509/kW.

### Schedule of Transmission Network Use of System Local Substation Generation Charges (£/kW) in 2014/15

Table 1.6 Onshore Local Substation Tariffs (£/kW)

The following table provides the Local Substation Generation TNUoS tariffs applicable to all generation directly connected to the onshore GB Transmission Network from 1 April 2014, which have been updated from the examples listed in the Statement of Use of System Methodology.

Sum of TEC at connecting Substation	Connection Type	Local Substation Tariff (£/kW)		
		132kV	275kV	400kV
<1320 MW	No redundancy	0.175504	0.100399	0.072339
<1320 MW	Redundancy	0.386621	0.239204	0.173970
>=1320 MW	No redundancy	-	0.314796	0.227662
>=1320 MW	Redundancy	-	0.516815	0.377232

The above tariffs reflect the cost of the transmission substation equipment provided to facilitate generation connecting to an onshore substation.

Table 1.7 Offshore Local Substation Tariffs (£/kW)

The following table provides the Local Substation Generation TNUoS tariffs applicable to generation connecting to offshore transmission infrastructure from 1 April 2014:

Offshore Power Station	Local Substation Tariff (£/kW)
Robin Rigg East	-0.403949
Robin Rigg West	-0.403949
Gunfleet Sands 1 & 2	15.287017
Barrow	7.063535
Ormonde	21.836656
Walney 1	18.84607
Walney 2	18.709007
Sheringham Shoal	21.124048
Greater Gabbard	13.259651
London Array	8.997075

Further local substation tariffs applicable to generation connecting to offshore transmission infrastructure during 2014/15 will be published in future revisions of this statement following the completion of the tender process relating to the sale of the relating offshore transmission assets.

**Schedule of Transmission Network Use of System Local Circuit Charges (£/kW) in 2014/15****Table 1.8**

The following table provides the Local Circuit Generation TNUoS tariffs applicable to directly connected generation not connected to the main integrated onshore GB Transmission Network from 1 April 2014.

<b>Substation</b>	<b>Local Circuit Tariff (£/kW)</b>	<b>Substation</b>	<b>Local Circuit Tariff (£/kW)</b>
Achruach	3.024438	Glendoe	1.607901
Aigas	0.571708	Glenmoriston	1.154542
An Suidhe	0.000350	Gordonbush	3.437630
Arecleoch	0.269390	Griffin Wind	1.386315
Baglan Bay	0.567984	Hadyard Hill	2.408454
Black Law	0.874037	Harestanes	4.426550
Bodelwyddan	-0.021164	Hartlepool	0.521286
Carraig Gheal	3.845184	Hedon	0.174843
Carrington	0.128066	Invergarry	1.239729
Clyde (North)	0.095864	Kilbraur	1.701661
Clyde (South)	0.110862	Killingholme	0.476124
Corriemoillie	2.403329	Kilmorack	0.172636
Coryton	0.048528	Langage	0.575509
Cruachan	1.666622	Lochay	0.319883
Crystal Rig	0.356944	Luichart	0.993433
Culligran	1.515040	Marchwood	0.333846
Deanie	2.488994	Mark Hill	-0.765364
Dersalloch	1.599416	Millennium Wind	1.421111
Didcot	0.221243	Mossford	3.465887
Dinorwig	2.101440	Nant	2.193874
Edinbane	5.984482	Quoich	3.785284
Ewe Hill	2.265839	Rocksavage	0.015443
Fallago	0.946724	Saltend South	0.297880
Farr Windfarm	2.049553	Spalding	0.736496
Ffestiniog	0.221524	Sth Humber Bank	0.265160
Finlarig	0.279898	Whitelee	0.092771
Foyers	0.667954	Whitelee Extension	0.257904

The above tariffs reflect the cost of transmission circuits between the point of connection and the main interconnected transmission system.

Table 1.9

The following table provides the Local Circuit Generation TNUoS tariffs applicable to generation connecting to offshore transmission infrastructure from 1 April 2014:

<b>Offshore Power Station</b>	<b>Local Circuit Tariff (£/kW)</b>
Robin Rigg East	26.758144
Robin Rigg West	26.758144
Gunfleet Sands 1 & 2	14.034678
Barrow	36.956407
Ormonde	40.679645
Walney 1	37.531899
Walney 2	37.862557
Sheringham Shoal	24.773560
Greater Gabbard	30.469373
London Array	30.643536

Further local circuit tariffs applicable to generation connecting to offshore transmission infrastructure during 2014/15 will be published in future revisions of this statement following the completion of the tender process relating to the sale of the relating offshore transmission assets.

## Schedule of Transmission Network Use of System STTEC and LDTEC Charges in 2014/15

Table 1.10

The following table provides the Short Term Transmission Entry Capacity (STTEC) and Limited Duration Transmission Entry Capacity (LDTEC) tariffs applicable to generators from 1 April 2014.

Power Station	LDTEC tariff (£/kW per week)		Short Term Generation Tariff (£/kW)		
	Higher rate	Lower rate	28 Days STTEC Period	35 Days STTEC Period	42 Days STTEC Period
Aberthaw	0.225589	0.016497	0.902356	1.127945	1.353534
AChruach Wind Farm	0.792107	0.057926	3.168426	3.960533	4.752639
Aigas	1.021661	0.074713	4.086643	5.108304	6.129965
An Suidhe	0.633342	0.046316	2.533368	3.166710	3.800052
Arcleoch	0.887473	0.064900	3.549891	4.437364	5.324837
Baglan Bay	0.240834	0.017612	0.963334	1.204168	1.445001
Barking	0.087770	0.006419	0.351081	0.438851	0.526622
Barrow	1.221967	0.089362	4.887870	6.109837	7.331805
Barry	0.198456	0.014513	0.793825	0.992281	1.190737
Black Law	0.799801	0.058489	3.199204	3.999005	4.798805
Brimsgate	0.087770	0.006419	0.351081	0.438851	0.526622
Carraig Gheal	0.633324	0.046314	2.533294	3.166618	3.799941
Carrington Power Station	0.339557	0.024832	1.358229	1.697787	2.037344
Clunie	0.799886	0.058495	3.199545	3.999431	4.799317
Clyde (North)	0.755004	0.055213	3.020015	3.775019	4.530023
Clyde (South)	0.755791	0.055270	3.023165	3.778956	4.534747
Connahs Quay	0.343505	0.025120	1.374021	1.717526	2.061031
Corby	0.186265	0.013621	0.745059	0.931324	1.117589
Coryton	0.086893	0.006354	0.347573	0.434466	0.521359
Cottam	0.343505	0.025120	1.374021	1.717526	2.061031
Cottam Development Centre	0.343505	0.025120	1.374021	1.717526	2.061031
Cowes	0.000000	0.000000	0.000000	0.000000	0.000000
Cruachan	1.059930	0.077512	4.239720	5.299650	6.359580
Crystal Rig	0.772573	0.056498	3.090292	3.862865	4.635438
Culligran	1.071186	0.078335	4.284743	5.355929	6.427114
Damhead Creek	0.084346	0.006168	0.337382	0.421728	0.506073
Deanie	1.122318	0.082074	4.489273	5.611592	6.733910
Deeside	0.343505	0.025120	1.374021	1.717526	2.061031
Dersalloch	0.957299	0.070007	3.829197	4.786496	5.743795
Didcot B	0.000000	0.000000	0.000000	0.000000	0.000000
Dinorwig	0.572347	0.041855	2.289389	2.861736	3.434083
Drax	0.419151	0.030652	1.676603	2.095754	2.514905

