TARIFF TRANSPARENCY AND TIMELINESS

A CONSULTATION PAPER BY THE OFFICE FOR THE REGULATION OF ELECTRICITY AND GAS

7 NOVEMBER 2006

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Chapter 1

Introduction

The Office for the Regulation of Electricity and Gas (Ofreg) wishes to ensure that electricity Tariffs are set in the most transparent and timely manner to facilitate competition in the Electricity market. This paper sets out the process for setting electricity tariffs and seeks views on where this process can be improved.

NIE presents the Northern Ireland Authority for Energy Regulation (the Authority) with an analysis of the costs which it will face in the market for the coming financial year, and its proposed means of recovering these costs in the market via tariffs on an annual basis. These tariffs are analysed by Ofreg prior to approval and are then set for the forthcoming year. These tariffs include the Bulk Supply Tariff (BST), the System Support Services charge (SSS), the Public Service Obligation (PSO), the Use of System Tariffs (UoS) and the Public Electricity Supplier (PES) retail tariffs.

Following the tariff publication for the period from 1 April 2006 until 31 March 2007 market participants highlighted some concerns with the tariffs, namely the transparency in tariff setting and approval, and the timeliness with which approved tariffs are published.

Several market participants also expressed concern as to how NIE tariffs have been set and approved in the past. In particular concern has been

expressed as to the level of transparency with which Ofreg allows NIE to pass through certain costs within its tariff structure. More clarity on the rationale which the regulator has for approving tariffs has been called for. The nature of the PSO tariff has drawn particular concern.

Several market participants have also expressed concern that the publication of approved tariffs is not early enough for them to adequately plan their own tariff structures for the forthcoming year. It has been suggested that tariffs should be published much earlier, and a timetable for their publication should be made available so that participants can prepare their own businesses for the forthcoming year.

As a result of these concerns, Ofreg has undertaken to provide a more transparent tariff structure for participants and to provide information on tariffs to participants in a timelier manner. This consultation paper has three main purposes. These are:

- To consult on the detail which could be made available on the factors which are used to build the tariffs, considering the BST and PSO in particular;
- To discuss and consult upon the timeliness of tariff publication and to suggest how this might be improved for future tariff publications; and,
- To consult on whether the top-up and spill arrangements are anti-competitive.

The responses to this consultation will assist the regulator in carrying out its duty to protect the interests of electricity consumers with regard to price and quality of service, and by promoting effective competition in the generation, transmission and supply of electricity.

In the future Ofreg wishes to thoroughly examine the nature of the customer categories established by NIE within each tariff band. Ofreg wishes to ensure that the customer categories are cost-reflective and to ensure that any cross-subsidisation between customer groups is fully understood and kept to a minimum.

Tariffs in the SEM will be the subject of a separate consultation which will be issued shortly by the joint regulators.

Chapter 2

Tariffs and the Regulatory Framework

NIE's Transmission and Public Electricity Supply licence obliges the company to calculate and publish several tariffs annually namely the Bulk Supply Tariff (BST), the Public Service Obligation Levy (PSO), the System Support Service (SSS) charge, the Use of System tariff (UoS) and the Public Electricity Supply (PES) tariff. With the Advent of the SEM a separate tariff for the Single Market operator will need to be drawn up by SONI in collaboration with Eirgrid.

The calculation and presentation of these tariffs to Ofreg is carried out by different businesses within the Viridian group.

NIE's Power Procurement Business (PPB) is the counterparty to certain long term Power Purchase Agreements (PPAs) with generators (principally Kilroot and Ballylumford) that require it to purchase power on terms which were signed off at privatisation. The PPB sells the electricity generated to the wholesale market at the BST. In recent years PPB has also been able sell some power to second tier suppliers at a discount to the BST. NIE PPB also sets annually a PSO levy which is levied on each unit of electricity sold in Northern Ireland.

The System Operator Northern Ireland (SONI) is responsible for operating and controlling the transmission system, for scheduling and despatching generation and sets a tariff, the SSS charge to recover the costs of these

essential procedures and to cover the administration costs of undertaking this work.

NIE Transmission and Distribution (T&D) sets a Use of System (UoS) charge to cover the costs of maintaining and operating its network. Any generator or supplier using the network must pay the UoS charge. At present 25% of the UoS charge is recovered from Generators while 75% is recovered from Suppliers. In the SEM new rules are being developed with regard to how use of the transmission system is charged for and these new rules will be reflected in the new SEM UoS charges.

NIE Public Electricity Supplier (PES) also charges a separate tariff to its customers to cover the costs of metering, billing etc. This PES tariff is also subject to regulatory approval.

With the advent of the SEM, a new body, the Single Market Operator, is being established jointly by SONI and Eirgrid. This body will require a further tariff to cover the costs of its operations, and a tariff is being developed by SONI and Eirgrid. This tariff will then be presented to the two Regulatory Authorities for approval.

Chapter 3

BST and PSO Tariff Transparency

The level of tariffs and the different relative size of the tariffs in the total bill are of extreme importance when issues of competition are considered. The person setting the tariffs could potentially be in a position to sculpt them in such a way that certain persons benefit to the detriment of others. It is essential that in a competitive market, tariffs are set to be reflective of the costs for which they are intended and include only those costs which are appropriate. Otherwise there exists the potential for some customers to cross-subsidise others.

Ofreg has always undertaken a thorough analysis of the tariffs submitted and has only approved any tariffs on the basis that any costs passed–through are essential and have been reasonably and prudently incurred.

However, Ofreg is aware that several participants have indicated that, in the past, there has been insufficient transparency to allow them to be fully confident that the approved tariffs do not contain cross-subsidies. The BST tariff and the PSO levy were identified as giving particular concern as to their formulation. Following requests for additional information Ofreg published a paper in March 2006 giving more clarity to the formulation of the BST and PSO charge. (This paper is attached at Annex 2). However, some participants still did not feel that this gave them sufficient insight into how the tariffs were set and were still not confident that these tariffs were not discriminatory

against certain players in the market. It is imperative therefore that the tariff setting methodology is made as transparent as possible to ensure that participants in the market have faith in the tariff methodologies, and that they understand why, if any cross-subsidies remain, these are necessary.

