



**Consultation on Relevant Considerations in  
Relation to the possible Cancellation of  
Generating Unit Agreements in Northern Ireland**

**10 March 2011**

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## 1 INTRODUCTION

### 1.1 EXISTENCE OF GUAS

There are currently eight Generating Unit Agreements (“**GUAs**”) in place between NIE Energy Limited (effectively its Power Procurement Business (“**PPB**”)) and electricity generators in Northern Ireland.

### 1.2 CANCELLATION OF GUAS

The Northern Ireland Authority for Utility Regulation (“**the Authority**”) has the power, as set out in a licence condition (“**the Cancellation Condition**”) contained within electricity generation licences (Condition 15) and the electricity supply licence of NIE Energy Limited (Condition 60) to direct the early cancellation of a GUA. Any direction to cancel early a GUA must be given at least 180 days in advance of the relevant early cancellation date. Details of each remaining GUA are provided in the table in Section 2.

### 1.3 PREVIOUS CONSULTATION

In 2009 and 2010, the Authority consulted upon the cancellation of those GUAs with an earliest cancellation date of 1 November 2010. The relevant consultation and decision papers are listed below:

Publication Date	Title
25 November 2009	<a href="#">Consultation on Relevant Considerations in relation to the possible Cancellation of GUAs in Northern Ireland</a>
29 March 2010	<a href="#">Second Consultation on Cancellation of GUAs in Northern Ireland</a>
10 June 2010	<a href="#">Decision Paper on Cancellation of GUAs in Northern Ireland</a>

The results of this consultation process were:

- The cancellation of the GUAs for the coal/oil fired Kilroot Generating Units No. 1 and No. 2 at the Earliest Cancellation Date of 1 November 2010;
- The retention of the remaining units at the Earliest Cancellation Date of 1 November 2010 (these contracts to be kept under review).

#### 1.4 PURPOSE OF THIS CONSULTATION

As can be seen in the table in Section 2, there are two GUAs for CCGTs at Ballylumford Power Station with an earliest cancellation date of 1 April 2012. The Authority is therefore consulting upon the potential cancellation of these GUAs. Those GUAs with an earliest cancellation date of 1 November 2010 which were not previously cancelled are also being consulted upon.

The Authority intends to follow the same process and consider the same factors during this consultation as it did previously. This consultation paper is therefore being issued in order to:

- Provide a summary of the process followed previously;
- Give an overview of the factors that were previously considered;
- Obtain the views of market participants as to whether there are any additional factors which the Authority should consider during this consultation.

## 2 GENERATING UNIT AGREEMENTS

### 2.1 EXISTING GUAS

Following the cancellation of the two GUAs for the Coal/Oil-Fired Units at Kilroot Power Station, there are eight GUAs remaining. Details of the GUAs still in force are contained in Table 2.1.

**Table 2.1 Expiry and Earliest Cancellation Dates of the Remaining GUAs**

Company	Generating Unit	GUA Contracted Capacity (MWs)	Fuel Type	Earliest Cancellation Date (ECD)	Contract Expiry Date (CED)
AES( Kilroot)	GT1	29	Distillate	1 Nov 2010	31 March 2024
AES (Kilroot)	GT2	29	Distillate	1 Nov 2010	31 March 2024
AES (Ballylumford)	CCGT 10	106	Gas	1 Apr 2012	23 September 2018 (with a five-year extension option exercisable by PPB with two years notice)
AES (Ballylumford)	CCGT 20	510	Gas	1 Apr 2012	23 September 2018 (with a five-year extension option exercisable by PPB with two years notice)
AES (Ballylumford)	G4	180	Gas	1 Nov 2010	31 March 2012
AES (Ballylumford)	GT1	58	Distillate	1 Nov 2010	31 March 2020
AES (Ballylumford)	GT2	58	Distillate	1 Nov 2010	31 March 2020
Coolkeeragh ESB	GT8	58	Distillate	1 Nov 2010	31 March 2020
<b>Total</b>		<b>1028</b>			

## 2.2 BACKGROUND TO GUAS

When the electricity industry in Northern Ireland was privatised in 1992, the generating stations were sold to private companies and Power Purchase Agreements (“**PPAs**”) were entered into between these companies and Northern Ireland Electricity plc .