Power Station	LDTEC tariff (£/kW per week)		Short Term Generation Tariff (£/kW)		
	Higher rate	Lower rate	28 Days STTEC Period	35 Days STTEC Period	42 Days STTEC Period
Dungeness B	0.084346	0.006168	0.337382	0.421728	0.506073
Dunlaw Extension	0.283277	0.020716	1.133109	1.416386	1.699663
Edinbane Wind	1.626750	0.118963	6.507000	8.133750	9.760500
Eggborough	0.419151	0.030652	1.676603	2.095754	2.514905
Errochty	0.799886	0.058495	3.199545	3.999431	4.799317
Ewe Hill	0.796300	0.058233	3.185199	3.981499	4.777798
Fallago	0.803536	0.058762	3.214146	4.017682	4.821219
Farr Windfarm	1.099248	0.080387	4.396991	5.496238	6.595486
Fasnakyle G1 & G3	1.027081	0.075110	4.108325	5.135406	6.162488
Fawley	0.000000	0.000000	0.000000	0.000000	0.000000
Fawley CHP	0.000000	0.000000	0.000000	0.000000	0.000000
Ferrybridge B	0.426479	0.031188	1.705916	2.132395	2.558874
Ffestiniog	0.340601	0.024908	1.362406	1.703007	2.043608
Fiddlers Ferry	0.426479	0.031188	1.705916	2.132395	2.558874
Finlarig	1.177461	0.086107	4.709844	5.887305	7.064766
Foyers	1.493407	0.109212	5.973630	7.467037	8.960445
Glandford Brigg	0.323700	0.023672	1.294802	1.618502	1.942203
Glendoe	1.582133	0.115700	6.328531	7.910664	9.492797
Glenmoriston	1.087695	0.079542	4.350779	5.438474	6.526168
Gordonbush	1.638815	0.119845	6.555262	8.194077	9.832893
Grain	0.095017	0.006949	0.380067	0.475084	0.570101
Grangemouth	0.945889	0.069172	3.783558	4.729447	5.675337
Great Yarmouth	0.186265	0.013621	0.745059	0.931324	1.117589
Greater Gabbard	1.578528	0.115437	6.314113	7.892641	9.471169
Griffin Wind Farm	1.354388	0.099045	5.417552	6.771940	8.126328
Gunfleet Sands I	1.320765	0.096587	5.283060	6.603825	7.924590
Gunfleet Sands II	1.320765	0.096587	5.283060	6.603825	7.924590
Gwynt y Mor	0.331723	0.024259	1.326891	1.658614	1.990337
Hadyard Hill	0.873330	0.063866	3.493320	4.366649	5.239979
Harestanes	0.909737	0.066528	3.638948	4.548685	5.458422
Hartlepool	0.558103	0.040814	2.232410	2.790513	3.348615
Heysham	0.500101	0.036572	2.000404	2.500505	3.000606
Hinkley Point B	0.000000	0.000000	0.000000	0.000000	0.000000
Humber Gateway Offshore Wind Farm	0.421084	0.030794	1.684335	2.105418	2.526502
Hunterston	0.867914	0.063470	3.471655	4.339569	5.207482
Immingham	0.408480	0.029872	1.633918	2.042398	2.450878
Indian Queens	0.000000	0.000000	0.000000	0.000000	0.000000
Invergarry	1.092167	0.079869	4.368668	5.460835	6.553002
Ironbridge	0.195398	0.014289	0.781593	0.976991	1.172390
Keadby	0.332834	0.024340	1.331336	1.664169	1.997003
Kilbraur	1.547677	0.113180	6.190708	7.738385	9.286062

Power Station	LDTEC tariff (£/kW per week)		Short Term Generation Tariff (£/kW)		
	Higher rate	Lower rate	28 Days STTEC Period	35 Days STTEC Period	42 Days STTEC Period
Killingholme (NP)	0.444147	0.032480	1.776590	2.220737	2.664884
Killingholme (Powergen)	0.444147	0.032480	1.776590	2.220737	2.664884
Kilmorack	1.000710	0.073181	4.002838	5.003548	6.004257
Kingsnorth	0.084346	0.006168	0.337382	0.421728	0.506073
Langage	0.000000	0.000000	0.000000	0.000000	0.000000
Lincs Wind Farm	0.243942	0.017839	0.975769	1.219712	1.463654
Little Barford	0.195398	0.014289	0.781593	0.976991	1.172390
Littlebrook D	0.084346	0.006168	0.337382	0.421728	0.506073
Lochay	0.708924	0.051843	2.835694	3.544618	4.253541
Lochluichart	1.117821	0.081745	4.471284	5.589105	6.706926
London Array	1.019905	0.074585	4.079620	5.099525	6.119430
Longannet	0.973022	0.071156	3.892089	4.865111	5.838133
Luichart	1.043801	0.076332	4.175206	5.219007	6.262808
Marchwood	0.000000	0.000000	0.000000	0.000000	0.000000
Mark Hill	0.829205	0.060639	3.316821	4.146026	4.975232
Medway	0.095017	0.006949	0.380067	0.475084	0.570101
Millennium Wind	1.101690	0.080566	4.406758	5.508448	6.610138
Mossford	1.173605	0.085825	4.694421	5.868026	7.041631
Nant	0.748502	0.054737	2.994008	3.742510	4.491012
Ormonde	2.773145	0.202798	11.092581	13.865726	16.638871
Orrin	0.991646	0.072518	3.966585	4.958231	5.949877
Pembroke	0.363857	0.026609	1.455426	1.819283	2.183139
Peterborough	0.243942	0.017839	0.975769	1.219712	1.463654
Peterhead	1.218454	0.089105	4.873816	6.092270	7.310723
Quoich	1.225809	0.089642	4.903235	6.129043	7.354852
Ratcliffe-on-Soar	0.206070	0.015070	0.824278	1.030348	1.236417
Robin Rigg East	0.155078	0.011341	0.620311	0.775389	0.930467
Robin Rigg West	0.155078	0.011341	0.620311	0.775389	0.930467
Rocksavage	0.328309	0.024009	1.313236	1.641545	1.969854
Rugeley B	0.195398	0.014289	0.781593	0.976991	1.172390
Rye House	0.084346	0.006168	0.337382	0.421728	0.506073
Saltend	0.427543	0.031266	1.710172	2.137715	2.565259
Seabank	0.048560	0.003551	0.194240	0.242800	0.291360
Sellafield	0.480296	0.035124	1.921185	2.401482	2.881778
Severn Power	0.211014	0.015431	0.844057	1.055072	1.266086
Sheringham Shoal	1.295277	0.094723	5.181110	6.476387	7.771664
Shoreham	0.000000	0.000000	0.000000	0.000000	0.000000
Sizewell B	0.195398	0.014289	0.781593	0.976991	1.172390
Sloy G2 & G3	0.505739	0.036984	2.022955	2.528693	3.034432
South Humber Bank	0.422401	0.030890	1.689602	2.112003	2.534403
Spalding	0.291742	0.021335	1.166967	1.458709	1.750451

Power Station	LDTEC tariff (£/kW per week)		Short Term Generation Tariff (£/kW)		
	Higher rate	Lower rate	28 Days STTEC Period	35 Days STTEC Period	42 Days STTEC Period
Staythorpe	0.343505	0.025120	1.374021	1.717526	2.061031
Sutton Bridge	0.253076	0.018507	1.012303	1.265379	1.518455
Taylor's Lane	0.000000	0.000000	0.000000	0.000000	0.000000
Thanet	0.075212	0.005500	0.300848	0.376060	0.451272
Toddleburn	0.283277	0.020716	1.133109	1.416386	1.699663
Torness	0.753833	0.055127	3.015334	3.769167	4.523001
Walney I	2.459134	0.179835	9.836535	12.295668	14.754802
Walney II	2.444742	0.178782	9.778968	12.223710	14.668452
West Burton	0.343505	0.025120	1.374021	1.717526	2.061031
West Burton B	0.343505	0.025120	1.374021	1.717526	2.061031
West of Duddon Sands Offshore Wind Farm	0.500101	0.036572	2.000404	2.500505	3.000606
Westermost Rough	0.421084	0.030794	1.684335	2.105418	2.526502
Whitelee	0.874257	0.063934	3.497029	4.371287	5.245544
Whitelee Extension	0.882927	0.064568	3.531707	4.414634	5.297561
Wilton	0.530735	0.038812	2.122940	2.653675	3.184410
Wylfa	0.459203	0.033581	1.836811	2.296014	2.755217

The above tariffs apply to levels of STTEC or LDTEC access that is agreed during the charging year.

STTEC can be arranged in 4, 5, or 6 week blocks, with the tariff for applicable duration applying.

The LDTEC tariff is applied at two rates during the year. The higher LDTEC rate applies to the first 17 weeks of access within a charging year (whether consecutive or not), and the lower LDTEC rate applies to any subsequent access within the year.

Further LDTEC and STTEC tariffs applicable to generation connecting to offshore transmission infrastructure during 2014/15 will be published in future revisions of this statement following the completion of the tender process relating to the sale of the relating offshore transmission assets.