In an increasingly competitive market Ofreg wishes to ensure that the tariff setting process has as much clarity as possible and that all market participants remain assured that approval of tariffs is made on a fair basis.

There is, however, a limit to the amount of cost information which is included in the tariff composition which can be made public. Many of the costs which are passed through particular tariffs are commercially sensitive and therefore cannot be disclosed without some participants being given an unfair insight into the costs of their competitors. Indeed NIE would be in breach of the terms of some of its contracts if it were to disclose all of the information relating to costs in its tariff formulation. This information is scrutinised by Ofreg in order to approve tariffs but cannot be published.

The BST calculation

The Bulk Supply Tariff is the tariff which NIE PPB sets to recover the costs it incurs in purchasing power under the Power Purchase Agreements it has signed with power stations. NIE, via the PPB, purchases energy from independently owned generators (Ballylumford and Kilroot) under long term contracts (Power Purchase Agreements – PPAs) which were put in place prior to privatisation, and continue in force until expiry or cancellation in 2010 –

2012. These contracts are a “pass through cost” and form the largest element of cost under the BST. In addition, the PPB still has a contract with part of the old Coolkeeragh GT plant. The Energy costs cover both fuel and availability payments and form the first element of the PPB’s BST tariff make-up.

(Under the SEM rules the Regulatory Authorities will consider the treatment of legacy contracts. It is likely that the concept of the BST will no longer exist. This discussion is therefore for next year only).

Before market opening the role of PPB was to act as a single buyer for the purchase of wholesale electricity in Northern Ireland, and to sell this wholesale electricity to licensed suppliers (including NIE’s own Supply Business) at the published and regulated BST. Since market opening commenced in 1999, PPB continued to sell to the PES business at the BST but was also incentivised to sell to other suppliers. Initially these contracts were at BST but the company could also make non-BST sales to second tier suppliers in both Northern Ireland and RoI. This was to prevent the fixed costs of PPAs being stranded on an ever decreasing customer base and also to enable second tier suppliers to access generation at a time when there was very limited alternate supply to the PPAs. These incentive payments for trading form the second element of PPB’s BST tariff make-up.

The price control formula also allows costs the costs of NFFO (less excess costs), low NOx costs at Kilroot and other miscellaneous costs which are

approved by Ofreg to be recovered through tariffs. This is the third part of PPB's BST tariff make-up.

The price control set by Ofreg on the PPB allows the company to earn a certain revenue each year. The BST is set based on forecast sales and fuel prices, to return this allowed revenue to the company. If the sales forecasts or fuel price forecasts turn out to be incorrect, then the company will earn more or less than its allowed revenue in any one year. However any over or under-recovery feeds back into the BST in the following year. This 'K' factor is the final part of the BST.

PSO tariff – elements in the tariff and criteria for costs being recovered via PSO

The Public Service Obligation (PSO) is a charge levied on all units of electricity sold in Northern Ireland. It is intended to cover many of the legacy costs and other costs which for social reasons are spread over the whole customer base. Without a PSO levy, the costs they reflect would be borne only on those customers who are ineligible or who did not exercise their choice to switch supplier.

The PSO tariff was designed to recover the cost of those projects in the market which were deemed to be of benefit to the market as a whole, and which should therefore be paid for by the market as a whole. The elements of

the PSO tariff include the recovery of costs for projects such as retail market opening and the costs of the energy efficiency schemes.

The make up of the 2006/07 PSO is detailed in the table below:

	2005/06 LBE (millions)	2006/07 Estimate (Millions)
Excess NFFO Costs	£4.3	£2.9
ROF Market Support	£9.0	£9.0
Landbank	-£0.1	£0.2
Excess Rathlin Generation	£0.2	£0.2
Fuel Diversity Charge	£6.5	£6.7
CBO Allocation	£29.6	£29.6
Excess Legacy Generation Costs	£32.0	-
Market Opening Costs	£3.4	£6.7
Energy Efficiency Prog. Funding	£0.5	£5.2
Other income	£0.3	-£1.6
"K"	£19.5	£3.7
Total PSO Charges	**£105.2**	**£62.6**

Concerns have been raised by suppliers that the PES will be at a competitive advantage in that it may have access to information in the PSO which is not available to other suppliers. Views are sought as to whether this is a material concern.

Ofreg has undertaken a thorough review of the amount of information which can be disclosed in regard to the BST and PSO levy. Having considered the commercial sensitivities alongside the information which participants are requesting, Ofreg now proposes that for the tariff year commencing in April 2007, NIE publishes these tariffs in a format which is set out in Annex 1.

Annex 1 shows in as much detail as it is possible to publish how tariffs are made up from PPB's price control. Views are sought on whether this format is appropriate.

Non-BST Sales

At present PPB makes a number of sales which are outside the BST. PPB's price control incentivises the company to sell as much power as possible from its contracted generation thus spreading the fixed costs of the contracts over a wider customer base. However, these non-BST sales can be sold at a discount to the BST and participants have raised concerns that these are not being done in a fair manner, and is come cases may hamper competition in the market. Sales at the non-BST rate cannot be to the detriment of enhancing and encouraging competition in the Northern Ireland market.

NIE can sculpt some sales at a discount to BST. These sales are made on a non-discriminatory business and have been conducted in the past with several second tier suppliers. The rationale for these sales is to utilise as much as possible the contracted generation. Suppliers should be attracted to these sales because they are less than make-up prices.

These sales should cease with the SEM but in the meantime Ofreg seeks views from interested parties as to the effect such sales could currently distort competition in the market.

Chapter 4: Make-up and Spill charges

Summary

As well as setting the BST and PSO charges, NIE PPB also sets rates for secondary power for energy imbalances. These imbalances occur where a bilateral contract between a generator and supplier is nominated but there is a difference between their contracted position and the actual generation or consumption. In 2005/06 538GWhs were made up to second tier suppliers while generators spilled 86GWhs on to the system.

If generators require make-up this must be despatched. Because make-up occurs throughout the year the make-up charge is based on the average contracted plant.

