Single Electricity Market Committee

Directed Contracts Implementation for 2011/'12

A Decision Paper

SEM-11-017

13th April 2011

Table of Contents

1. Introduction

1.1 Background

Since 1st November 2007 the Northern Ireland Authority for Utility Regulation (Utility Regulator) and the Commission for Energy Regulation (CER), together referred to as the Regulatory Authorities or RAs, have jointly regulated the all-Island wholesale electricity market known as the Single Electricity Market (SEM) covering both Northern Ireland and the Republic of Ireland. Further details on the project can be found on the AIP website at www.allislandproject.org.

The SEM includes a centralised gross pool (or spot) market which, given its mandatory nature for generators (above 10 MW) and suppliers, is fully liquid. In this pool electricity is bought and sold through a market clearing mechanism, whereby generators bid in their Short Run Marginal Cost (SRMC) and receive the System Marginal Price (SMP) for each trading period for their scheduled market quantities, as well as other revenue streams. Suppliers purchasing energy from the pool pay the SMP for each trading period along with other costs.

Risk Management is an integral element of the efficient and effective operation of the SEM. To date there have been offerings of 2-way Contracts for Differences (CfDs) which have enabled generators and suppliers to manage and hedge the wholesale price - i.e. SMP - risk inherent in the SEM. CfDs assist both wholesale and retail competition to the ultimate benefit of final customers. This is because the ability of generators and suppliers to enter into and access contracts enhances the financial certainty, flexibility and innovation of participants in both the wholesale and retail markets.

Directed Contracts (DCs) are CfDs which are imposed by the RAs on the incumbent generator - ESB PG and NIE Energy PPB - with market power in the SEM. This is part of the RAs' Market Power Mitigation Strategy (see section 2). On 17th February 2011 the RAs published a consultation paper (SEM-11-007) on the approach that would be applied to DCs for the forthcoming tariff year, i.e. from 1st October 2011 to end September 2012. Two scenarios were presented in the paper for comment - DCs could be offered either annually (only) in Q2 of this year, as had been the case to date, or they could also be offered on a shorter-term basis too.

1.2 Purpose of this Paper

Taking on board comments received to the consultation, the SEM Committee[1] is issuing this decision paper which includes:

- A background the different types of contracts available for the next tariff year - see section 2;
- A summary of comments received and the RAs' response - see section 3;

[1] The SEM Committee is established in Ireland and Northern Ireland by virtue of section 8A of the Electricity Regulation Act 1999 as inserted by section 4 of the Electricity Regulation (Amendment) Act 2007, and Article 6 (1) of the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007 respectively. The SEM Committee is a Committee of both CER and NIAUR (together the RAs) that, on behalf of the RAs, takes any decision as to the exercise of a relevant function of CER or NIAUR in relation to an SEM matter.

- A decision on the approach to be taken to DCs for the next tariff year - see section 3;

- Information on the fuel/carbon indices that will be used in forecasting SEM prices, DCs and other market outcomes - see section 4.

- Information on the detailed implementation of DCs for the next tariff year, including DC timelines, products, volumes and eligibilities, which broadly follows the same approach consulted and decided on last year - see sections 5 and 6.

  Please note that there may be some changes to sections 5 and section 6 on account of the market power and liquidity workstream which is considering, among other things, the issue of whether ESB may re-integrate various businesses. If there are any changes (to sections 5 and 6) resulting from this workstream, this paper will be updated by the RAs accordingly. For further details on the market power and liquidity project, please see the following link:

  http://www.allislandproject.org/en/market_current_consultations.aspx?article=682a98fe-9c18-4c73-8fa3-57e75d24d85e

2. Background to Contracting for 2011/'12

There are currently three types of CfD being offered in the SEM. Details on the different types of CfDs, including DCs, is provided at SEM-10-057 at the following link:

http://www.allislandproject.org/GetAttachment.aspx?id=e83a335f-8366-416c-a6fe-96a0d54b1721

The different types of CfDs are summarised below along with information on the approach for the next tariff year.

2.1 DCs

Incumbent generators, ESB PG and NIE Energy PPB, are required by the RAs to offer DCs in order to mitigate their market power. As they are "directed", it is the RAs, after consultation with industry, who decide on the methodology, pricing and quantity of these DCs. The intent of DCs is effectively to reduce the amount of generation that those incumbents who are subject to DCs will be receiving spot-based prices from through the SEM. This means they have a reduced incentive to submit commercial bids into the SEM above competitive levels, or otherwise withhold capacity, in order to influence spot prices or future contract price, hence mitigating their market power.

Section 3 of this paper provides an overview of the approach to DCs for the next tariff year, section 4 decides on the fuel/carbon indices that will be used in deriving DCs, while sections 5 and 6 explain the detailed DC implementation rules and timelines.

2.2 PSO-related CfDs

In recent years CfDs associated with the Public Service Obligation (PSO) levy in Ireland have been offered.

An RA paper, "2011'12 Contracting Process, including PSO-related CfDs", has been published **today** with this paper and this includes details on PSO-related CfDs that will be available for the forthcoming tariff year.