### Schedule of Pre-Asset Transfer Related Embedded Transmission Use of System Charges in 2014/15

Table 1.11

The following table provides the Pre-Asset Transfer Related Embedded Transmission Use of System (ETUoS) tariffs applicable to embedded transmission connected offshore generation from 1 April 2014. The relating charge is used to recover the element of the Offshore Transmission Operator's Revenue that relates to distribution charges paid during in the development of the offshore transmission network.

<b>Offshore Power Station</b>	<b>Pre-Asset Transfer ETUoS Tariff (£/kW)</b>
Robin Rigg East	8.293581
Robin Rigg West	8.293581
Gunfleet Sands 1 & 2	2.623162
Barrow	0.917678
Ormonde	0.324183
Walney 1	-
Walney 2	-
Sheringham Shoal	0.538504
Greater Gabbard	-
London Array	-

Please note that in addition to the charges listed above, any enduring distribution charges made to the NETSO will be passed through to the relating generator in the form of an ETUoS charge.

Further Pre-Asset Transfer Related ETUoS tariffs applicable to generation connecting to offshore transmission infrastructure during 2014/15 will be published in future revisions of this statement following the completion of the tender process relating to the sale of the relating offshore transmission assets.

### Schedule of Transmission Network Use of System Demand Charges (£/kW) and Energy Consumption Charges (p/kWh) for 2014/15

Table 1.12

The following table provides the Zonal Demand and Energy Consumption TNUoS tariffs applicable from 1 April 2014.

Demand Zone	Zone Area	Demand Tariff (£/kW)	Energy Consumption Tariff (p/kWh)
1	Northern Scotland	16.168316	2.189390
2	Southern Scotland	21.236592	2.950930
3	Northern	26.938177	3.666178
4	North West	29.640148	4.243585
5	Yorkshire	30.248609	4.112721
6	N Wales & Mersey	29.715987	4.196350
7	East Midlands	33.099594	4.584107
8	Midlands	33.782559	4.739846
9	Eastern	34.626967	4.751167
10	South Wales	32.317145	4.270506
11	South East	37.659037	5.170435
12	London	38.547848	5.139357
13	Southern	38.786441	5.380330
14	South Western	38.699518	5.237436

A demand User's zone will be determined by the GSP Group to which the User is deemed to be connected.

The Demand Tariff is applied to Demand User's average half-hourly metered demand over the three Triad periods, as described in the Statement of Use of Charging Methodology. Demand Tariffs are a combination of a locational element that reflects the cost of providing incremental capacity to demand on an area of the main integrated onshore transmission system, and a non-locational residual element which ensures that the appropriate amount of transmission revenue is recovered from demand Users. For 2014/15 the demand residual element to two decimal places is £30.05/kW.

In the case of parties liable for both generation and demand charges, the demand tariff zone applicable in respect of that party's demand will be that in which the Transmission Licensee's substation to which the party is connected is geographically located. For example, if a power station were connected at a Transmission Licensee's substation that is geographically located within demand zone 1, it would pay the zone 1 demand tariff.

The energy consumption tariff is based on the annual energy consumption during the period 16:00 hrs to 19:00 hrs (i.e. settlement periods 33 to 38 inclusive) over the relevant financial year.

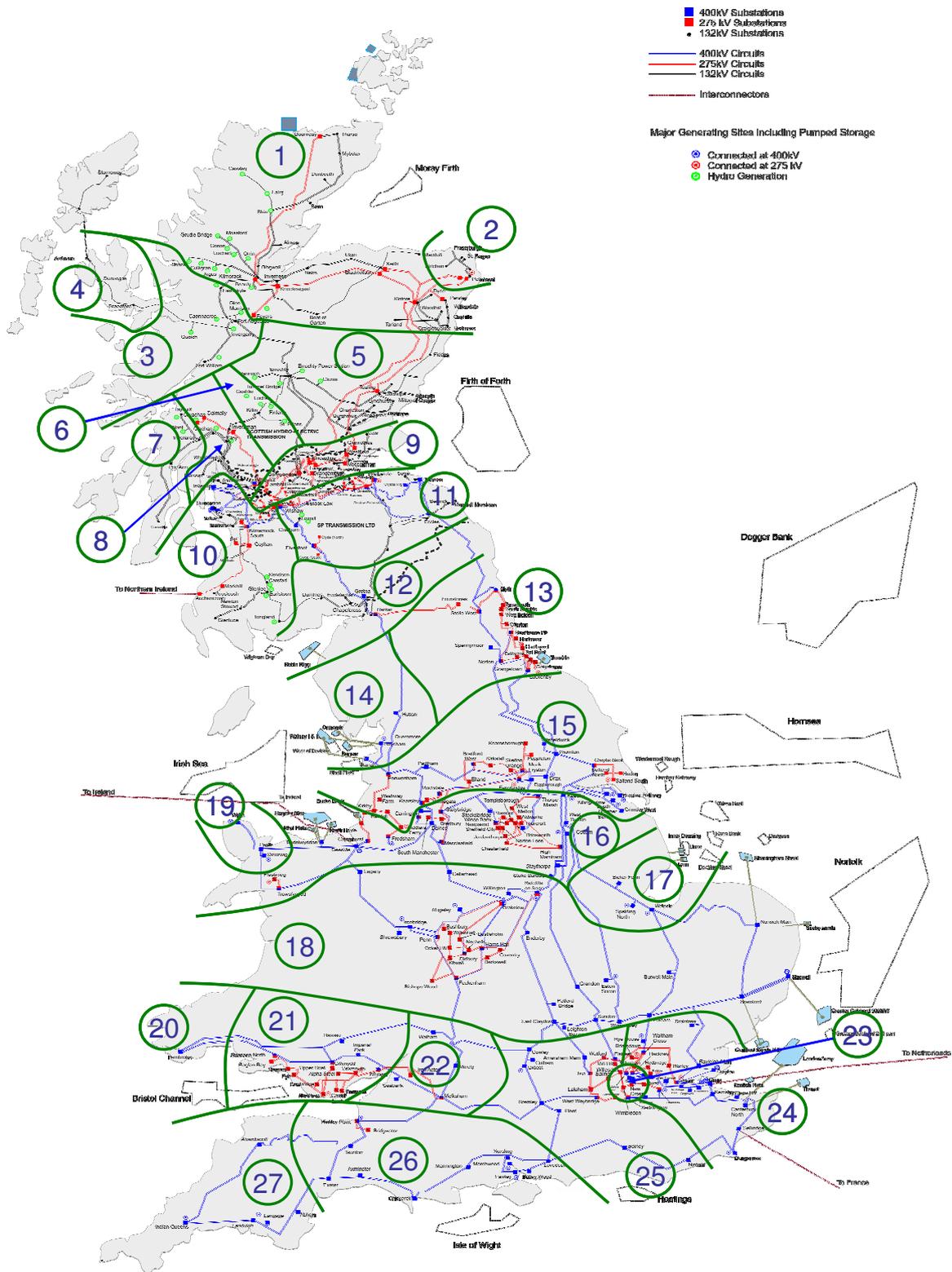
#### Small Generators Discount

In accordance with Standard Licence Condition C13 governing the adjustments to use of system charges for the small generators discount, a unit amount of £0.261327/kW to the demand tariff and 0.036002p/kWh to the energy consumption tariff has been included on a non-discriminatory and non-locational basis.