Spill prices are set to reflect the costs of the plant which can react quickest to being displaced. This is the CCGT at Ballylumford.

The PPB is obliged to calculate and publish the BST and to sell electricity to suppliers on the basis of this. A third party requiring top-up pays a 'Make-up' price. There are two bands of make-up price, primary and secondary. Where the third party's imbalance is within 15% of the nominated contractual position, a primary make up price comprising the BST plus a carbon fuel cost adjustment applies. Where the imbalance is outside the 15% limit, the primary make-up price is escalated by a multiplier pre-approved by the Regulator to give a secondary make-up price.

'Spill' prices in Northern Ireland are based on an estimate of the system marginal costs. These are developed using a model of the NI electricity system. It is fixed in advance, and varies seasonally and by time of day.

Make-up prices (Secondary BST)

Prior to 2004, any energy provided as make-up was charged at an identical rate to that of the BST. On 1st April 2004, after regulatory approval, 'Secondary BST' was introduced for any imbalance energy charges over 15% of nominated electricity volume. Secondary BST was charged to participants depending upon the day and time, as with the BST but now included a multiplier added to the BST value which uplifted the charge. The reason for the introduction of the secondary BST charge was to discourage participants from being out of balance. The secondary multipliers were set to discourage imbalances particularly at peak times. For this reason, they were initially set at 1.56 during peak times and at 1 during night time hours. Following very serious imbalances during 2005/06 the multipliers were increased to 2.4 in winter peak hours.

In April 2005, the secondary BST price was adjusted to allow for a 'carbon uplift' charge. This charge, when introduced was £4/MWh, and increased to £10/MWh in October 2005 and to £12/MWh in April 2006.

Spill price

Spill prices are calculated using an estimate of the system marginal costs. Any energy spilled on to the system is purchased by NIE Supply at a fixed price. This price is fixed provided that the participant is within 10% or 10MWh (whichever is the lesser) tolerance band of its nomination. Any spill above this level is paid for at a lower rate, and spill payments in winter may vary also.

NIE originally devised a spill tariff to compensate private generators for generation they spilled onto the grid. NIE is required to purchase economically and the prices that have been derived over the years have been based on PPB's avoided fuel cost (avoided CO_2 cost is captured separately under the carbon uplift). With the implementation of the IME Directive in 1999, the Interim Settlement Code includes a mechanism for settling "spill" imbalances for both generators and suppliers. The rates were initially very simple due to the impact of low fuel prices and the marginal prices were largely based on summer gas prices consumed in the old Ballylumford plant. The spill prices paid since 1999 are shown in the table below.

NI Spill prices since 1999/00

Year	*Summer (Apr–Sept)*	*Winter (Oct – March)*
1999/00	1.0 p/kWh	1.5p/kWh
2000/01	1.0 p/kWh	2.0 p/kWh
2001/02	1.5 p/kWh	2.0 p/kWh
2002/03	1.5 p/kWh	1.5 p/kWh (23:00-07:00) 2.0 p/kWh (07:00-23:00)
2003/04	1.0 p/kWh	1.0 p/kWh (20:00-08:00) 1.5 p/kWh (08:00-20:00)
2004/05	1.0 p/kWh	1.0p/kWh – 2.7p/kWh dependent on day and peak times.
2005/06 ***2006/07***	1.2 p/kWh (19:00-09:00) 1.6p/kWh (09:00-19:00) 1.4p/kWh (19:00-08:00) 1.9p/kWh (08:00-19:00)	1.5p/kWh – 2.8p/kWh dependent on day and peak times. 1.5p/kWh – 3.5p/kWh dependent on day and peak times.

The combined effects of tighter plant margins over the last two winters combined with the significant increase in fuel prices resulted in NIE's avoidable costs and hence the spill prices being more variable.

The methodology NIE use to establish the value of spill at different periods throughout the year is to look at the plant that is being displaced and the fuel costs that can be avoided. Two runs are made on PPB's despatch model. The first despatch is based on the forecasted demand for the year and the second assumes a 5% demand reduction. The reduced fuel requirements between the two despatches are then valued on the basis of expected avoidable fuel prices and this enables the average avoidable generation cost to be calculated which represents the value of spill.

The following table shows the fuel price assumptions that have been used in the model. These are the same fuel price assumptions as were used in the tariff derivation for 2006/07.

Fuel	***Price***
Coal	£38.33/te
Summer Gas	35p/therm
HFO	£162/te
Distillate	£295/te

Carbon Uplift

A carbon uplift has been applied to the make-up and spill prices to reflect the advent of the European Union Emissions Trading Scheme.

The Make-up carbon uplift price is calculated on the basis of the average carbon intensity expected from the capacity contracted to PPB which is 0.65tonnes/MWh.

The Spill Price carbon uplift is calculated on the basis of the marginal carbon intensity of the Ballylumford CCGT which has the most sensitive Governor Droop and hence is the most sensitive to changing load/generation. The carbon intensity for incremental CCGT load changes is calculated to be 0.33 tonnes/MWh.

From 1 April 2006, the make-up and spill carbon uplifts were set as shown below - Using the carbon intensity values above and the CO_2 price of €26.50/tonne, with an exchange rate of £1=€1.45.

Make-up Carbon Uplift	1.2p/kWh	*(0.65*26.5/1.45)*
Spill Carbon Uplift	0.6p/kWh	*(0.33*26.5/1.45)*

Ofreg wishes to consult on the nature of the top-up and spill imbalance arrangements in Northern Ireland. Ofreg wishes to introduce transparency into the setting of the costs and suggests that they are published along with the BST. Fundamentally, are the bases for setting the make-up and spill prices appropriate? Is it correct that make-up should be calculated on an average cost while spill is calculated using a marginal cost?

<u>Views are sought on other questions:</u>

Are the rates for top-up and spill set appropriately and, in particular are the levels of the secondary multipliers set appropriately?

Can the imbalance charges be seen as discriminatory in that they affect certain generators such as incumbents more advantageously than others?

What are the consequences of reducing the rates of top-up charges, and / or increasing the rates for spill payments?

Is it appropriate to have separate carbon uplifts for the make-up and spill prices?

