

**Addendum to GB Transmission Charging: initial  
thoughts consultation**

27 January 2004

## Addendum

This addendum is being issued to illustrate sensitivities that have been raised by Users and to update the base case in the DCLF transport model following feedback from the Scottish Transmission Owners. The tariffs published below should assist Users in framing their responses to the live consultation on "GB Transmission Charging: Initial Thoughts", issued by National Grid on 16 December 2003. In light of this additional information we are extending the deadline for responses by one week to **Friday, 6 February 2004**.

With reference to the recent letter to Industry dated 22 January 2004 concerning "Indicative TNUoS Tariffs 2004/05", on-going work to finalise the tariffs for this year is underway. However, any changes to England & Wales resulting from this process have not been included in the analysis for this addendum. The publication of this addendum is to illustrate the relative changes from certain sensitivities and not to provide an accurate indication of future charges. We believe this will provide a useful aid to Users in understanding the principles behind extending the England & Wales charging methodology to GB.

Please note that the demand tariffs published have not been "collared" to zero as in the original December 2003 consultation document in order to illustrate sensitivities.

## Amendments

Corrections made to the Scottish network data are listed below. These have been amended in the DCLF model to present a new base case.

- A duplicate double circuit has been deleted (Kintore-Kincardine Boundary and Tealing-Westfield Boundary; Nodes KINT – KINB & TEAL – WFIB).
- Generation at Cruachan, Fife and Luichart were modelled incorrectly as demand (nodes CRUA – 400MW; FIFE – 134MW; LUIC – 34.8MW)

The amendments to the model since its original publication in December 2003 are limited solely to Scottish data.

## Scenarios

In addition to these amendments, we are also publishing illustrative tariffs resulting from certain scenarios, at the request of Users. Note: some of the scenarios requested have been driven by the fact that there is not yet available a contractual value for Scottish generation. In England & Wales, the contractual value used by the DCLF transport model is the Transmission Entry Capacity (TEC). For Scottish generation, we have used the generation capacity figures published in the Seven Year Statements by the relevant Transmission Owner.

Scenario 1. Peterhead generation reduced from a capacity of 2319MW to the local constraint limit of 1524MW.

Scenario 2. As scenario 1 with Chapelcross generation (196MW) removed.

As mentioned in the original consultation (para:3.2.3) consideration may be given to different treatments of the multi-voltage expansion factors. One option is to reflect the likelihood of incremental capacity being provided at a higher voltage, hence

Scenario 3. As scenario 2 with all 132kV circuits using the 275kV expansion factors.

Scenario 4. As scenario 2 with all GB circuits using the 400KV expansion factors.

A further scenario is arguably that if a single voltage expansion factor is used then the Expansion Constant used in the tariff model would need to change to take into account any additional cost associated with asset renewal at a lower voltage, hence

Scenario 5. As scenario 4 with the Expansion Constant (within the tariff calculation) changed to £11.00/MWkm from £9.29/MWkm.

**Base Case**

The base case has been updated with the amendments previously described in this document.

<b>Generation</b>		
<b>Zone No.</b>	<b>Zone Name</b>	<b>Zonal Tariff (£/kW)</b>
1	Scottish & Southern	22.012510
2	Scottish Power	11.988124
3	North East	7.293680
4	North West	4.060333
5	Anglesey	4.933346
6	Dinorwig	8.322816
7	N Wales, Mersey & S Yorks	1.992865
8	Humberside & Aire Valley	3.568478
9	Midlands	0.179527
10	South Wales & Gloucs	-5.194506
11	Seabank	-3.749169
12	Oxon & Bucks	-1.750822
13	East Anglia	1.327517
14	NE London & Thames Estuary	-0.281634
15	Central & SW London	-7.358315
16	South Coast	-1.905980
17	Wessex	-6.415053
18	Peninsula	-8.945141

<b>Demand</b>		
<b>Zone No.</b>	<b>Zone Name.</b>	<b>HH Zonal Tariff (£/kW)</b>
1	Northern Scotland	-6.396015
2	Southern Scotland	1.321116
3	Northern	6.132870
4	North West	10.104934
5	Yorkshire	9.595007
6	N Wales & Mersey	10.101901
7	East Midlands	12.140617
8	Midlands	13.774707
9	Eastern	12.300699
10	South Wales	17.748842
11	South East	15.819976
12	London	17.971332
13	Southern	16.974010
14	South Western	19.367707

**Scenario 1**

Peterhead generation reduced from a capacity of 2319MW to the local constraint limit of 1524MW.