2.3 NDCs

In addition to the DCs, generators can offer forward NDCs in the SEM which suppliers are free to bid for. The RAs have no role in setting the price/volume of these forward contracts, although we do promote their provision. To date there have been two parties who offer NDCs to the all participants in the market, ESB PG and NIEE PPB.

Details of NDCs to be offered for the forthcoming tariff year are includes in an RA paper published **today** (referred to above), "2011'12 Contracting Process, including PSO-related CfDs".

3. DC Approach for 2011/'12

3.1 DC Options

To date in the SEM, every year the RAs' have offered DCs on an annual basis for the forthcoming tariff year - for example last year the subscription windows were held from late April to early June, covering each quarterly product for the entire 2010/'11 tariff year (see SEM-10-022 for details).

On 17th February 2011 the RAs published a consultation paper (SEM-11-007) on the approach that would be applied DCs for the next tariff year. Two scenarios were presented in the paper for comment - DCs for the 2011/'12 tariff year could be offered either annually (only) in Q2 of this year, as had been the case to date, or they could also be offered on a shorter-term basis. Specifically, either all DCs would be offered for the whole tariff year (in advance of the year) as has happened to date or there would be a mix between long and short-term subscription windows: 50% would be offered long-term for the whole tariff year and 50% would be offered quarterly as short-term quarter-ahead product. A high-level timeline and an overview of the workability of either approach was provided.

3.2 Comments & RA Response

The RAs received comments to SEM-11-007 from 8 parties as follows:

- Vayu
- Bord Gáis Energy
- Endesa Ireland
- The Consumer Council
- Airtricity
- Viridian
- NIE Energy Supply
- ESB Electric Ireland.

Summary of Key Comments

The comments received are published with this paper. Below is a summary of the key comments made on the core issue raised in the consultation paper, followed by a response from the RAs.

A majority of respondents favoured offering a mix of long-term and short-term DC offerings for the next tariff year. These respondents stated that such an approach would have the benefits of allowing suppliers to make more informed decisions about contracts offered and would better reflect actual conditions in the market. One party said this was especially welcome in light of an expected termination of PSO-related CfDs for the coming tariff year.

Two respondents were, however, in favour of retaining the current annual-only approach to DCs, for tariff-setting purposes and given the added complexity/resources required with a mixed long/short-term approach.

In any event, there was a clear call from market participants for the RAs to maintain the DC regression pricing formulae. This is because the formulae are considered important in providing transparency around DC price derivation, while it is also used for credit cover calculation purposes for NDCs.

On a related matter, only one party commented on the fuel/carbon indices proposed, stating that one of the indices proposed provides consistently different data from the one previously used.

RA Response

The RAs have considered the responses received and have decided to continue with the current approach to the offering of DCs for the next tariff year, i.e. have one offering of DCs in a similar manner to previous years.

This is due to the desire for market participants to have available a mix of long-term and short-term contract offerings. Such a mix allows suppliers to plan ahead their contracting levels for customer tariff-setting purposes while also allowing them to increase contracting volumes closer to real-time if needed (say if their customer base increases from projections). Now that the RAs have confirmed the continued existence of PSO CfDs for the next tariff year (see a separate RA paper published on the same date as this paper, called “2011’12 Contracting Process, including PSO-related CfDs”), and given that these products will be offered on a regular short-term basis, to preserve an appropriate mix of long-term and short-term offerings the DCs will be offered once as quarterly product across the year.

The RAs also confirm that the DC pricing regression formulae will continue this year on the basis of the transparency benefits provided to market participants. A single-offering approach to DCs particularly facilitates this.

Finally, on the indices proposed for PLEXOS, the RAs checked the index referred to by one respondent and found that it is not significantly and consistently different from the one previously used.

3.3 RA Decision on DCs 2011/’12

For the reasons outlined above, the RAs have decided that an annual DC subscription window will be held once before the tariff year in a similar manner to previous years. This will continue to consist of a primary/initial and supplementary subscription window. Details on the timelines and process involved for DC volumes, eligibility and pricing are provided in sections 5 and 6 of this paper.

4. Forward Carbon/Fuel Sources

Separately, and for information, the RAs stated in the consultation that they had reviewed their subscriptions to the forward fuel indices used as part of forecasting SEM prices, DCs and other market outcomes in PLEXOS. No strong objections were received to the indices proposed. Hence the RAs confirm that, as per the previous paper, the following indices will now be used for this year's DC process:

- Fuel Oil – Reuters (subscription Eikon package), rather than Platts as used last year;
- Gasoil – Reuters (subscription Eikon package), rather than Platts as used last year;
- Carbon – BlueNext (free web source), rather than Leba as used last year.

The Gas and Coal sources, the ICE (free web source) and the Argus (subscription), respectively, will be unchanged.

Details of each of the particular fuel sources that are being used by the RAs in PLEXOS are provided below.