It must be borne in mind that the current arrangements for balancing will change with the advent of the Single Electricity Market. Balancing arrangements will take place at the pool price. Therefore any adjustments which result as a result of this consultation will be superseded by the SEM arrangements.

Chapter 5: The ROF Scheme.

The Renewable Output Factor mechanism was established in July 2002 as a method of assisting the Renewable market. The ROF was designed to remove the short-term imbalance risks for wind-generators by allowing balancing to occur on an annual basis and to introduce load-profiling rather than customer metering.

The ROF arrangements are therefore intricately tied-up with the balancing arrangements discussed in the previous chapter. Any changes made to the arrangements for make-up and spill will have repercussions for the viability of the ROF market.

NIAER has asked NIE to undertake a review of the Renewable Output Factor arrangements. NIE's consultation paper is attached at Annex 3

NIE's paper seeks comments were on whether there is a need to reduce the ROF factor and how any increase in support which such an action may warrant would be funded. Respondents to these questions are also welcome in a response to this paper.

Ofreg has been presented with very serious concerns from some suppliers with regard to the ROF mechanism stating that it is having a devastating impact on the Renewable Supply businesses in NI and a clear request has been made that it is scrapped no later than March 2007.

If the ROF market is removed this will have consequences for metering of customers currently availing from the scheme. At present under the ROF arrangements these customers' demand is estimated using a load profile.

Views are sought on whether it is appropriate to cancel the ROF arrangements in the next tariff year and if this is the case whether it is suitable to continue until the SEM using a load profile approach for former ROF customers.

Chapter 6: Tariff Timetable

For the tariff year commencing 1 April 2006, the approved tariffs were made available to market participants on the 20th February 2006. The six weeks between the publication of the tariffs and the commencement of the new tariff year was criticised by market participants. They argued that this short timetable did not allow them sufficient time to plan their business for the year ahead. With the additional problems they faced regarding tariff transparency and their lack of ability to forecast future tariffs from year to year, participants complained that they could not forecast what the tariffs might be for the year ahead. It has been argued that this hampers competitiveness in the market as it results in participants being unable to plan their sales for the year ahead

Ofreg recognises that it is important that tariffs are calculated and approved and published in a timely manner so that suppliers who have to pay the tariffs have enough time to sculpt their own tariffs and seek customers. Ofreg is aware that in the past there have been difficulties in publishing tariffs in a timeframe which would satisfy all suppliers.

From the 2007 tariff period onwards Ofreg proposes to make appropriate licence modifications to ensure that tariffs are submitted to the regulator at a certain date before the start of the tariff year. This timeline will allow the regulator sufficient time to analyse and agree the tariff structure with NIE, and for the tariffs to be made available to the market. (The duration of time between publication and adoption should endure into the SEM).

Early publication of tariffs is necessary because suppliers need visibility when making customer offers. However, the current tariff year (commencing April) does present some difficulties in predicting costs for the following spring before winter costs and demand are known. The two regulatory authorities will shortly be producing a paper on the alignment and treatment of tariffs in the SEM.

A suggested timetable for the tariff approval and publication process for the next tariff year is as follows:

- Tariffs sent to Ofreg for analysis — Start December 2006
- Ofreg to meet with NIE to discuss tariffs — End December 2006
- Tariffs to be approved by the Authority — January Authority meeting
- Tariffs published — Mid January

Ofreg would suggest that in future tariffs should be made available to market participants approximately three months prior to their commencement date, i.e. in December 2006 for the tariff year commencing 1 April 2007.

It is Ofreg's intention to put a permanent timetable into NIE's licence. The timetable will be made available to the market and any alterations to the timetable in the longer term will be consulted upon before being made. If it is decided to change the start of the tariff year these publication dates would be aligned with the new tariff year start date.

Respondents are asked to give their view on the proposed timeline for the publication of tariffs, and in particular the minimum time period before the start of the tariff year which they deem to be appropriate for the publication of tariffs.

Chapter 7: Tariff monitoring and cross-substitution between different customer types.

The tariffs outlined above are further sculpted depending on the type of customer paying for them. The PES tariff for example has around a dozen sub categories where different unit charges apply depending on the customer type. For example customers on a domestic home energy tariff pay 11.02p/kWh while others on a Maximum Demand Tariff: Medium Voltage (for large business customers) pay between 6.10p/kWh and 52.20p/kWh (depending on the day and season) plus a standing charge of £43 per month.

Over the next few months, Ofreg will be more fully examining the impact of these tariff bands and discussing with NIE the impact on different customer types of adjusting them. Comments are welcome on the appropriateness of the various tariff bands.

Chapter 8: Next Steps

Views are sought on the following questions raised in this paper:

- Whether the current process for setting electricity tariffs is appropriate of whether this process could be improved;

- Whether the concerns that PES will be at a competitive advantage in that it will have access to information in the PSO which is not available to other suppliers is a material concern or not;

- Whether the proposed format in Annex 1 for publishing tariff make-up information is appropriate;

- Whether non-BST sales currently distort the market, and if so, to what extent;

- Whether the rates for top-up and spill are set appropriately, and in particular the levels of the secondary multipliers;

- Whether it is correct that the make-up should be calculated on an average cost while spill is calculated using a marginal cost;

- Whether the imbalance charges can be seen as discriminatory in that they affect certain generators such as incumbents more advantageously than others;

- What the consequences might be of reducing the rates of top-up charges, and/or increasing the rates for spill payments;

- Whether it is appropriate to have separate carbon uplifts for the make-up and spill prices;

- Whether there is a need to reduce the ROF factor and how any increase in support which such an action may warrant would be funded;

- Whether it is appropriate to cancel the ROF arrangements in the next tariff year and if so, whether it is suitable to continue until the SEM using a load profile approach for former ROF customers;

- Whether the proposed timeline for the publication of tariffs is suitable, and what is deemed to be the minimum time period before the start of the tariff year which is appropriate for the publication of tariffs.

Responses should be sent to:

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The closing date for responses is 24 November 2006.

Please indicate if your response is confidential and cannot therefore be published.