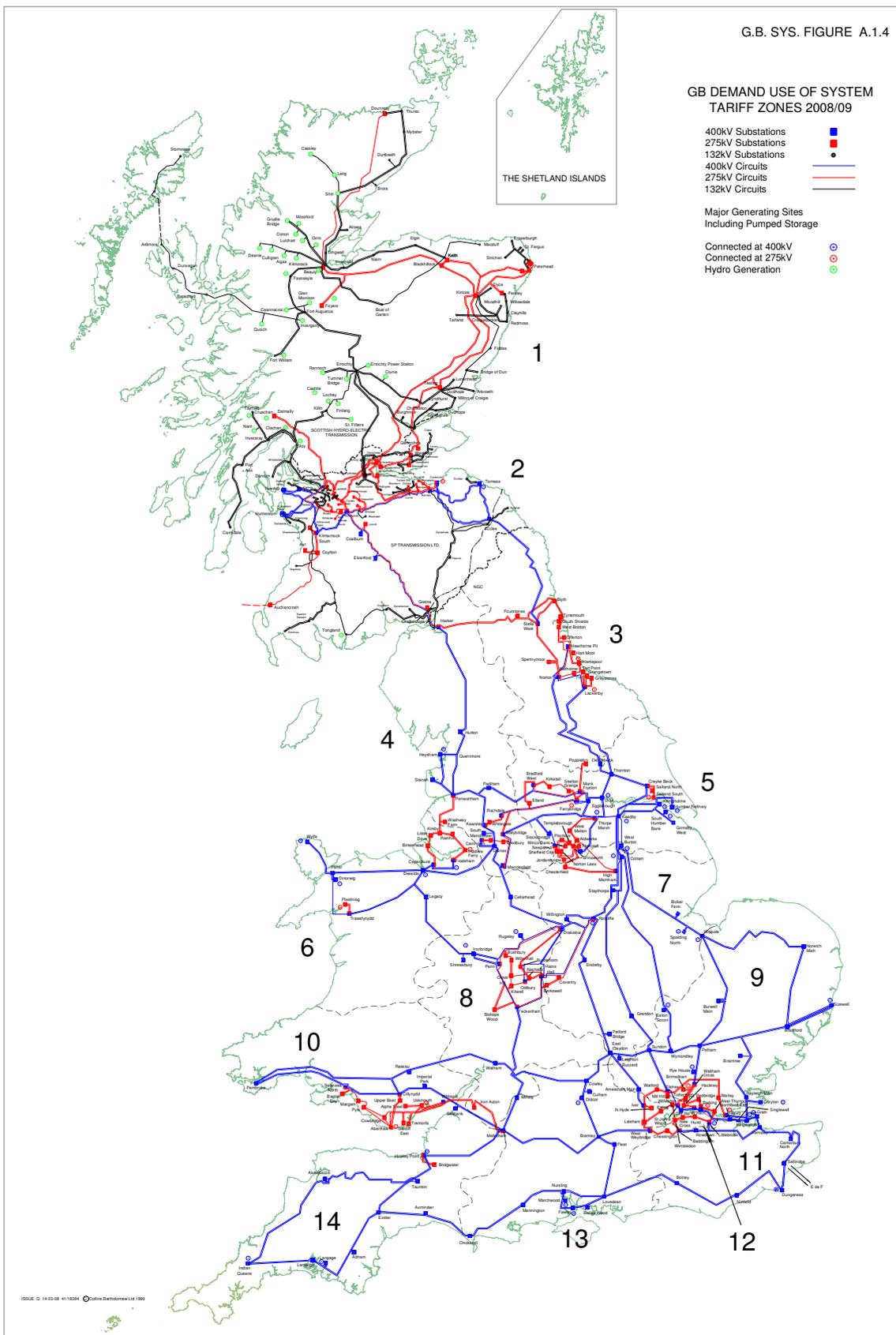
Standard Licence Condition C13 requires the small generators discount mechanism to be revenue neutral over the period of its operation so that the net effect on revenue of the licence condition is zero. It will therefore be necessary to manage any under or over recovery associated with the small generators discount separately from the under/over recovery mechanism within National Grid's main revenue restriction. National Grid calculates the unit amount added to the demand tariffs using a forecast of the total discount payable to eligible generators, and a forecast of the demand charging base. If either of these factors outturns differently from the original forecast then an under/over recovery would occur. The amount of any under/over recovery would be added to the revenue recovery used to derive the unit amount in subsequent years.

Zonal Maps Applicable for 2014/15

Generation Use of System Tariff Zones (Geographical map as at 1 April 2014)



### Demand Use of System Tariff Zones (Geographical map as at 1 April 2008)



## Schedule 2

### Detail of the External Incentive Scheme for the Balancing Services Use of System Charges for 2014/15

The Balancing Services Use of System (BSUoS) Charges for 2014/15 calculated in accordance with the methodology described in the Statement of Use of System Charging Methodology are made up of External BSUoS Charges and Internal BSUoS Charges. The External BSUoS Charges includes External Costs and an Incentive Scheme. Included here are details of how the Incentive outlined in the Transmission Licence is accommodated into BSUoS Charges.

#### External Incentive Structure and Payments for 2014/15

The forecast External incentive payment for the duration of the External incentive scheme ( $FYIncPayEXT_d$ ) is calculated as the difference between the External Scheme target ( $M_t$ ) and the forecast Balancing cost (FBC) subject to sharing factors ( $SF_t$ ) and a cap/collar ( $CB_t$ ).

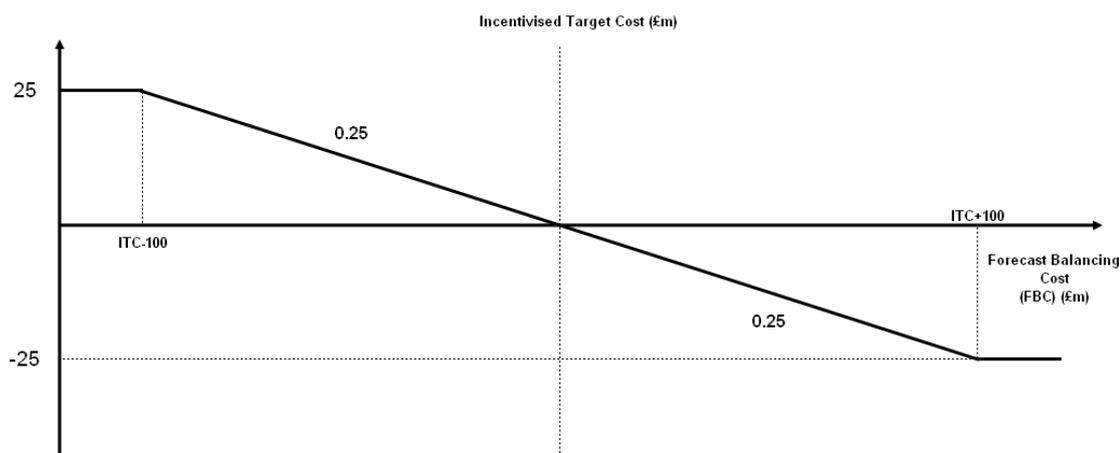
$$FYIncPayEXT_d = SF_t * (M_t - FBC_d) + CB_t$$

The relevant value of the External incentive payment ( $FYIncPayEXT_d$ ) is calculated by reference to the table below by the selection and application of the appropriate selection factors and offset dependent upon the value of the forecast Balancing Services cost (FBC) and the Incentive Target Cost (ITC).

Table 2.1: BSIS for 2014/15

Forecast Balancing Cost (FBC) £m	$M_t$ £m	$SF_t$ £m	$CB_t$ £m
FBC < (Incentive Target Cost - 100)	0	0	25
(Incentive Target Cost -100) <= FBC < (Incentive Target Cost)	Incentive Target Cost	25%	0
Incentive Target Cost =FBC	FBC	0	0
(Incentive Target Cost) <= FBC < (Incentive Target Cost+100)	Incentive Target Cost	25%	0
FBC >= (Incentive Target Cost + 100)	0	0	-25

External Incentive Payment to/from NGET (£m)



In respect of each Settlement Day  $d$ , the forecast incentivised Balancing Cost ( $FBC_d$ ) will be calculated as follows:

$$FBC_d = \frac{\sum_{k=1}^d IBC_k}{\sum_{k=1}^d PFT_k} * NDS$$

Where:

NDS: Number of days in Scheme

The Daily Incentivised Balancing Cost for a Settlement Day ( $IBC_d$ ) is calculated as follows:

$$IBC_d = \sum_{j \in d} CSOBM_{jd} + BSCCV_{jd} + BSCCA_d - OM_d - RT_d - BSFS_d$$

**Wind Forecast Incentive (RFIIR)**

The wind forecast incentive is an incentive scheme on the performance of National Grid with regards to its level of accuracy in forecasting the levels of wind generation on the system at the day ahead stage. The scheme allows a maximum monthly return of £250k at 0% error and a maximum monthly loss of £250k at double the accuracy target.