The PPAs with each power station comprise two forms of agreement: a Power Station Agreement (“**PSA**”) relating to the station’s operation and a number of individual Generating Unit Agreements (“**GUAs**”) relating to each generating unit within the power station. These contracts are managed by PPB – a business unit within NIE Energy Limited.

The GUAs contain provisions relating to the purchase and payment by PPB for a number of services including the availability of capacity, the generation of electricity and the provision of ancillary services from each individual generating unit. The GUAs make provision for two categories of payment, namely:

- (i) energy payments, and
- (ii) availability payments.

**Energy payments** represent reimbursement of fuel costs, while **availability payments** represent reimbursement for acquisition costs and operating costs. Availability payments are paid irrespective of whether electricity is actually generated, subject to the unit being available to generate.

## 2.3 EARLY CANCELLATION OF GUAS

As can be seen from the table above, each GUA is scheduled to come to an end at its Contract Expiry Date (“**CED**”). However provisions were included in the GUAs to allow for cancellation from an earlier date, the Earliest Cancellation Date (“**ECD**”).

The GUAs can only be cancelled early where certain specified requirements – set out in the Cancellation Condition – are satisfied. In brief, the Cancellation Condition provides:

- that the Authority is entitled to serve a notice on PPB and the relevant generator party to a GUA directing them to terminate the GUA from a date, or the happening of an event, that is specified in the notice;
- that the Authority can only exercise this power if it has determined that requisite arrangements, which set out the requirements specified in the Cancellation Condition, have been developed; and
- the procedural requirements that need to be followed in order for the Authority to direct the early cancellation of the GUA.

On 23 October 2007, the Authority determined that the SEM constituted the requisite trading arrangements<sup>1</sup>. Many of the procedural requirements set out in the Cancellation Condition (including for example the requirement to consult) relate to the making of this determination and have therefore already been followed.

There is in effect only one procedural requirement which concerns the giving of the direction (i.e. the Authority exercising its early cancellation power). This is that the Authority needs to give at least 180 days' notice, of its intention to give a direction, to such persons as are specified in the Cancellation Condition. **In order to be in a position to direct cancellation of the GUAs for the CCGTs at Ballylumford Power Station on their Earliest Cancellation Date of 1 April 2012, the Authority intends to have its consultation process complete and be ready to issue notice, if necessary, by 4 October 2011.**

During the previous consultation process, the SEM Committee was asked to consider whether the potential Cancellation of GUAs was a SEM matter. (A SEM matter is one which the SEM Committee determines that the exercise of a relevant function of the Commission for Energy Regulation or of the Authority in relation to that matter materially affects, or is likely to materially affect, the SEM.)

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<sup>1</sup> [http://www.uregni.gov.uk/news/view/utility\\_regulator\\_issues\\_determination](http://www.uregni.gov.uk/news/view/utility_regulator_issues_determination)

The SEM Committee determined that since the economic analysis carried out indicated that only two GUAs should be cancelled, the exercise of relevant functions in relation to cancellation was not a SEM matter as it would be unlikely to materially affect the SEM (in terms of competition, security and diversity of supply, environmental impacts and liquidity).

The SEM Committee requested to be updated on the ongoing review by the Authority of the other GUAs. It was agreed that where the Regulatory Authorities were in doubt as to the question of jurisdiction in the future, the matter should be referred to the SEM Committee for consideration.

Consequently, the SEM Committee is being kept informed of this consultation process and will be asked to decide prior to any decision on cancellation or otherwise whether that decision is an SEM matter.



