

Further information on mid-year tariff changes following the September 2010 Customer Seminars

National Grid received a number of questions at the Customer Seminars on National Grid's proposal to update generation and demand TNUoS tariffs in December 2010¹. This note provides further information on interpreting the updated tariffs; the context of the tariff changes; National Grid's current thinking on potential future mid-year tariff changes; and the practical implementation of the changes later in the year with further examples. A question and answer section has also been included, which covers questions that National Grid has been asked by customers since announcing the tariff update.

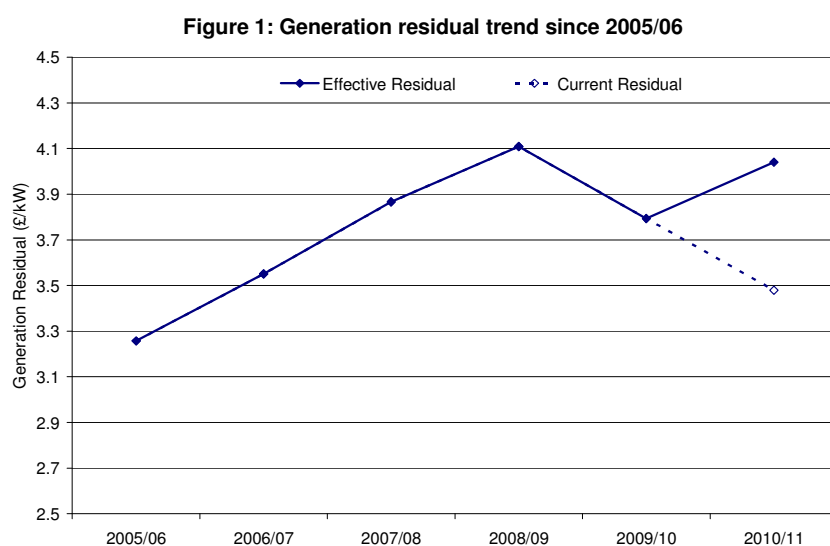
Interpretation of the tariffs published by National Grid

National Grid published draft updated TNUoS tariffs for 2010/11 to take effect from 1 December 2010. For each zone, two tariffs have been published:

- ❑ an **updated tariff**, which shall be included in the Statement of Use of System Charges, and reflects the tariff that must be applied from 1 December 2010 in order to have the intended impact on revenue collection for the remaining months in 2010/11; and
- ❑ an **effective tariff**, which is the weighted average tariff for the year², and is used to determine annual and monthly liabilities for 2010/11. The effective tariff also is the tariff that would have been applied from 1 April 2010 had all the information available now been known when tariffs were set in January 2010.

Tariff changes in context

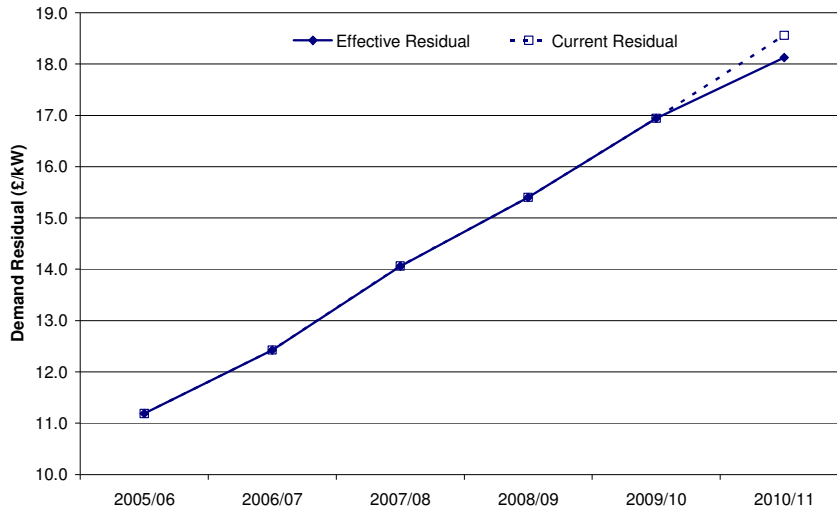
The following charts show the trend in the generation and demand residual tariffs since 2005/06. The residuals are set so that the correct total revenue is collected and in the correct proportions between generation and demand. Two residuals values have been shown for 2010/11: the effective residual (solid line) and the current residual set in January 2010 (dotted line).



¹ [Notice of draft updated TNUoS tariffs - 1 September 2010](#)

² The effective tariff / weighted average tariff is determined using the initial tariff and any updated tariff, and weighting these for the duration that the tariffs have applied.