ANNEX 1

The basic revenue formula for the current price control period was as follows:

$$MBt = At + Bt + Cat + Cbt + Dt + Kbt$$

Where:

Mbt means the maximum regulated energy sales revenue in relevant year t – on other words the revenue which the BST is set to recover.

At means the actual power purchase costs incurred in the purchase of electricity in relevant year t – This is the fuel and availability payments to the contracted power stations

Bt, **Cat Cbt** means the allowed power procurement incentive to encourage trading at both BST/franchise sales and non-BST sales

Dt means the allowed charge for excluded power procurement costs and changes of law

Kbt means a correction factor (whether a positive or negative value) to be applied to the maximum regulated energy sales revenue in relevant year t

The table below shows Ofreg's proposed format to release as much of this information as possible to the public:

Schedule 5A - BST Restriction Conditions

Information presented to Ofreg | **Proposed Information to Public**

Breakdown of PPB Power Purchase Costs -At (in nominal prices)

Cost Heading		2005/06 £m	2006/07 £m	Comments
Availability Payments				
Kilroot				
Ballylumford				
Coolkeeragh				
Moyle I/C	**NET Availability Payments**	96.730	101.691	*This has sufficient aggregation to limit the extent of information that could be reverse calculated by individual generators*
Gas Pipeline Commodity Charge				
Gas Pipeline Capacity Charge	**Gas Transportation Charges**	16.703	17.587	
Fuel Diversity Levy recovered via PSO				
Capacity payments recovered via PSO				
Excess generation costs recovered via PSO	**Excess costs recovered via PSO**	-32.000	0.000	*NO excess costs expected in 2007*
SSC Payments from TSO				
Sub-Total				
Energy Payments				
Kilroot				
Ballylumford				
PSWest				
Coolkeeragh				
Moyle Interconnector				
Sub-Total	**Total PPA and Moyle Energy Payments**	**242.148**	**216.907**	*The fuel price assumptions upon which the cost estimate is based can be published alongside*
Other Energy Payments				
Stocking				
BPT				
RPT				
System to System purchases from ESB				
System to System purchases from NGT				
Purchases from IPPs				
Other Payments				
Sub-Total	**Total Energy Payments**	**12.854**	**1.743**	
Total "A_t" costs (£m)	**Total "A_t" costs (£m)**	**336.435**	**337.928**	

PB Allowed Revenue nominal prices

Total "Bt" costs (£m)	**1.687**	*
Total "Cat" costs (£m)	**1.002**	*
Total "Cbt" costs (£m)	**4.317**	*

Breakdown of PPB Excluded Costs - D_t (in nominal prices)

Cost Heading		2005/06 £m	2006/07 £m	Comments
NFFO Generation	NFFO purchase costs	9.446	9.445	
less Excess NFFO Cost recovered via PSO	less Excess costs recovered via PSO	-4.310	-2.915	
Low NOx at Kilroot				
Power Station Rates	PPA Change in Law costs	1.903	2.079	*Propose to include FGD / CO2 permit costs in this category*
Generator TUoS	Generator TUoS charges	6.062	5.507	
ROF support costs recovered via PSO charges	Cost of ROF Support recovered via PSO	-8.950	-8.950	
Other Costs	Other costs	3.430	0.648	*Some of the elements could be listed e.g. Elexon and NGT charges, etc.*
Minimum CAt Revenue Entitlement Adjustment				
Total "D_t" costs (£m)	Total "D_t" costs (£m)	7.581	5.813	

Calculation of M_{Bt} (in nominal prices)

A_t		336.435	*	
B_t		*	*	
C_{At}		*	*	
C_{Bt}		*	*	
D_t		7.581	*	
K_{Bt}		*	*	
M_{Bt}	Total BST Revenue target (inc "K")	350.720	379.332	*Net revenue target including all costs, entitlements and K*

Actual BST revenue and the resulting "K" (in nominal prices)

Cost Heading		2005/06	2006/07	Comments
	BST Sales (GWh)	4950	4741	*Units Sent Out basis*
BST Unit Rate Income				
Fuel Price Adjustment Income				
Capacity Charge Income	BST sales Revenue (£m)	230.523	280.508	
Revenue from MEE sales to NI suppliers				
Revenue from NFF sales				
Revenue from Rathlin (Supply Bus. Trans.)				
Revenue from other sales	Other Revenue (inc makeup sales, etc) £m	92.303	98.824	
Actual BST revenue - R_{Bt}	Total Revenue (£m)	322.826	379.332	
Over/(Under) recovery		*	*	

* to be included

Schedule 5C - PSO Charge Restriction Conditions

Cost Heading		2005/06 £m	2006/07 £m	Comments
A_{PSOt} Costs (in nominal prices)				
Land Bank Subsidy	Net Landbank Cost	-0.077	0.173	
Excess NFFO Cost	Excess NFFO Cost	4.325	2.915	
Excess Rathlin Cost	Excess Rathlin Cost	0.169	0.168	
ROF Support Cost	ROF Support	8.950	8.950	
Total A_{PSOt} costs (£m)	Total A_{PSOt} costs (£m)	13.367	12.206	
B_{PSOt} Costs (in nominal prices)				
CBO cost allocation	CBO cost	29.580	29.584	
Total B_{PSOt} costs (£m)	Total B_{PSOt} costs (£m)	29.580	29.584	
D_{PSOt} Costs (in nominal prices)				
Non Domestic Energy Efficiency Levy	Energy Efficiency Levy funding	0.454	5.208	
Market Opening	Market Opening Cost Recovery	3.415	6.726	
Excess Legacy Generation Costs	Excess Legacy Generation Costs	32.000	0.000	
Other Income incl fuel diversity charge	Other Costs	6.805	5.066	*Surplus ROC Income not likely*
Total D_{PSOt} costs (£m)	Total D_{PSOt} costs (£m)	42.675	17.000	
Calculation of M_{PSOt} (in nominal prices)				
A_{PSOt}				
B_{PSOt}				
D_{PSOt}				
K_{PSOt}				
M_{PSOt}	Total PSO Revenue target (inc "K")	105.150	62.554	
	Total NI Sales (GWh)	8328	8385	*Units Sold basis - note different to BST units*

Annex 2: Ofreg Information Paper March 2006

Bulk Supply Tariff and Public Service Obligation Charge for 2006/07

NIE has recently published its Bulk Supply Tariff and Public Service Obligation charges for 2006/07. The tariffs have been approved by the NIAER. This paper provides commentary to furnish interested parties with additional information behind the calculation of the BST and some of the assumptions used in setting the BST and PSO.