## 3 ECONOMIC ANALYSIS

During the 2009-10 consultation, the key consideration was the likely effect on PSO charges to Northern Ireland consumers resulting from cancellation (or otherwise) of each GUA between the earliest cancellation date and the contract expiry date. In order to determine the likely effects on the PSO, the Authority subtracted the costs faced by PPB in relation to each unit from the revenue PPB receives in relation to each unit for each year. This subtraction is a direct way of evaluating the net economic benefit of the contracts for consumers. **The Authority intends to repeat this methodology during this consultation process.**

### 3.1 GUA COSTS

All the payments under this sub-heading represent a cost to PPB, and therefore consumers, via the PSO.

#### 3.1.1 AVAILABILITY PAYMENTS

The Availability Payments of the GUAs remunerate the owner of the unit for the provision of generation capacity. For every MWh of availability, a “base” payment is made, called the Base Availability Credit.

The Availability Payments were forecast using the availability profiles produced from the Authority’s forecast *Plexos* model. These profiles were a function of the forced and planned outage rates for the units, based on historic performance and any known maintenance.

Availability rebates payable by the generator to PPB for plant inflexibility were rolled forward from historic performance.

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### 3.1.2 RELIABLE GT START PAYMENTS

An additional availability payment is made to the Gas Turbine (“**GT**”) units for each time they successfully start. This incentivises owners of peaking plant which are seldom called to operate to ensure that their unit is capable of providing generation when it is required. The assumed start reliability of each GT was taken from the historical performance and rolled forward.

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### 3.1.3 ENERGY PAYMENTS

The Energy Payments of the GUAs recompense the owner of the unit for the fuel-related costs of generating electricity. These payments have an important and elegant match to the Commercial Offer Data (“**COD**”) that must be submitted by PPB to the SEM for the units; essentially they are based upon the same principle of **opportunity cost**.

Because these two variables (COD and Energy Payments under GUA) are notionally equal they generally cancel each other out and as such were not modelled explicitly in this project. Instead, residual effects that can arise between the bids submitted and the costs paid under the GUAs were captured heuristically. The most significant of these are costs related to Variable Operation and Maintenance (“**VOM**”), which is captured implicitly under Availability Payments in the GUAs rather than Energy Payments. As such, this item appeared as a mismatch between the Energy Payment revenue and the SEM Energy Revenue taken by PPB.

Note that carbon emissions must be bid in to the SEM so the carbon emission costs faced by PPB are also cancelled out by the bids submitted to the SEM.

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### 3.1.4 OTHER GUA COSTS

PPB pay a suite of other costs, such as Transmission Use of System (“**TUoS**”), Market Operator charges, gas transportation capacity, electricity import charges, fuel stocking and

testing charges. These contribute only a small amount to the overall cost of the GUAs compared with the three items above.

In the Authority's model these parameters were forecast by rolling forward historic performance and historic values; TUoS charges were calculated using published rates<sup>2</sup>.

*A similar process will be followed for this consultation. Up to Date TUoS rates will be used.*

## 3.2 SEM REVENUES

There are two main revenue streams that PPB collects from the SEM: Capacity Payments and Energy Payments.

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### 3.2.1 CAPACITY PAYMENTS

All generators in the SEM are eligible for Capacity Payments which compensate the participant for the provision of available generation capacity to the market.

In the Authority's model, forecast Capacity Payments for each GUA Unit were calculated by inflating the capacity pot determined for the Annual Capacity Payment Sum for the Calendar Year 2010 by the forecast growth in demand used in calculating the energy payments. Each station's share of capacity payments was then calculated based on plant size, historic availability and taking account of the assumptions of new entry and exit.

*A similar process will be used for this consultation, taking account of up to date assumptions on entry and exit, and will be based on the 2011 capacity pot.*

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<sup>2</sup> [SONI TUoS Statement 2009-10](#)

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### 3.2.2 ENERGY PAYMENTS

It is assumed that the COD submitted by PPB matches cost paid for any fuel, carbon and VOM under the GUAs. However, there is a residual component of the Energy Revenue from the SEM which must be captured called the 'Infra-Marginal Rent'. This rent represents the difference between the costs submitted to the SEM (COD) and the System Marginal Price ("SMP") paid to the generator, when it is scheduled to generate.