Figure 2: Demand residual trend since 2005/06



The general trend is for residual tariffs to increase with time. This is due to allowed increases in transmission owner price controlled revenues. It should be noted that the dip in 2009/10 in the generation residual was due to the introduction of local charging arrangements, which reduced the revenue that needed to be recovered through the residual³. Prior to this, however, the generation residual was growing at an average rate of 28p/kW per year and the demand residual has grown at an average rate of £1.40/kW per year. The difference between the dotted and the solid lines has emerged because of changes in the revenue expected to be collected from offshore users and the total revenue recoverable through TNUoS charges.

Prospect for future mid-year tariff changes

National Grid would not expect to make any future mid-year tariff changes unless, as in 2010/11, it was necessitated by significant changes to the revenues sought by onshore and offshore transmission owners after setting tariffs in January. Whilst greater experience of operating in the offshore regime will enable better forecasts of offshore revenues to be made, the project specific nature of the offshore tenders and the associated timetables mean that there may still be instances where a mid-year tariff change could be considered. Accordingly, National Grid will continue to look for ways to reduce uncertainty so that charges for users remain as stable as possible, whilst meeting the other charging objectives. This will involve working with other transmission owners and with Ofgem.

Calculation of revised liabilities

The following section provides further detail on the information customers require to calculate revised annual and monthly liabilities before and after the mid-year tariff change. A number of examples are provided in appendices, which build on those provided in the notice of draft tariff updates.

³ Removing this effect would have resulted in a generation residual of about £4.25/kW.

Generation liabilities

The following information is needed to calculate revised annual and monthly generation TNUoS liabilities:

- payments made to date;
- in positive charging zones (based on the effective tariff), the highest TEC in the charging year, and in negative charging zones (based on the effective tariff) the average of the three peak exports, each separated by 10 days; and
- effective tariff for the relevant generation zone.

In positive generation zones, the revised annual and remaining monthly liabilities are given by:

$$\text{Revised Annual Liability} = \text{TEC} \times \text{effective tariff}$$

$$\text{Remaining Monthly Liability} = \frac{\text{Revised Annual Liability} - \text{Payments made to date}}{\text{Months remaining in 2010/11}}$$

In negative generation zones, the overall approach is as outlined above albeit generators' annual payments are based on the average of the three peak exports between 1 November and 28 February, each peak separated by at least 10 clear days. During the year payments are generally based on TEC but, to the extent the generators average export is less than TEC, an adjustment will be made during generation reconciliation.

Appendix A provides an example of a mid-year tariff change for generation in positive and negative charging zones. It shows how the annual and monthly liabilities change and generation reconciliation in negative zones.

HH demand liabilities

For suppliers with half-hourly (HH) demand within their portfolio, the following information is needed to calculate revised annual and monthly liabilities:

- payments made to date;
- triad demand; and
- effective tariff for the relevant demand zone.

The revised annual and remaining monthly HH demand liabilities are given by:

$$\text{Revised Annual Liability} = \text{Triad demand} \times \text{effective tariff}$$

$$\text{Remaining Monthly Liability} = \frac{\text{Revised Annual Liability} - \text{Payments made to date}}{\text{Months remaining in 2010/11}}$$

Throughout the year charges will remain based on the suppliers' own forecast triad demand. To the extent that the supplier's actual triad demand is different from that forecast, an adjustment will be made during initial demand reconciliation.

Appendix B provides an example of a mid-year tariff change for suppliers with HH demand. It shows how the annual and monthly liabilities change and the impact of initial demand reconciliation.

NHH Demand liabilities

For suppliers with non half-hourly (NHH) demand within their portfolio, the following information is needed to calculate revised annual and monthly liabilities:

- annual energy consumption;
- energy consumption before and after the tariff update;
- payments made to date; and
- the initial and updated tariffs in the relevant demand zone.

The revised annual and remaining monthly NHH demand liabilities are given by:

$$\text{Revised Annual Liability} = (\text{Consumption with initial tariff} \times \text{initial tariff}) + (\text{Consumption with updated tariff} \times \text{updated tariff})$$

$$\text{Remaining Monthly Liability} = \frac{\text{Revised Annual Liability} - \text{Payments made to date}}{\text{Months remaining in 2010/11}}$$

National Grid will forecast consumption of each supplier for the period that the initial tariff applied and will then derive the consumption during the period that updated tariff applies using suppliers' own forecast of total annual energy consumption. National Grid's forecast will be based on actual metered data, where available, and suppliers' consumption during the equivalent months in the previous year, using a similar methodology to that described in Appendix TN-7 in the Statement of the Use of System Charging Methodology. National Grid intends to write to all suppliers with the data it has used to derive this forecast and suppliers will have the opportunity to amend this. To the extent that either National Grid's or suppliers' energy consumption forecasts are different from the actual consumption during the relevant periods, an adjustment will be made during the initial demand reconciliation.