## Schedule 3

### Application Fees for Connection and Use of System Agreements

Application fees are payable in respect of applications for new connection agreements, certain use of system agreements and for modifications to existing agreements based on reasonable costs incurred by National Grid including where appropriate, charges from the Transmission Owners (TO's) in accordance with their charging statements. The application process and options available are set out in the Statement of the Use of System Charging Methodology which is included in Section 14 of the Connection and Use of System Code (CUSC).

The application fee is dependent upon size, type and location of the applicant's scheme as shown on the map and tables on the next page. Users can opt for a variable price application and pay an advance of the Engineering Charges based on the fixed prices shown, which will be reconciled once the actual costs have been calculated using the charge out rates contained in Schedule 3. Alternatively, onshore Users can opt to pay a fixed price application fee in respect of New and Modified Bilateral Agreements. In some circumstances, where a given application is expected to involve significant costs over and above those normally expected (e.g. substantial system studies, special surveys, investigations, or where a Transmission Owner varies the application fee charged to National Grid from the standard fee published in their charging statements) to process an offer of terms, National Grid reserves the right to remove the option for a fixed price application fee.

The map divides GB into three zones based on the Boundary of Influence map defined in Schedule 4 of the STC (SO-TO Code). Zone A maps onto the area NGC South, Zone B maps to NGC North and SPT South, and Zone C maps to SPT North, SHETL South and SHETL North.

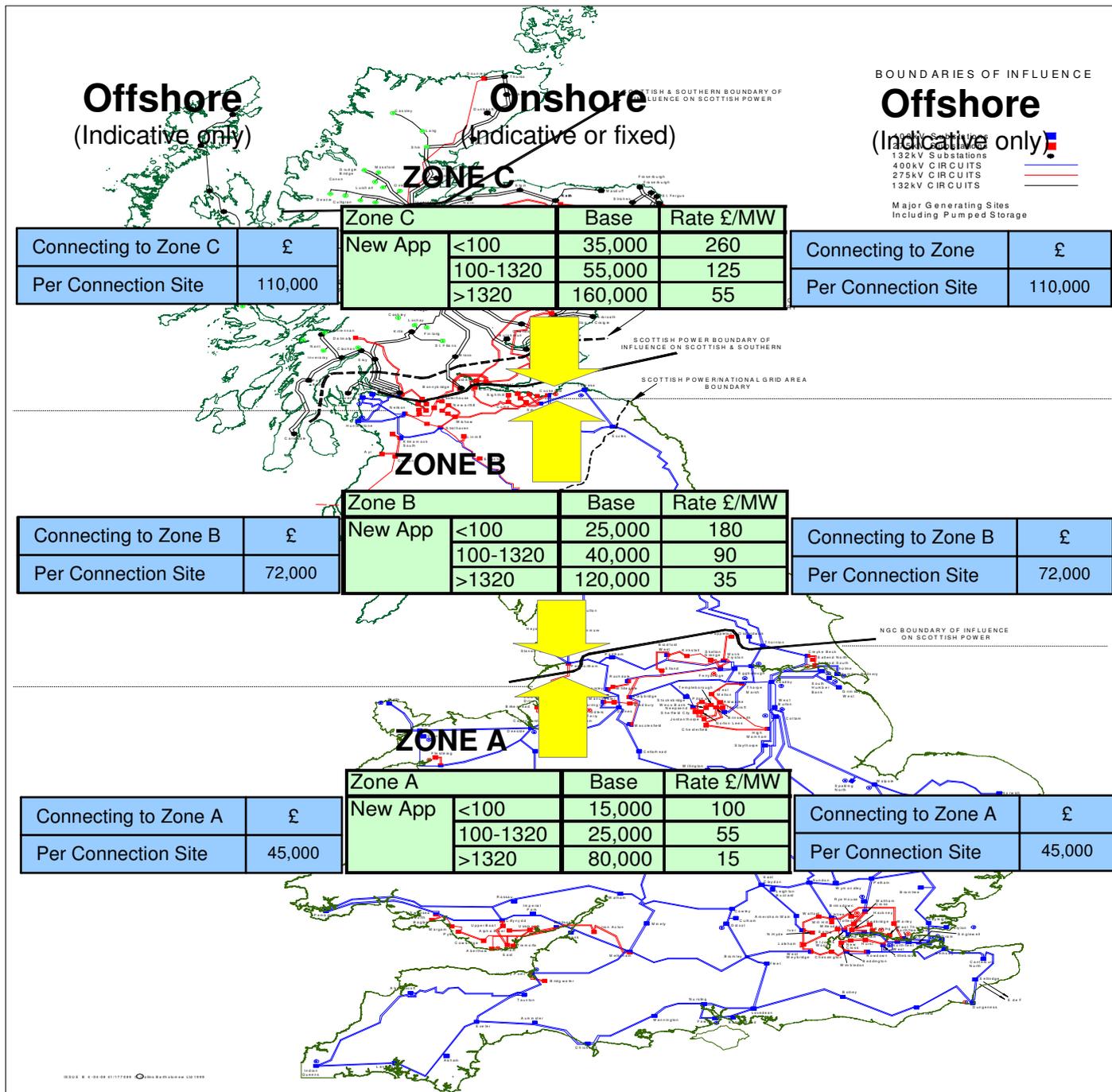
The application fees indicated will be reviewed on an annual basis and reflect any changes to the Boundaries of Influence. It should be noted that the zone to which a particular user is applying is determined by the location of the connection to the National Electricity Transmission System and not by the geographical location of the User's plant and equipment.

All application fees are subject to VAT and are capped at £400,000 + VAT.

### Reconciliation and Refunding of Application Fees for Connection and Use of System Agreements

Application Fees will be reconciled and / or refunded In accordance with Section 14 of the Connection and Use of System Code (CUSC).

Entry Application Fees for New Bilateral Agreements



1. New Onshore Application Fee = Base + (MW \* Rate)
2. TEC Increase<sup>1</sup> = Base + (TEC Increase \* Rate)
3. New Offshore Application Fee = Number of offshore Connection Sites \* Fee

<sup>1</sup> The base value and Rate used are the values associated with the change in TEC not the resulting total TEC being applied for.

Table 3.1

This table details the adjustments applicable for certain scenarios to be taken into consideration when calculating the value of an Entry Application Fee.

<b>Other Entry Fees</b>	<b>Fraction of New Application Fee</b>		
<b>Onshore</b> Modification Application (applicable for any change prior to completion excluding TEC increases and those options listed in this table)	0.75		
<b>Offshore</b> Modification Application – number of affected transmission interface sites	0.75		
Request for Design Variation in addition to standard offer	1.5		
Embedded Generation New Application (BELLA/BEGA)*	0.3		
Embedded Generation Modification Application	0.2		
<b>Entry Fees (cont.)</b>	Zone A	Zone B	Zone C
TEC Exchange Request (no system works)	£10,000	£10,000	£17,000
Request for STTEC or SNSTF	£10,000		
Directly Connected Reactive Only Service Provider	£20,000	£21,000	£22,000
Suppliers and Interconnector Users	£5,000		
Assign, transfer or novate a bilateral agreement or minor admin changes	£3,000		

If applying for a combination of changes after making an initial application and this is prior to the completion of works associated to the initial application, such as a change to works or completion date that also includes a TEC Change, the Application Fee will be the higher of the TEC Change Fee or Modification Application Fee.

\*Where the developer requests national Grid to identify the transmission reinforcement works and the works at the GSP (mod notice process), the application fee will be indicative only.