For example, if Kilroot faced a £40/MWh cost to generate from coal, PPB would bid a value of £40/MWh in to the SEM. If the unit is scheduled in the SEM, and the SMP is, for example, £50/MWh, then PPB would enjoy a payment of £50/MWh while concurrently incurring a £40/MWh cost under the Energy Payment component of the GUA. As such there is a £10/MWh infra-marginal rent that is retained by PPB.

In the Authority's model, forecast energy payments for each generating unit, used to calculate the infra-marginal rent, are a product of the forecast unconstrained dispatch volume, or the Market Scheduled Quantity ("MSQ") and the forecast SMP.

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### 3.2.3 CARBON

Under the EU Emissions Trading Scheme, generators in Northern Ireland were allocated a share of the free CO<sub>2</sub> allowances until the end of Phase II which concludes on 31 December 2012.

These allowances transferred to PPB in all cases because of the Change in Law provisions within the GUAs<sup>3</sup>. Because of this allocation, PPB essentially enjoys a net asset in the form of these allowances because they can be sold or used to offset the cost PPB otherwise have to pay for the emission of carbon by the contracted units. The allowances therefore represent a significant amount of net wealth for consumers in Northern Ireland.

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<sup>3</sup> It should be noted that following a dispute, PPB and ESBI share the benefit of the CO<sub>2</sub> allowances granted in respect of the Coolkeeragh GT8 unit.

In the Authority's model the value of the free carbon allowances for each unit was calculated by multiplying the number of free allowances by the forward carbon price.

The Authority is aware that the UK Government is currently consulting on a carbon price floor mechanism to support investment in low carbon technologies, and will take account of any decisions, or minded to decisions arising from this consultation in its analysis. The Authority would welcome views on how this should be accounted for.

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#### 3.2.4 ANCILLARY SERVICE REVENUE

Under the GUAs, the units are required to provide services such as spinning and replacement reserve and reactive power to a very specific technical standard, but no payment is explicitly made. Instead, the value of the services is accounted for under the Availability Payment.

These services are purchased by the System Operator for Northern Ireland ("SONI") and the revenues are retained by PPB. The ancillary service rates can be found on SONI's website ([www.soni.ltd.uk](http://www.soni.ltd.uk)).

*A similar process will be used for this consultation, using up to date Ancillary Service rates.*

### 3.3 MODELLING INPUTS AND ASSUMPTIONS

A Base Case was run in which the Authority configured its *Plexos* market forecasting software with the following input assumptions. Sensitivity Analysis was then carried out around this Base Case. Forecasts such as fuel and carbon, as well as exchange rate were 'locked-in' within the final model on 21 April 2010.

## **Fuel Prices**

Forward fuel price inputs were taken from the Authority's *Platts* data service. These were also cross-checked where available with data from the *Intercontinental Exchange* ("ICE"). Exchange Rates were taken from [www.oanda.com](http://www.oanda.com).

## **Carbon Prices**

Forward carbon price inputs were taken from the *European Climate Exchange* website and were also cross-checked where available with data from the ICE.

## **Generation and Demand**

Assumptions were taken around demand growth, generation commissioning and decommissioning and wind growth.

Details such as heat rates, Transmission Loss Adjustment Factors ("TLAFs") and VOM were based on validated model configurations provided by the Authority's consultants, *Redpoint*, in late 2009.

## **Change in Law**

The only Change in Law element which was included in the model and which will be relevant for this consultation is the termination of free carbon allowances on 31 December 2012.

## **3.4 SCENARIOS**

The Authority ran several scenarios on a number of key variables in order to test the sensitivity of the results to changes in these variables.