Appendix C provides an example of a mid-year tariff change for suppliers with NHH demand. It shows how the annual and monthly liabilities change and the impact of initial demand reconciliation.

Making your views known

National Grid would welcome comments regarding the mid-year tariff update. These can be sent to Wayne.Mullins@uk.ngrid.com and Adam.Brown@uk.ngrid.com. Any views received by **23 September 2010** will be taken into account before confirming the tariff change on 1 December 2010, assuming the Authority has given the necessary consents to reduce the standard notice periods of the tariff changes.

Question & Answers

1. How do I determine my revised annual liability?

For generation and HH demand multiply the chargeable capacity (which is not changed) and the published effective tariff for 2010/11. For NHH demand multiply each relevant tariff by the energy consumption over the period that the tariff applies, and sum these amounts for each tariff that has applied during the year.

2. How are my monthly payments affected?

Monthly payments will change to reflect the change in the annual liability (see Q1). The monthly payments will adjust to collect this revised amount over the remaining months of the year (i.e. 4 months for a change implemented on 1 December 2010) taking account of any payments that have already been made during the year.

3. What happens in negative generation zones?

The chargeable capacity is unaffected by the mid-year tariff change i.e. it remains the average of the three peak exports between 1 November and 28 February, each peak separated by at least 10 days. The annual payment will be based on the chargeable capacity effective tariff for the year.

4. What happens if a generation zone changes from having a negative tariff to having a positive tariff?

A generator's annual liability will depend on whether the effective tariff for the year is positive or negative. National Grid will base the chargeable capacity for the generator accordingly. Based on National Grid's proposed tariff changes, no zones change from being positive or negative, or visa versa.

5. Are LDTEC and STTEC affected?

Yes. National Grid will be updating STTEC and LDTEC tariffs for 2010/11 and these will be based on the effective tariff for 2010/11.

6. Are any CUSC changes needed to facilitate the mid-year change?

Arrangements for changing transmission network use of system charges are set out in CUSC Section 3.14. These do not restrict the timing of when tariffs can be changed but do provide for minimum notice periods that can be changed with consent from the Authority.

7. Why can't National Grid give more information on the tariff change?

Unfortunately whilst tenders are ongoing for Greater Gabbard and Ormonde, National Grid has been asked to not make certain information available. We appreciate this is not ideal and once these constraints are lifted we intend to make further information available. In the mean time, and against this background, there is limited further information that can be provided in response to questions that customers might have.

8. Why are tariffs being updated for both onshore and offshore changes?

Once National Grid had taken the view to change tariffs for offshore changes, the charging methodology requires that all changes be taken into account. It was also noted during the development of GB ECM-21, which clarified how mid-year tariff changes would work in practice, that changes other than for offshore could trigger the need to undertake a mid-tear tariff change.

Appendix A – Mid-year tariff changes for generation

Positive charging zones

A 1000MW generator in Zone 10 currently has a tariff of £8.79/kW and this will change to £10.53/kW on 1 December 2010. Prior to the tariff update the effective tariff is £8.79/kW, as it was expected to apply for the full 12 month period, and following the tariff change the effective tariff will be £9.37/kW. The resulting annual and monthly liabilities are shown in the following table.

Month	TEC (MW)	Effective Tariff (£/kW)	Annual liability (£m)	Payment to date (£m)	Monthly Payment (£m)
Apr	1000	8.79	8.8	0.00	0.73
May	1000	8.79	8.8	0.73	0.73
Jun	1000	8.79	8.8	1.47	0.73
Jul	1000	8.79	8.8	2.20	0.73
Aug	1000	8.79	8.8	2.93	0.73
Sep	1000	8.79	8.8	3.66	0.73
Oct	1000	8.79	8.8	4.40	0.73
Nov	1000	8.79	8.8	5.13	0.73
Dec	1000	9.37	9.4	5.86	0.88
Jan	1000	9.37	9.4	6.74	0.88
Feb	1000	9.37	9.4	7.62	0.88
Mar	1000	9.37	9.4	8.49	0.88
Total					9.37

Negative charging zones

A 1000MW generator in Zone 19 currently has a tariff of -£2.64/kW and this will change to -£0.90/kW on 1 December 2010. Prior to the tariff update the effective tariff is -£2.64/kW, as it was expected to apply for the full 12 month period, and following the tariff change the effective tariff will be -£2.06/kW. The resulting annual and monthly liabilities are shown in the following table.