Table 3.2

Limited Duration TEC (LDTEC)		Duration of LDTEC (t)	Zone	£ (£'000)	Agreement Type (as Table C)
14	<b>Basic request fee for duration t</b> (applicable to all requests for LDTEC Offers)	t ≤ 3 months	All	10 + VAT	Bilateral Connection Agreement / BEGA
		3 months < t ≤ 6 months		15 + VAT	
		6 months < t ≤ 9 months		20 + VAT	
		t > 9 months		30 + VAT	
	<b>Additional fee for rolling assessment</b> (applicable to a request for an LDTEC Indicative Block Offer)	t ≤ 3 months		1 + VAT	
		3 months < t ≤ 6 months		1.5 + VAT	
		6 months < t ≤ 9 months		2 + VAT	
		t > 9 months		3 + VAT	
	<b>Additional fee for combined applications</b> (applicable to a combined request for an LDTEC Block Offer and an LDTEC Indicative Block Offer)	t ≤ 3 months		5 + VAT	
		3 months < t ≤ 6 months		7.5 + VAT	
		6 months < t ≤ 9 months		10 + VAT	
		t > 9 months		15 + VAT	

Table 3.3

Temporary TEC Exchange Rate Request Fees		Duration of Temporary Exchange period (t)	£
15	Application fee for Temporary TEC Exchange Rate Requests	t ≤ 3 months	15,000
		3 months < t ≤ 6 months	25,000
		6 months < t ≤ 9 months	30,000
		t > 9 months +	45,000

### Exit Application Fees for New Bilateral Agreements and Modifications to existing Bilateral Agreements

Table 3.4

Exit Fees	Zone A	Zone B		Zone C	
		<100MW	>100MW	<100MW	>100MW
New Supply Point	£37,000	£41,000	£52,000	£38,000	£60,000
Modification Application	£28,000	£31,000	£39,000	£29,000	£45,000

Table 3.5

Exit Fees (cont.)	Zone A	Zone B	Zone C
Statement of Works at existing supply point	£2,750	£3,000	£1,000
Modification Application following request for Statement of Works (project progression)	£7,500	£8,500	£4,500
Complex project progression *	£15,000	£16,500	£17,200

\* Complex fees apply where significant network assessment is identified at Statement of Works stage.

## Examples

### 1. Entry Application Fee for a New Bilateral Agreement onshore

300MW Generator wishing to connect to the transmission system in Zone A

Application Fee = £25,000 + (300 \* 55) = £41,500

### 2. Entry Application Fee for a New Bilateral Agreement offshore

2000MW Generator wishing to connect to the transmission system in Zone B

Two Connection Sites

Application Fee = 2 \* £72,000 = £144,000

### 3. Entry Application Fee for a Modification to an existing Bilateral Agreement offshore

2000MW Generator in Zone B seeking to alter a commissioning date where there are 2 affected transmission interface sites

This would be a Modification Application

Fee = 0.75 \* (2 \* £72,000) = £108,000

### 4. Entry Application Fee for a Modification to an existing Bilateral Agreement

300MW Generator in Zone A seeking to alter commissioning date

This would be a Modification Application

Fee = 0.75 \* (£25,000 + (300 \* 55)) = £31,125

### 5. Entry Application Fee for an embedded generator (BEGA/ BELLA)

300MW embedded generator requesting a BEGA in Zone A

Fee = 0.3 \* (£25,000 + (300 \* 55)) = £12,450

### 6. Entry Application Fee for a TEC Increase

400MW generator in Zone A wishes to increase TEC by 20MW to 420MW

Application Fee = £15,000 + (20 \* 100) = £17,000

### 7. Entry Application Fee for a change to completion date

500MW generator in Zone B wishes to change their completion date by moving it back by 12 months

Application Fee = 0.75 \* (£40,000 + (500 \* 90)) = £63,750

### 8. Entry Application Fee for a Decrease TEC

600MW generator in Zone C wishes to decrease TEC by 100MW to 500MW

Application Fee = 0.75 \* (£55,000 + (100 \* 125)) = £50,625

Table 3.6

**Bilateral Agreement Types**

<b>Bilateral Agreement Type</b>	<b>Description</b>
Bilateral Connection Agreement	In respect of Connection Sites of Users.
Bilateral Embedded Licence Exemptable Large Power Station Agreement (BELLA)	For generators that own or are responsible for embedded exemptable large power stations (another party may be responsible for the output under the CUSC and BSC).
Bilateral Embedded Generation Agreement (BEGA)	For generators and BSC parties with embedded power stations, excluding those which are exempt (unless they otherwise choose to be), who are responsible for the output onto a Distribution System.
Construction Agreement	In respect of parties that are applying for new or modified agreements up until the time of commissioning.

Table 3.7

**Generator Types**

The definitions provided below have been extracted from the Grid Code and are provided for ease of reference within this document.

Type of Plant	Definition
Embedded	Having a direct connection to a User System or the System of any other User to which Customers and/or Power Stations are connected, such connection being either a direct connection or a connection via a busbar of another User or of a Transmission Licensee (but with no other connection to the National Electricity Transmission System).
Small Power Station	A Power Station in NGET's Transmission Area with a Registered Capacity of less than 50MW, a Power Station in SPT's Transmission Area with a Registered Capacity of less than 30MW or a Power Station in SHE T's Transmission Area with a Registered Capacity of less than 10 MW.
Medium Power Station	A Power Station in NGET's Transmission Area with a Registered Capacity of 50MW or more, but less than 100MW.
Large Power Station	A Power Station in NGET's Transmission Area with a Registered Capacity of 100MW or more or a Power Station in SPT's Transmission Area with a Registered Capacity of 30 MW or more; or a Power Station in SHE T's Transmission Area with a Registered Capacity of 10 MW or more.

## Schedule 4

### Charge-Out Rates for Engineering Charges for Variable Price Applications

Appropriately qualified staff will be appointed to process applications and feasibility studies and carry out work in relation to the development of the National Electricity Transmission System. Travel, subsistence and computing costs will also be charged on an actual basis. It should be noted that these rates only apply to work carried out by the Transmission Licensee's in relation to licensed transmission activities. Different rates may apply when asked to quote for other work.

Table 4.1

	£/day		
	National Grid	SPT	SHE T
Section Manager Internal Solicitor	970	920	920
Principal Power System Engineer	770	770	775
Senior Power System Engineer Project Manager Account Manager Senior Wayleave Officer	625	643	645
Power System Design Engineer Draughtsman	495	513	515
Graduate Engineer	420	430	435
Administrative Support	335	340	340

## Schedule 5

### Non-Capital Components applicable for Maintenance and Transmission Running Costs in Connection Charges for 2014/15

The non-capital component of the connection charge is divided into two parts, as set out below.

#### Part A: Site Specific Maintenance Charges

Site-specific maintenance charges will be calculated each year based on the forecast total site specific maintenance for GB divided by the total GAV of the transmission licensees GB connection assets, to arrive at a percentage of total GAV. For 2014/15 this will be 0.58%.

#### Part B: Transmission Running Costs

The Transmission Running Cost (TRC) factor is calculated at the beginning of each price control to reflect the appropriate amount of other Transmission Running Costs (rates, operation, indirect overheads) incurred by the transmission licensees that should be attributed to connection assets.

The TRC factor is calculated by taking a proportion of the forecast Transmission Running Costs for the transmission licensees (based on operational expenditure figures from the latest price control) that corresponds with the proportion of the transmission licensees' total connection assets as a function of their total business GAV. This cost factor is therefore expressed as a percentage of an asset's GAV and will be fixed for the entirety of the price control period. For 2013/14 to 2020/21 this will be 1.47%.

To illustrate the calculation, the following example uses the average operating expenditure from the published price control and the connection assets of each transmission licensee expressed as a percentage of their total system GAV to arrive at a GB TRC of 1.47%:

#### Example:

Connection assets as a percentage of total system GAV for each TO:

Scottish Power Transmission Ltd	18.6%
Scottish Hydro Transmission Ltd	7.5%
National Grid	16.3%

Published current price control average annual operating expenditure (£m):

Scottish Power Transmission Ltd	43.4
Scottish Hydro Transmission Ltd	33.1
National Grid	317.1

Total GB Connection GAV = £3.38bn

GB TRC Factor =  $(18.6\% \times £43.4m + 7.5\% \times £33.1m + 16.3\% \times £317.1m) / £3.38bn$

GB TRC Factor = 1.84%

Net GB TRC Factor = Gross GB TRC Factor – Site Specific Maintenance Factor\*

Net GB TRC Factor = 1.84% - 0.37% = 1.47%

\* Note – the Site Specific Maintenance Factor used to calculate the TRC Factor is that which applies for the first year of the price control period or in this example, is the 2013/14 Site Specific Maintenance Factor of 0.37%.

**Illustrative Connection Asset Charges**

An indication of First Year Connection Asset Charges for new connection assets using estimates of Gross Asset Values are outlined in Appendix 1. Additional examples of connection charge calculations are included in Appendix 2 of this Statement to provide some general illustrations of how connection charge calculations are applied.

## Appendix 1: Illustrative Connection Asset Charges

### 2014/15 First Year Connection Charges based on the RPI Method (6% rate of return)

The following table provides an indication of typical charges for new connection assets. Before using the table, it is important to read through the notes below as they explain the assumptions used in calculating the figures.