### **High Gas Price Scenario**

This was especially important during the last consultation when the economic position of the coal-fired units at Kilroot were being considered. It was identified that the contribution of infra-marginal rent to the favourability of the GUAs for the coal-fired units could be very sensitive to the relative gas and coal prices. The relative price of gas and coal affect the

merit order of CCGTs and coal-fired units and determine how often they will be run and therefore earn infra-marginal rent.

To test this effect, the forward gas price was increased by 15%. The other fuel prices and all other inputs were kept the same as per the Base Case.

### **High Carbon Price Scenario**

If the price of carbon is high, it increases the relative cost of coal (as it is very carbon-intensive compared to other fuels), so that coal units are less likely to run and therefore will earn less infra-marginal rent. However, the value of the free carbon allowances (which were then retained by PPB) will increase, potentially offsetting the effect.

The Authority therefore ran a scenario whereby carbon prices were inflated by 20% to test this effect.

### **Slow Investment Scenario**

The Base Case described above is based on a number of assumptions around new entry of plant. The Authority tested the effect of reduced new build and the supply margin was therefore tighter than under the Base Case.

When the supply margin tightens SMP tends to increase. The increase can be significant if the margin tightens sufficiently. An increase in the SMP usually translates directly to an increase in the infra-marginal rent earned by plants in the SEM. Such an increase would be expected to have a positive impact on the favourability of the GUAs. The tightening also has the effect of increasing all Capacity Payment Mechanism (“**CPM**”) revenues for all the GUA units.

## 4 POLICY CONSIDERATIONS

Cancellation is not exclusively an economic concern. There are also a number of non-economic policy considerations which were taken into account. In the exercise of its functions, the Authority is guided by its statutory principal objective and duties.

The principal objective of the Authority with respect to its electricity functions is to:

“protect the interests of consumers of electricity of supplied by authorised suppliers wherever appropriate by promoting effective competition between persons engaged in or in commercial activities connected with the generation, transmission or supply of electricity”

In furthering this principal objective, the Authority must have regard to:

“The need to secure that all reasonable demands for electricity are met”, and  
“The need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under Part 11 of the Electricity (Northern Ireland) Order 1992 or the Energy Order (Northern Ireland) Order 2003”.

The Authority may or must also have regard to a number of additional matters including securing a diverse, viable and environmentally sustainable long-term energy industry.

Finally, the Authority shall not discriminate between electricity companies in the exercise of its functions.

Factors which the Authority took into consideration previously include:

- Security of Supply
- Diversity of Supply
- Competition and Liquidity
- Environmental Sustainability



## 5 NEXT STEPS

The Authority intends to be in a position to determine whether or not it should exercise its early cancellation power in time for the cancellation of the relevant GUAs to take place on **1 April 2012**, should that be appropriate. The Authority would like to re-iterate that all remaining GUAs are being considered for cancellation.

The Cancellation Condition requires the Authority to give at least 180 days' notice of the intent to direct the termination of the GUAs. This means that should the Authority wish to direct the termination of any GUA from 1 April 2012 (the earliest possible date) it would need to have given such notice by no later than **4 October 2011**.

Once the Authority has considered the responses to this consultation, the detailed economic analysis as described in Section 3 will be completed. The Authority will then come to a minded to decision in regard to cancellation. A second consultation will then be published containing the results of this analysis and the minded-to decision. It is envisaged that this will be an eight week consultation. It should be noted that this minded-to decision will not be binding and that the Authority will reach a final decision after this eight week consultation period.

## 6 RESPONSES

Views are invited on the proposals described above, namely:

- The Authority will follow the same process as followed for previous consultations;
- How the Authority should take account of the proposed carbon price support mechanism within its analysis;
- The Policy Considerations which will be taken account of;

Responses should be addressed (preferably in electronic format) to **Kenny Dane** at [kenny.dane@uregni.gov.uk](mailto:kenny.dane@uregni.gov.uk) by **17.00hrs** on **8 April 2011**.

Confidential responses must be clearly marked and where possible, included in an Appendix.