NIE does not generate electricity in Northern Ireland but holds contracts with several power stations. The Bulk Supply tariff is set by NIE on customers of electricity essentially to meet the generation costs of electricity. Separate tariffs are charged for the transmission of electricity across the wires and for billing etc.

NIE does not supply all customers, however there are additional factors within the electricity supply system which are essential for its operation and which all customers benefit by. These inherent system costs need to be recovered across all electricity customers. The PSO is a levy designed to ensure that all customers, whether NIE's or not, pay for these additional costs.

Many of the underlying costs in the BST are subject to commercial contracts between NIE Power Procurement Business and other energy companies, both generators and suppliers. As such, this paper cannot describe in detail many of the underlying prices reflected in the final tariff. Rather, it is intended to give reassurance to industry participants that the process undertaken by PPB is fair and that the Regulator has undertaken a thorough review to ensure that the BST reflects a fair approximation of the long-run marginal cost of electricity in Northern Ireland.

The Bulk Supply Tariff is set by the PPB to ensure that it receives enough funds from its sales to meet the cost of purchasing energy from the contracts it holds with power stations under the Power Purchase Agreements which were signed at the time of the restructuring and privatisation of the Northern Ireland industry in the early 1990s.

The PPB is also incentivised in its price control to make additional bi-lateral sales. These sales are not set at the BST and are not discussed in this paper. To the extent however that they contribute to PPB's fixed costs they reduce the BST.

The cost elements covered by the BST are composed of many different elements the main basis for which was set in historical contractual

arrangements. The two largest components of the BST are Availability Payments and Fuel payments.

Availability Payments

The Power Purchase Agreements signed between NIE PPB and Premier Power Ltd and AES Kilroot include clauses where the respective stations are remitted for making capacity available for the production of electricity. These payments incentive the generators to have operating plant available – for example if a plant breaks down it will forfeit availability payments.

Some availability payments are recovered through the PSO as a fuel diversity charge. Any excess cost of the Kilroot contract along with the excess cost of LTI3 are also recovered through PSO charges and are also used to offset availability payments. The availability payments paid to generators are also partially offset by payments from SONI under System Support Contracts.

Gas transportation charges and the cost for acquiring interconnector capacity on the Moyle interconnector are also included in this category.

The total cost for all availability type payments is approximately £120million in the 2006/07 BST.

Fuel Payments

The second major category of expenditure in the BST relates to fuel payments.

Fuel payments are made to generators based on an agreed formula for each plant which takes internationally quoted fuel prices and adjusts these international prices to make them more accurate for the actual fuel cost for the specific station. For example the specific costs of transporting coal to Kilroot are factored into its fuel formula.

Prices are adjusted to take account of exchange rates, excise duty, inflation etc.

In order to set the BST the power procurement manager must make an estimate of the fuel burn for the forthcoming year. This requires forecasts of demand, power station efficiency and fuel costs at the contracted stations.

For 2006/07 the PPB has estimated a total fuel cost for the year of approximately £205million.

Demand

The following table sets out the forecast of load used in calculating the BST for 2006/07:

	2006/07 Forecast

Total NI Units Sold (GWh)	8385
Loss factor	0.922
Total NI Units Sent Out (GWh)	9094
Franchise Units sold by PPB (GWh)	4355
Franchise Units Sent out by PPB (GWh)	4741
Chargeable Peak Demand (MW)	1050
PPB Trading Sales (incl exports) (GWh)	2595

Underlying the above table are the following assumptions:

The market is fully contestable for all non-domestic customers;
The Moyle interconnector and Coolkeeragh CCGT are the main source of energy to supply the eligible market with some imports from Republic of Ireland;
The ROF market is expected to remain competitive;

(The forecasts also assume levels for pre-sales from NFFO & MEE, and for make-up sales and exports).

Other Costs

Other costs which have to be collected through the BST include Landfill tax, the purchase of energy from spill of small generators and the 'equivalent' cost of generation from Rathlin (the excess is recovered through a PSO charge).

NIE's administration costs are also included.

BST Total

The total income required to cover generation costs and PPB costs is estimated to be approximately £380million. After excluding income from MEE, bi-lateral sales, NFFO and export sales, there remains approximately £315m to be recovered from 5059GWh sales at BST prices.

For 2006/07 the capacity charge will remain at £36/kW and the unit charges will increase. The average BST charge for 2006/07 will be £51/MWh.

Public Service Obligation

The Public service Obligation is a charge levied on all units of electricity sold in Northern Ireland. It is intended to cover many of the legacy costs and other costs which for social reasons are spread over the whole customer base. Without a PSO, the costs they reflect would be borne only on those customers who are ineligible to switch supplier.

The main categories of cost which are covered by the PSO levy are as follows:

Excess NFFO Costs;

These are the costs associated with the running of the Non-Fossil Fuel Obligation plants. These small 'green' plants were contracted during the 1990s and generally cost more to produce electricity than fossil fuel plant. The excess cost is spread over all customers.

Fuel Diversity Costs;
This is a contribution to the cost of Kilroot power station which recognises the benefit of having a diverse fuel base for power generation.

Land Bank Costs;

NIE is required to maintain certain lands in the vicinity of power stations – the 'landbank'. The costs of the landbank can be significant such as those involving demolition of Belfast power station west.

Excess Rathlin Purchase Tariff;

The excess costs of the generators on Rathlin Island are treated as a PSO so that all customers pay.

ROF support costs;
Support for the Renewables sector and the fact that fixed costs are recovered over fewer units is treated as a PSO.

CBO cost recovery;

The contract between Premier Power Ltd and NIE was renegotiated in the early 1990s. Most of the existing contract was bought out by a customer backed bond. This enabled the power station to refired as a CCGT station – providing long-term overall savings to customers. The CBO payments are the cost of financing the bond and are spread though the total customer base as a PSO.