#### Calculation of Gross Asset Value (GAV)

The GAV figures in the following table were calculated using the following assumptions:

- Each asset is new
- The GAV includes estimated costs of construction, engineering and Liquidated Damages premiums.
- The GAV does not include Interest During Construction but does include a 5% risk factor to compensate for this.

For details of the Calculation of the Gross Asset Value, see Chapter 2 of The Statement of the Connection Charging Methodology (Section 14 Part I of the Connection and Use of System Code).

#### Calculation of first year connection charge

The first year connection charges in the following table were calculated using the following assumptions:

- The assets are new
- The assets are depreciated over 40 years
- The rate of return is assumed to be 6% for RPI indexation
- The connection charges include maintenance costs at the 2014/15 rate of 0.58% of the GAV
- The connection charges include Transmission Running Costs at the 2014/15 rate of 1.47% of the GAV

For details of the Basic Annual Connection Charge Formula, see Chapter 2 of The Statement of the Connection Charging Methodology (Section 14 Part I of the Connection and Use of System Code).

Please note that the actual charges will depend on the specific assets at a site. Charges applicable to specific works will be detailed in the User's Bilateral Connection Agreement. Agreement specific GAVs and NAVs for each User will be made available on request.

#### Notes on Assets

##### Transformers Assumptions

- Plant: SGT Cost was provided by NG Internal Procurement and The indicative prices provided for protection, cabling, auxiliary systems, earthing are based on various, HV and LV protections are included in the 400kV and 132kV bay costs and SGT transportation to site, installation and stage 1 commissioning included in the SGT Costs.
- Civil: nominal base sizes, good ground condition, access works elsewhere, shallow/deep bund, oil Containment drainage elsewhere and Firewall (generic brick wall).

##### Exclusions

- Plant: Bay protection, control and SCADA system (considered under part of the Bay Costs), below ground earthing, auxiliary supplies such as AC/DC system (considered under part of the Bay Costs).
- Civil: Trenching / Ducting and pilling.
- Others: VAT and Inflation.

### **Single/Double Busbar Bay**

#### **Assumptions**

- Plant: The bay is considered from NG standard bay drawing 41/177344 and indicative prices provided for protection, cabling, auxiliary systems, earthing are based on various assumptions.
- Civil: Nominal base sizes, dimensions of concrete footings, good ground condition, access works elsewhere, shallow/ deep bund, oil containment drainage elsewhere and firewall (generic brick wall).

#### **Exclusions**

- Plant: Bay protection, control and SCADA system, Control cabling, Auxiliary supplies such as AC/DC system and electrical design costs.
- Civil: Trenching / Ducting and pilling.
- Others: VAT and Inflation.

### **Cable**

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

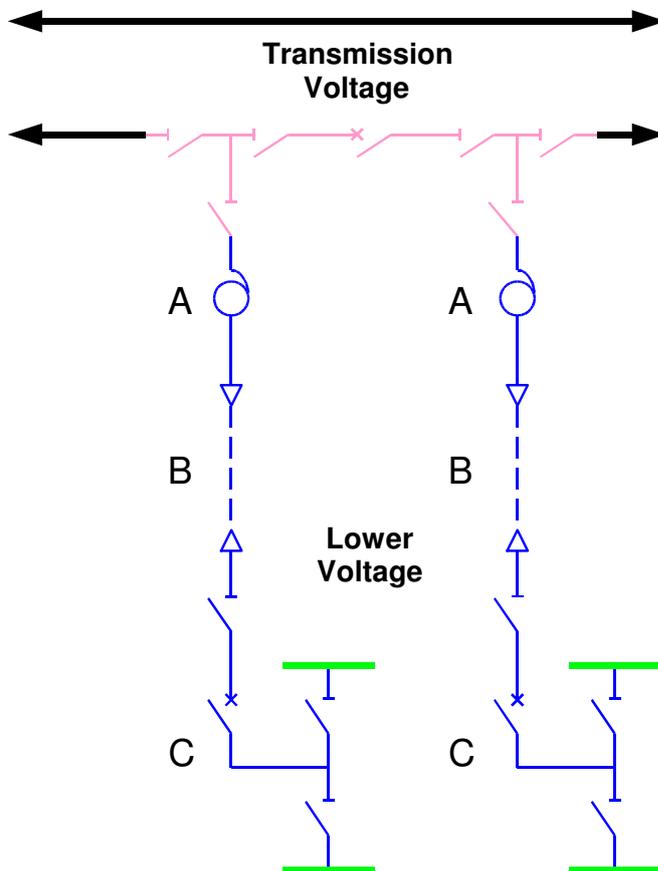
- Standard AIS CI3 terminations on steel AIS supports, c/w SVL's, anti-touch shrouds, corona rings, arc horns and solar protection as required.
- XLPE Lead/AlI sheathed cable supply, install, commission with High Voltage AC & Sheath Testing.
- Earth Continuity Cable (ECC) & Link Boxes supply, Installation & Connection included.
- DTS c/w terminations into Fibre Optic Terminal boxes on AIS support - on 400kV & 275kV only.
- PD Monitoring/Testing on 400kV & 275kV only.
- Full Design Verification & Assurance to NG Standards and Specifications.
- Cable installed in new precast concrete troughs, flat formation, secured in CBS, with cleats to prevent movement under fault conditions, 5T/11T loading standard concrete lids.
- Connection & Modifications to earth mat.
- P&C Duct (1 x 90mm) 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.
- Water Management (if required).
- Costs do not allow for any small quantity/MOQ surcharge that may be levied by cable supplier.
- Others: VAT and Inflation.

<b>Illustrative Connection Asset Charges</b>						
	£000's					
	400kV		275kV		132kV	
	GAV	Charge	GAV	Charge	GAV	Charge
Double Busbar Bay	2389	250	2001	210	1273	133
Single Busbar Bay	2079	218	1628	171	1139	119
Transformer Cables 100m (incl. Cable sealing ends)						
120MVA			2162	226	1258	132
180MVA	2342	245	2162	226	1273	133
240MVA	2345	246	2173	228	1282	134
750MVA	2418	253	2245	235		
Transformers						
45MVA 132/66kV					2091	219
90MVA 132/33kV					2091	219
120MVA 275/33kV			3843	403		
180MVA 275/66kV			4049	424		
180MVA 275/132kV			4259	446		
240MVA 275/132kV			4259	446		
240MVA 400/132kV	4874	511				

Connection Examples

Example 1

**NEW SUPERGRID CONNECTION  
SINGLE SWITCH MESH TYPE**



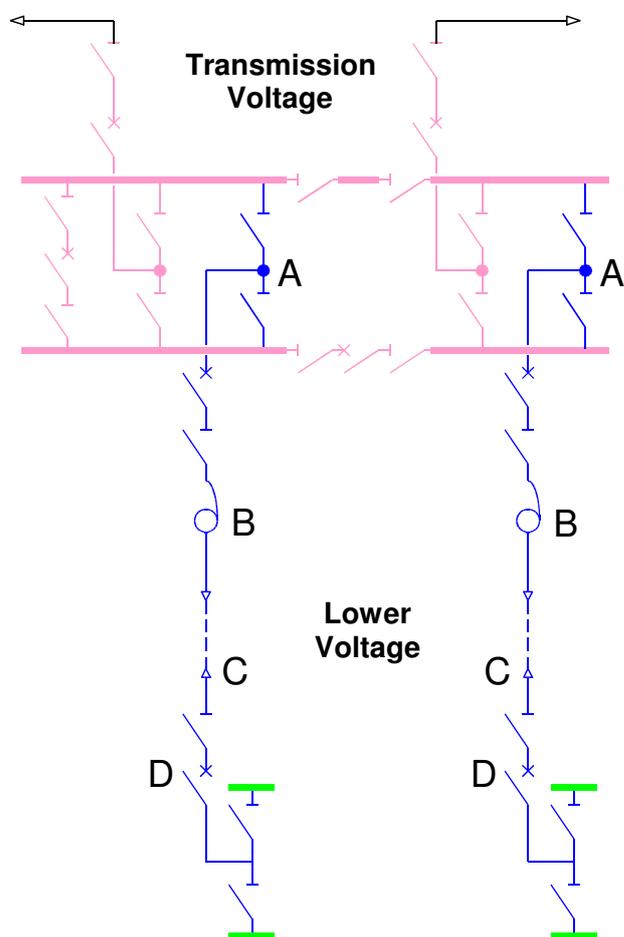
**KEY:**

- Existing Transmission Assets (infrastructure)
- New Transmission Assets (infrastructure)
- New connection assets wholly charged to customer
- Customer Assets