Month	TEC (MW)	Effective Tariff (£/kW)	Annual liability (£m)	Payment to date (£m)	Monthly Payment (£m)
Apr	1000	-2.64	-2.6	0.00	-0.22
May	1000	-2.64	-2.6	-0.22	-0.22
Jun	1000	-2.64	-2.6	-0.44	-0.22
Jul	1000	-2.64	-2.6	-0.66	-0.22
Aug	1000	-2.64	-2.6	-0.88	-0.22
Sep	1000	-2.64	-2.6	-1.10	-0.22
Oct	1000	-2.64	-2.6	-1.32	-0.22
Nov	1000	-2.64	-2.6	-1.54	-0.22
Dec	1000	-2.06	-2.1	-1.76	-0.07
Jan	1000	-2.06	-2.1	-1.83	-0.07
Feb	1000	-2.06	-2.1	-1.91	-0.07
Mar	1000	-2.06	-2.1	-1.98	-0.07
Total					-2.06

The generator's average 3 export peaks between 1 November 2010 and 28 February 2011, separated by 10 days, was 900MW. This reduces the actual payments that should have been made to the generator and this is recovered through generation reconciliation, as shown in the following table.

Month	Actual Export (MW)	Monthly Liability based on actual export (£m)	Previously invoiced (£m)	Reconciliation (£m)
Apr	900	-0.20	-0.22	0.02
May	900	-0.20	-0.22	0.02
Jun	900	-0.20	-0.22	0.02
Jul	900	-0.20	-0.22	0.02
Aug	900	-0.20	-0.22	0.02
Sep	900	-0.20	-0.22	0.02
Oct	900	-0.20	-0.22	0.02
Nov	900	-0.20	-0.22	0.02
Dec	900	-0.07	-0.07	0.01
Jan	900	-0.07	-0.07	0.01
Feb	900	-0.07	-0.07	0.01
Mar	900	-0.07	-0.07	0.01
Total		-1.85	-2.06	0.21

Note in practice, interest is payable / refundable on a monthly basis.

Appendix B – Mid-year tariff changes for HH demand

A supplier has a portfolio of HH demand in Zone 6. The supplier's forecast expected triad demand is 300 MW. A mid-year tariff update takes effect on 1 December 2010, changing the TNUoS tariff from £18.89/kW to £17.57/kW. Prior to the tariff update the effective tariff is £18.89/kW, as it was expected to apply for the full 12 month period. The effective tariff from 1 December 2010 is £18.45/kW. The resulting annual and monthly liabilities are shown in the following table.

Month	Forecast Triad (MW)	Effective Tariff (£/kW)	Forecast Annual liability (£m)	Payment to date (£m)	Monthly Payment (£m)
Apr	300	18.89	5.7	0.00	0.47
May	300	18.89	5.7	0.47	0.47
Jun	300	18.89	5.7	0.94	0.47
Jul	300	18.89	5.7	1.42	0.47
Aug	300	18.89	5.7	1.89	0.47
Sep	300	18.89	5.7	2.36	0.47
Oct	300	18.89	5.7	2.83	0.47
Nov	300	18.89	5.7	3.31	0.47
Dec	300	18.45	5.5	3.78	0.44
Jan	300	18.45	5.5	4.22	0.44
Feb	300	18.45	5.5	4.66	0.44
Mar	300	18.45	5.5	5.10	0.44
Total					5.54

Annual Reconciliation

The supplier's actual triad demand was 310MW, which results in an initial demand reconciliation. The supplier's actual liability is £5.72m (310MW × £18.45/kW). The amount paid is £5.54m therefore the reconciliation is £0.18m, which is shown in more detail below.

Month	Actual Triad (MW)	Monthly Liability based on actual Triad (£m)	Previously invoiced (£m)	Reconciliation
Apr	310	0.49	0.47	0.02
May	310	0.49	0.47	0.02
Jun	310	0.49	0.47	0.02
Jul	310	0.49	0.47	0.02
Aug	310	0.49	0.47	0.02
Sep	310	0.49	0.47	0.02
Oct	310	0.49	0.47	0.02
Nov	310	0.49	0.47	0.02
Dec	310	0.45	0.44	0.01
Jan	310	0.45	0.44	0.01
Feb	310	0.45	0.44	0.01
Mar	310	0.45	0.44	0.01
Total		5.72	5.54	0.18

Note in practice, interest is payable / refundable on a monthly basis.