Market opening costs;

The administrative costs to NIE of establishing a competitive market are applied to the whole customer base.

Energy Efficiency programme funding;

The costs of running various energy efficiency programmes are also recovered as a PSO.

Excess legacy Generation Costs

Any excess legacy generation costs are included in the PSO in order that the BST would more fully reflect the long-run marginal cost of production at the NI power stations. NIE PPB had two contracts which were considered to be 'out of market'. These were long-term contracts which were signed before the market was restructured and opened up to competition. If they were to remain in the BST then as other customers left they would be left stranded on an ever decreasing customer base. It was decided that the appropriate solution was to take the out of market costs and pass them on as a PSO.

Enabling the BST to reflect the LRMC also has the advantage of setting clear market signals for entry pricing.

Since the 'out of market' costs of the Kilroot and Long-term interruptible (LTI3) gas contracts were established, the price of fuel in the market has increased to such an extent that for the 2006/07 tariff year these contracts are now deemed to be 'in market'. Therefore there is no PSO charge associated with these contracts for the 2006/07 tariff year and they are carried solely in the BST.

Notwithstanding the fact that the 2006/07 PSO does not contain excess legacy generation costs, Ofreg has agreed to set out the methodology which was used in the past to calculate the PSO charge in relation to these costs. The contracts themselves are commercially sensitive and therefore the actual figures will not be revealed. The following examples set out the methodology for establishing out of market costs:

Excess cost of LTI3

The calculation of the excess cost of the LTI3 contract is a fairly simple process and requires a few assumptions on gas prices. The process is as follows:

Take the contracted LTI3 cost for the year. Factor in the number of interruption days in the year (40). Assume a price for the gas that will have to be purchased on those days and finally calculate an equivalent annual price comprising the contracted and assumed interruptible price.

The next step is to assume an average market price of gas for the year. The excess cost of the LTI3 can easily be calculated as the difference between the

equivalent annual contract price and the market price times the number of therms consumed.

Excess Kilroot Cost

This is a more complex calculation and involves assumptions on what is the 'in market' price. For this calculation data on the Ballylumford CCGT plant has been used as this was deemed the most efficient plant in the Northern Ireland system. The costs of Kilroot versus Ballylumford were calculated. The calculation is run for several load factors at the two plants. Obviously this calculation and the assumptions underlying it are commercially sensitive and therefore only a description of the calculation is given here.

Ballylumford's availability costs less income from SSS and capacity payments gives a net capacity cost. To this an energy cost and a CO2 cost are added to give a gross p/kWh at the station (based on historic levels of load and efficiency)

Next Kilroot's energy and CO2 costs are calculated to give a Total Avoidable cost in p/KWh. The difference between the two stations gives a contribution to fixed costs. (Note how the Kilroot calculation does not include capacity costs).

Kilroot's excess costs are calculated as its availability costs (net of rates, SSS revenue, fuel diversity charge and capacity payment) less the contribution to fixed costs as calculated above.

Annex 3:

NIE's Review of the Renewable Output Factor Arrangements for 2006/07

Background

The Renewable Output Factor (ROF) Arrangements were established in July 2002 and interim agreements were concluded between NIE and a number of suppliers in the Northern Ireland market. The main objective of the arrangements was to stimulate a "demand" led market for the supply of renewable electricity to customers, which would in turn stimulate increased investment in renewable generation.

Prior to the introduction of the ROF arrangements, the trading and settlement arrangements for "eligible" customers were defined by the Interim Settlement Arrangements (ISA). These arrangements require the nomination of bilateral agreements between generators and suppliers and provide a balancing regime to settle any imbalances for generators and suppliers between their contracted position and their actual generation or consumption. However the requirement for firm output nominations on a day ahead basis creates a significant imbalance risk for intermittent generation and hence it was difficult for wind generation to participate within the Interim Settlement Arrangements, particularly where the retailer did not also serve a significant volume of "non-green" customer demand.

The ISA also requires customer consumption to be half-hourly metered but the installation of on-line half-hour metering was not considered to be cost effective for smaller customers i.e. the group who were most likely to take advantage of the RoF arrangements.

The ROF arrangements were designed to remove the short-term imbalance risks for wind generators by allowing balancing to occur on an annual basis (rather than in each settlement period) and to extend the customer base that could be reached by suppliers of renewable energy products through the introduction of a simple load profiling solution which avoided the cost of having to install half-hourly metering.

The original ROF Factor

The key commercial element of the ROF arrangements relates to the amount of electricity a supplier must procure and have delivered into the network for each unit the supplier sells to customers. The introduction of balancing over a longer time period effectively allows a supplier to 'bank' energy when the contracted generation exceeds its customers' demand and to draw down on this energy when the generation is lower than demand. However, the value of spill and top-up varies by time of day and by season and allowing a one-for-one exchange would have conferred significant economic benefit to suppliers operating under such arrangements, and would have created a significant

distortion when compared to the standard trading and settlement arrangements as defined by the ISA.

At that time renewable generation also benefited from Levy Exemption Certificates (LECs) and NIE carried out a study to determine the extent to which a supplier would need to purchase more wind farm output than it sold to customers. The objective of this study was to calculate the uplift factor such that the economic value of top-up equalled the value of spill when the generation and customer demand profiles were compared over a year. The customer demand profiles were pre-determined and hence represented a stable consumption profile. However the wind farm output obviously varied substantially throughout the year and the analysis used historic data from a number of years to compare the effects of different generation patterns. It was determined that the average uplift needed to balance the value of top-up and spill was 60% (i.e. for every 100 units a supplier sold to customers, they would need to procure 160 units of wind generator output to on average balance out the value of top-up and spill). In effect, the 60% surplus generation would have been necessary, with an “average” annual windfarm output to ensure equity with settlement through the ISA.