<b>Generation</b>		
<b>Zone No.</b>	<b>Zone Name</b>	<b>Zonal Tariff (£/kW)</b>
1	Scottish & Southern	20.650420
2	Scottish Power	11.790931
3	North East	7.628866
4	North West	4.282239
5	Anglesey	5.268797
6	Dinorwig	8.658266
7	N Wales, Mersey & S Yorks	2.319915
8	Humberside & Aire Valley	3.974666
9	Midlands	0.549688
10	South Wales & Gloucs	-4.811862
11	Seabank	-3.365942
12	Oxon & Bucks	-1.361111
13	East Anglia	1.728500
14	NE London & Thames Estuary	0.113995
15	Central & SW London	-6.965409
16	South Coast	-1.514245
17	Wessex	-6.028568
18	Peninsula	-8.559255

<b>Demand</b>		
<b>Zone No.</b>	<b>Zone Name.</b>	<b>HH Zonal Tariff (£/kW)</b>
1	Northern Scotland	-4.576721
2	Southern Scotland	2.141861
3	Northern	6.289370
4	North West	10.072978
5	Yorkshire	9.481835
6	N Wales & Mersey	10.051895
7	East Midlands	12.016317
8	Midlands	13.688274
9	Eastern	12.181499
10	South Wales	17.644451
11	South East	15.705622
12	London	17.854913
13	Southern	16.863373
14	South Western	19.260701

**Scenario 2**

As scenario 1 with Chapelcross generation (196MW) removed.

<b>Generation</b>		
<b>Zone No.</b>	<b>Zone Name</b>	<b>Zonal Tariff (£/kW)</b>
1	Scottish & Southern	20.748460
2	Scottish Power	11.958530
3	North East	7.657304
4	North West	4.245577
5	Anglesey	5.274516
6	Dinorwig	8.663986
7	N Wales, Mersey & S Yorks	2.322578
8	Humberside & Aire Valley	3.994318
9	Midlands	0.562310
10	South Wales & Gloucs	-4.797227
11	Seabank	-3.351214
12	Oxon & Bucks	-1.345359
13	East Anglia	1.746044
14	NE London & Thames Estuary	0.130801
15	Central & SW London	-6.949138
16	South Coast	-1.498161
17	Wessex	-6.013321
18	Peninsula	-8.544104

<b>Demand</b>		
<b>Zone No.</b>	<b>Zone Name.</b>	<b>HH Zonal Tariff (£/kW)</b>
1	Northern Scotland	-4.657499
2	Southern Scotland	2.064735
3	Northern	6.343323
4	North West	10.097628
5	Yorkshire	9.482061
6	N Wales & Mersey	10.065435
7	East Midlands	12.017535
8	Midlands	13.692859
9	Eastern	12.181101
10	South Wales	17.646410
11	South East	15.705994
12	London	17.854952
13	Southern	16.864338
14	South Western	19.262243

**Scenario 3**

As scenario 2 with all 132kV circuits using the 275kV expansion factors.