SCHEDULE FOR NEW CONNECTION					
Ref	Description	275/132kV		400/132kV	
		First Year Charges (£000s)		First Year Charges (£000s)	
A	2 x 180MVA Transformers	892	2 x 240MVA Transformers	1022	
B	2 x 100m 180MVA Cables	452	2 x 100m 240MVA Cables	492	
C	2 x 132kV Double Busbar Transformer Bays	266	2 x 132kV Double Busbar Transformer Bays	266	
<b>Total</b>		<b>1610</b>	<b>Total</b>		<b>1780</b>

Example 2

### NEW SUPERGRID CONNECTION DOUBLE BUSBAR TYPE



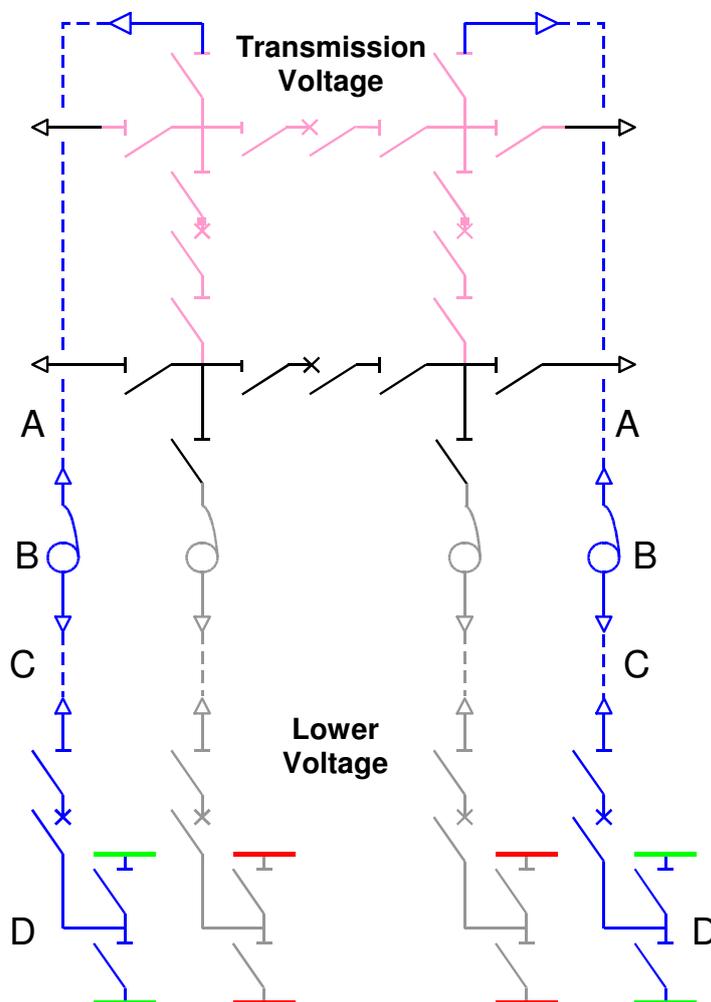
**KEY:**

- Existing Transmission Assets (infrastructure)
- New Transmission Assets (infrastructure)
- New connection assets wholly charged to customer
- Customer Assets

SCHEDULE FOR NEW CONNECTION				
Ref	275/132kV		400/132kV	
	Description	First Year Charges (£000s)	Description	First Year Charges (£000s)
A	2 x 275kV Double Busbar Transformer Bays	420	2 x 400kV Double Busbar Transformer Bays	500
B	2 x 180MVA Transformers	892	2 x 240MVA Transformers	1022
C	2 x 100m 180MVA Cables	452	2 x 100m 240MVA Cables	492
D	2 x 132kV Double Busbar Transformer Bays	266	2 x 132kV Double Busbar Transformer Bays	266
<b>Total</b>		<b>2030</b>	<b>Total</b>	<b>2280</b>

**Example 3**

**EXTENSION OF SINGLE SWITCH MESH TO FOUR SWITCH MESH  
(extension to single user site)**



**KEY:**

- Existing Transmission Assets (infrastructure)
- New Transmission Assets (infrastructure)
- New connection assets wholly charged to customer
- Existing connection assets wholly charged to another user
- Customer Assets
- Other Users Assets

SCHEDULE FOR NEW CONNECTION					
Ref	Description	275/132kV		400/132kV	
			First Year Charges (£000s)		First Year Charges (£000s)
A	2 x 100m 180MVA Cables		452	2 x 100m 240MVA Cables	492
B	2 x 180MVA Transformers		892	2 x 240MVA Transformers	1022
C	2 x 100m 180MVA Cables		452	2 x 100m 240MVA Cables	492
D	2 x 132kV Double Busbar Transformer Bays		266	2 x 132kV Double Busbar Transformer Bays	266
<b>Total</b>			<b>2062</b>	<b>Total</b>	<b>2272</b>

## Appendix 2: Examples of Connection Charge Calculations

The following examples of connection charge calculations are intended as general illustrations.

### Example 1

This example illustrates the method of calculating the first year connection charge for a given asset value. This method of calculation is applicable to indicative price agreements for new connections, utilising the RPI method of charging, and assuming:

- i) the asset is commissioned on 1 April 2014
- ii) there is no inflation from year to year i.e. GAV remains constant
- iii) the site specific maintenance charge component remains constant throughout the 40 years at 0.58% of GAV
- iv) the Transmission Running Cost component remains constant throughout the 40 years at 1.47% of GAV
- v) the asset is depreciated over 40 years
- vi) the rate of return charge remains constant at 6% for the 40 year life of the asset
- vii) the asset is terminated at the end of its 40 year life

For the purpose of this example, the asset on which charges are based has a Gross Asset Value of £3,000,000 on 1 April 2014.

Charge	Calculation	
Site Specific Maintenance Charge (0.58% of GAV)	$3,000,000 \times 0.58\%$	£17,400
Transmission Running Cost (1.47% of GAV)	$3,000,000 \times 1.47\%$	£44,100
Capital charge (40 year depreciation 2.5% of GAV)	$3,000,000 \times 2.5\%$	£75,000
Return on mid-year NAV (6%)	$2,962,500 \times 6\%$	£177,750
TOTAL		£314,250

**The first year charge of £314,250 would reduce in subsequent years as the NAV of the asset is reduced on a straight-line basis, assuming a zero rate of inflation.**

This gives the following annual charges over time (assuming no inflation):

Year	Charge
1	£314,250
2	£309,750
10	£273,750
40	£138,750

Based on this example, charges of this form would be payable until 31 March 2054.

### Example 2

The previous example assumes that the asset is commissioned on 1 April 2014. If it is assumed that the asset is commissioned on 1 July 2014, the first year charge would equal 9/12th of the first year annual connection charge i.e. £235,687.50

This gives the following annual charges over time:

Year	Charge
1	£235,687 (connection charge for period July 2014 to March 2015)
2	£309,750
10	£273,750
40	£138,750

### Example 3

In the case of a firm price agreement, there will be two elements in the connection charge, a finance component and a running cost component. These encompass the four elements set out in the examples above. Using exactly the same assumptions as those in example 1 above, the total annual connection charges will be the same as those presented. These charges will not change as a result of the adoption of a different charging methodology by National Grid, providing that the connection boundary does not change.

### Example 4

**If a User has chosen a 20-year depreciation period for their Post Vesting connection assets and subsequently remains connected at the site beyond the twentieth year their charges are calculated as follows.**

For years 21-40 they will pay a connection charge based on the following formula:

$$\text{Annual Connection Charge}_n = \text{SSF}_n (\text{RPIGAV}_n) + \text{TC}_n (\text{GAV}_n)$$

The NAV will be zero and the asset will be fully depreciated so there will be no rate of return or depreciation element to the charge.

Index to the Statement of Use of System Charges (Issue 10) Revisions

<b>Issue 10</b>	<b>Modifications</b>	<b>Changes to Pages</b>
10.1	2014/15 Publication	-