However, on the basis of the cost of wind generation at that time, Ofreg determined that the use of a factor of 60% would not facilitate the desired growth in demand for renewable electricity and hence in renewable generation. In order to stimulate the renewable market, Ofreg directed that the ROF arrangements be established using a ROF factor of 20% thereby providing economic support to the renewable generation sector. It was also agreed that the cost of this support should be funded by all N. Ireland customers and hence the ROF support costs were recovered from all customers as part of the Public Service Obligation (PSO) charges.

Initially, ROF suppliers assigned energy purchased under the NFF auction to the ROF market and the first independent wind farm was registered for settlement through the ROF market arrangements in November 2002.

Wholesale tariffs were restructured from April 2004 with the transfer of the legacy contract costs into the PSO charges. In 2004/05, customers supplied under the ROF arrangements were provided with economic support through being charged lower SSS and PSO charges.

ROF market sales

The ROF market has been a considerable success and there are currently over 10,000 customers registered to suppliers and settled under the ROF arrangements. The sales since the establishment of the ROF arrangements in July 2002 were:

2002/03	28 GWh	(9 months only)
2003/04	235 GWh	
2004/05	359 GWh	
2005/06	390 GWh	(c. 4.8% of N. Ireland demand)

NIRO - a new support mechanism for renewables

The Northern Ireland Renewables Obligation (NIRO) came into effect on 1 April 2005. This scheme provides a Renewable Obligation Certificate (NI-ROC) for each MWh of generation by a renewable generator. These certificates are fully tradable across the UK and are valuable since the NIRO and the equivalent RO in GB places an obligation on suppliers to present ROCs (or pay a buyout price) for a pre-defined percentage of their sales to customers. The buyout price is approximately £33.25/MWh but because the money collected from buyout payments is re-cycled to those suppliers who present ROCs, the value of ROCs has traded in the range £38 to £45 per ROC.

With the introduction of the NIRO as the primary mechanism to support the growth of renewable generation, it was determined by NIAER that the continuation of support under the ROF arrangements was no longer necessary. However, there was consensus in favour of continuing with a retail market for "green" electricity until the introduction of the all island wholesale market in 2007. In addition, there were a significant number of customers registered under the ROF arrangements who did not have half-hourly metering, and NIAER therefore determined that the ROF arrangements should be preserved until 2007.

The revised arrangements for 2005/06 and 2006/07 were set out in NIAER's decision that was communicated to market participants on 17 December 2004. This confirmed that the 20% ROF factor would be "grandfathered" to the extent of each supplier's annual sales in 2004/05. The reasoning for this grandfathering was defined as "recognising that renewable energy imported from RoI did not benefit from the support of ROCs" and therefore continued support was necessary for it to remain competitive. NIAER's decision also confirmed that it was proposed to remove economic support for any sales in excess of the 2004/05 levels since any new generation could benefit from ROCs. The decision stated that the ROF factor for any supplier's sales in excess of the grandfathered quantity would be 60%. The support provided under the SSS and PSO charges was also removed at this time. These revised arrangements were implemented from 1 April 2005.

ROF Factor for 2006/07

NIAER have requested that NIE conduct:

(i) a review of the ROF factor to determine if 60% was the correct level for 2005/06 to provide equivalence to settlement under the ISA; and

(ii) a review of the ROF factor that would provide equivalence to settlement under the Interim Settlement Arrangements in 2006/07.

The analysis of the appropriate factors for both 2005/06 and 2006/07 uses the actual demand and generation from 2005/06 as the input data. NIAER also requested that the analysis of the 2005/06 ROF factor be carried out using both (a) the actual ISA Make-up and Spill rates, and (b) ignoring the change to the secondary multipliers that was implemented from 30th November 2005.

The analysis for 2006/07 applies the published 2006/07 Make-up and Spill prices.

In all cases the value of the LECs associated with the energy that NIE would obtain through the ROF factor is taken into consideration. ROCs are not included in the analysis as their value is not considered in any of the settlement systems. As well as looking at the aggregated demand and generation data for the ROF market, NIAER requested that the analysis look at each supplier's ROF account as the customer base and registered generator output for each supplier is different. The outcome of the analysis is tabulated below.

	Aggregated ROF Supplier Demand and Generation	Range for individual ROF Supplier Demand and Generation
2005/06 Outturn tariffs	74%	72% - 99%
2005/06 no multiplier increase	60%	53% - 69%
2006/07 tariffs	67%	67% - 88%

ROF Factor for 2005/06

The analysis shows that there is a substantial degree of variation in the level of ROF factor that would need to be applied to individual suppliers to provide equity with settlement under the ISA. On the basis of the actual Make-up and spill rates, the ROF factor range is 72% to 99%. However, when the demand and generation is aggregated, the analysis shows the overall ROF factor should have been 74% to provide equity with settlement under the ISA.

The actual ROF factors that applied were 20% for the grandfathered sales totalling 359 GWh and 60% for the remaining 37 GWh. The consequence of using these factors is that £6.7m of support was provided under the ROF arrangements.

In the scenario where the Make-up multipliers are held at pre – 30th November 2005 level, the range of "suppliers" ROF factors is 53% to 69% and the overall aggregated market ROF factor is 60%. This equates to support amounting to £3.7m.

ROF Factor for 2006/07

NIE's analysis estimates that the ROF factor for 2006/07 would need to be 67% when considering the aggregated ROF demand and generation and using the Make-up and Spill rates as published for 2006/07.

In the absence of further growth in the ROF market, the retention of the current ROF factors (20% for the grandfathered sales and 60% thereafter) would represent ROF support of £6.8m to be funded by all customers in NI through increased PSO charges.

NIAER have also asked that we assess the impact of reducing the non-grandfathered ROF factor to 30%. The effect of such a change would be to increase the ROF support by £0.5m to £7.3m. Any demand growth that occurs as a consequence of a 30% ROF factor would also benefit from support/subsidy amounting to 1.4 p/kWh.

Consultation

NIAER have asked that NIE seek comments on this paper and in particular whether respondents:

1. consider there is a need to reduce the ROF factor for non-grandfathered ROF sales to 30% (from 60%)
2. consider it appropriate that all Northern Ireland customers fund the increased support of £0.5m that such a change would entail.

Responses should be submitted to James Curran (james.curran@nie.co.uk) by no later than 5pm on 17th November 2006.