<b>Generation</b>		
<b>Zone No.</b>	<b>Zone Name</b>	<b>Zonal Tariff (£/kW)</b>
1	Scottish & Southern	19.529262
2	Scottish Power	11.819939
3	North East	7.710827
4	North West	4.334681
5	Anglesey	5.358066
6	Dinorwig	8.747536
7	N Wales, Mersey & S Yorks	2.408307
8	Humberside & Aire Valley	4.067935
9	Midlands	0.640939
10	South Wales & Gloucs	-4.720033
11	Seabank	-3.274086
12	Oxon & Bucks	-1.268961
13	East Anglia	1.821164
14	NE London & Thames Estuary	0.206646
15	Central & SW London	-6.873110
16	South Coast	-1.422000
17	Wessex	-5.936564
18	Peninsula	-8.467278

<b>Demand</b>		
<b>Zone No.</b>	<b>Zone Name.</b>	<b>HH Zonal Tariff (£/kW)</b>
1	Northern Scotland	-4.274662
2	Southern Scotland	2.078646
3	Northern	6.369092
4	North West	10.073386
5	Yorkshire	9.476910
6	N Wales & Mersey	10.050793
7	East Midlands	12.011677
8	Midlands	13.684601
9	Eastern	12.176395
10	South Wales	17.640024
11	South East	15.700739
12	London	17.849935
13	Southern	16.858660
14	South Western	19.256154

**Scenario 4**

As scenario 2 with all GB circuits using the 400kV expansion factors.

<b>Generation</b>		
<b>Zone No.</b>	<b>Zone Name</b>	<b>Zonal Tariff (£/kW)</b>
1	Scottish & Southern	14.966930
2	Scottish Power	10.916067
3	North East	7.990830
4	North West	4.691937
5	Anglesey	5.815617
6	Dinorwig	9.205087
7	N Wales, Mersey & S Yorks	2.823262
8	Humberside & Aire Valley	4.328073
9	Midlands	0.999793
10	South Wales & Gloucs	-4.465273
11	Seabank	-2.796661
12	Oxon & Bucks	-0.842329
13	East Anglia	2.138653
14	NE London & Thames Estuary	0.519469
15	Central & SW London	-6.121693
16	South Coast	-1.009640
17	Wessex	-5.483104
18	Peninsula	-8.011813

<b>Demand</b>		
<b>Zone No.</b>	<b>Zone Name.</b>	<b>HH Zonal Tariff (£/kW)</b>
1	Northern Scotland	-0.563705
2	Southern Scotland	2.846073
3	Northern	6.153626
4	North West	10.006724
5	Yorkshire	9.453930
6	N Wales & Mersey	9.924636
7	East Midlands	11.893729
8	Midlands	13.477380
9	Eastern	12.255597
10	South Wales	17.594301
11	South East	15.576935
12	London	17.572201
13	Southern	16.766916
14	South Western	19.076689

**Scenario 5**

As scenario 4 with the Expansion Constant (within the tariff calculation) changed to £11.00/MWkm from £9.29/MWkm.

<b>Generation</b>		
<b>Zone No.</b>	<b>Zone Name</b>	<b>Zonal Tariff (£/kW)</b>
1	Scottish & Southern	17.056301
2	Scottish Power	12.259799
3	North East	8.796117
4	North West	4.890000
5	Anglesey	6.220516
6	Dinorwig	10.233882
7	N Wales, Mersey & S Yorks	2.677360
8	Humberside & Aire Valley	4.459161
9	Midlands	0.518247
10	South Wales & Gloucs	-5.952767
11	Seabank	-3.977015
12	Oxon & Bucks	-1.662952
13	East Anglia	1.866737
14	NE London & Thames Estuary	-0.050489
15	Central & SW London	-7.914082
16	South Coast	-1.861060
17	Wessex	-7.157949
18	Peninsula	-10.152114

<b>Demand</b>		
<b>Zone No.</b>	<b>Zone Name.</b>	<b>HH Zonal Tariff (£/kW)</b>
1	Northern Scotland	-2.945769
2	Southern Scotland	1.091642
3	Northern	5.008014
4	North West	9.570346
5	Yorkshire	8.915800
6	N Wales & Mersey	9.473149
7	East Midlands	11.804691
8	Midlands	13.679843
9	Eastern	12.233168
10	South Wales	18.554560
11	South East	16.165860
12	London	18.528392
13	Southern	17.574879
14	South Western	20.309810