Appendix C – Mid-year tariff changes for NHH demand

A supplier has a portfolio NHH demand in Zone 6. The supplier's forecast energy consumption between 4pm to 7pm is expected to be 200 GWh. A mid-year tariff update takes effect on 1 December 2010, at which point National Grid forecasts the supplier's energy consumption to be 60% of the total annual consumption.

The TNUoS tariff changes from 2.63p/kWh to 2.55p/kWh. The chargeable energy consumption prior to the tariff update is forecast to be 120 GWh and the chargeable energy consumption following the tariff update is forecast to be 80 GWh, based on the consumption profile outlined above. Prior to the tariff update the suppliers annual NHH liability was £5.25m and this is changed to £5.19m following the tariff change. The resulting annual and monthly liabilities are shown in the following table.

Month	annual consumption (GWh)	Consumption Pre-update (GWh)	Consumption Post-update (GWh)	Applicable Tariff (p/kWh)	Annual liability (£m)	Payment to date (£m)	Monthly Payment (£m)
Apr	200	120		2.63	5.25	0.00	0.44
May	200	120		2.63	5.25	0.44	0.44
Jun	200	120		2.63	5.25	0.88	0.44
Jul	200	120		2.63	5.25	1.31	0.44
Aug	200	120		2.63	5.25	1.75	0.44
Sep	200	120		2.63	5.25	2.19	0.44
Oct	200	120		2.63	5.25	2.63	0.44
Nov	200	120		2.63	5.25	3.06	0.44
Dec	200		80	2.55	5.19	3.50	0.42
Jan	200		80	2.55	5.19	3.92	0.42
Feb	200		80	2.55	5.19	4.35	0.42
Mar	200		80	2.55	5.19	4.77	0.42
Total							5.19

Annual Reconciliation

Scenario 1 – Change in total energy consumption

The supplier's actual consumption during the year was 190 GWh but the proportion between consumption pre and post the tariff update is correct i.e. 114 GWh (60%) and 76 GWh (40%). This changes the supplier's total annual liability to £4.93m (i.e. 114 GWh × 2.63 p/kWh + 76 GWh × 2.55 p/kWh). This results in an initial demand reconciliation of -£0.26m.

Month	Actual consumption (GWh)	Consumption Pre-update (GWh)	Consumption Post-update (GWh)	Actual Monthly Liability (£m)	Invoiced Payments (£m)	Reconciliation (£m)
Apr	190	114		0.42	0.44	-0.02
May	190	114		0.42	0.44	-0.02
Jun	190	114		0.42	0.44	-0.02
Jul	190	114		0.42	0.44	-0.02
Aug	190	114		0.42	0.44	-0.02
Sep	190	114		0.42	0.44	-0.02
Oct	190	114		0.42	0.44	-0.02
Nov	190	114		0.42	0.44	-0.02
Dec	190		76	0.40	0.42	-0.02
Jan	190		76	0.40	0.42	-0.02
Feb	190		76	0.40	0.42	-0.02
Mar	190		76	0.40	0.42	-0.02
Total				4.93	5.19	-0.26

Scenario 2 – Change in consumption pre / post the tariff update

The actual demand taken by the supplier during the year was 200 GWh as the supplier forecast but the proportion between consumption prior to the tariff change was 65% (not 60% as forecast). This changes the consumption applicable to the initial and updated tariffs, which changes the

supplier's total annual liability to £5.20m (i.e. 130 GWh × 2.63 p/kWh + 70 GWh × 2.55 p/kWh). This results in an initial demand reconciliation of £0.01m (rounded to 2dp).

Month	Actual consumption (GWh)	Consumption Pre-update (GWh)	Consumption Post-update (GWh)	Actual Monthly Liability (£m)	Invoiced Payments (£m)	Reconciliation (£m)
Apr	200	130		0.438	0.438	0.000
May	200	130		0.438	0.438	0.000
Jun	200	130		0.438	0.438	0.000
Jul	200	130		0.438	0.438	0.000
Aug	200	130		0.438	0.438	0.000
Sep	200	130		0.438	0.438	0.000
Oct	200	130		0.438	0.438	0.000
Nov	200	130		0.438	0.438	0.000
Dec	200		70	0.425	0.423	0.002
Jan	200		70	0.425	0.423	0.002
Feb	200		70	0.425	0.423	0.002
Mar	200		70	0.425	0.423	0.002
Total				5.201	5.193	0.007

Note in practice, reconciliation will deal with a combination of the above factors and interest is payable / refundable on a monthly basis.