Description	Source
Gas oil 0.1% FOB NWE Energy Swap Contract	Thomson Reuters Eikon
Low Sulphur Fuel Oil FOB NWE Energy Swap Contract	Thomson Reuters Eikon
Coal ARA CIF Swaps Quarter/Year	Argus Media
ICE UK Natural Gas Futures (Quarters)	ICE
Carbon (settlement prices 2011/2012)	BlueNext
EURO Exchange Rates	European Central Bank

5. DC Modelling and Methodology

The DC models and methodologies used and consulted on in recent years will continue to be applied by the RAs this year in determining DC volumes, eligibilities and prices.

At a high level, the main models and methodologies utilised are provided below. Further details on the methodologies to be applied can be found by reference to last year's DC Implementation Report, SEM-10-016, which in turn references the previous consultation SEM-10-005, available at the following links:

http://www.allislandproject.org/en/market_decision_documents.aspx?page=2&article=7f688b48-718a-4e2b-a18e-00a7450c0242

http://www.allislandproject.org/en/market_current_consultations.aspx?article=763a5e12-7345-499a-90ef-89b47b8f9ec9

5.1 Concentration Model

The Concentration Model used by the RAs calculates the quantity of DCs that ESB PG and NIE Energy PPB will be required to make available to eligible suppliers, using the Herfindahl Hirschman Index (HHI) as a measure of market concentration. This model relies on PLEXOS inputs and outputs. Hence, a validated PLEXOS model is required before the Concentration Model can be used. DC quantities are determined using the HHI for 3 different generation market segments: baseload, mid-merit and peaking, with each examined by quarter in the tariff year. The target HHI for each of these segments is set by the RAs and for each year is at 1,150. The DC quantities for ESB PG and NIE Energy PPB are set such that market concentration in the SEM (as calculated by the model) is below this threshold. The process works as follows:

- The RAs input fuel data into a validated PLEXOS model to give a forecast of half-hourly SMPs and Wind/Hydro Generation. For each half hour the "Market Concentration" is calculated. Only potentially competitive capacity is counted, defined as capacity with cost less than or equal to 1.05*SMP - essentially each generator's market share is based on the generator's running which in turn is based on whether it is within the 1.05*SMP threshold.

- Based on this the HHI is determined for the market to determine its concentration, divided into baseload, mid-merit and peaking by quarter.

- If the HHI exceeds the HHI threshold level of 1,150 for these segments, the incumbent with the largest baseload market share in that month (ESB PG or NIE Energy PPB) is allocated 1% of said share as a DC quantity. This is repeated, with allocated DC quantities not contributing to the HHI, until the monthly baseload HHI is below this threshold level.

5.2 Eligibility Model

The Eligibility Model determines the eligibility of each eligible supplier for DCs, calculating eligibility separately for each quarter and each product-type (peak, mid-merit, and baseload). The calculations are performed in an MS Excel spreadsheet. The volume of DC contracts by product type (baseload, mid-merit, peaking by Quarter) is allocated to suppliers based on their share of customers' in each category in the market.

This year it is anticipated that this will be the share as of late May / early June 2011. Essentially a supplier's eligibility for a DC product is calculated using their share of MICs for each customer category, the profile of consumption in each customer category and the total annual consumption of each customer category.

5.3 Econometric Pricing Model

The RAs determine the price of the DCs each year. Using a validated PLEXOS model, and by populating it with fuel/CO2 scenarios, the RAs develop regression pricing formulae for each of the DC products by quarter. This formula is used to price the DCs when suppliers subscribe to the quantity for which they are eligible during the annual DC subscription process. The advantage of this formula is that is it is simple and can be used by all suppliers to calculate the price of the DCs.

6. DC Timelines and Process

6.1 Timeline for Implementation

An overview of the timeline for the implementation of the DCs for the 2011/'12 tariff year is shown in the table below. Each step in the timeline is then described in the following sections.

The timelines in the table below and across section 6 are high-level estimates. They are based on the latest estimates for when PLEXOS, the model used to derive DC prices and volumes, will likely be validated (late May). As indicated in the table, the exact dates for the DC subscription windows will be published with the paper on DC quantities and prices (which is expected in mid June).

Generally speaking, while the dates are changed from last year, there is no significant change to the overall DC process. Any changes are highlighted as appropriate.

Key Contracting Milestones	Date
RAs publish DC Implementation Report	Today, 13th April
RAs publish paper on 2011/'12 Contracting Process, including PSO CfDs	Today,13th April
RAs publish DC Master Agreement (with and without track changes)	Late April
Completion of PLEXOS Validation and RA Workshop	Late May / Early June
DC Seller(s) send Subscription Guidelines to eligible suppliers	Early June
RAs publish paper on DC quantities and pricing, inform suppliers of DC eligibility, and confirm exact timelines for remainder of DC process	Mid June
RAs publish detailed DC rules by DC Seller(s), incl. track changes from last yea	Mid June
Participants Sign DC Master Agreement	Late June
DC Primary Subscription Window	Late June - early July (12 working days)
DC Supplemental Subscription Window	July (5 working days)
New Tariff Year	1st October 2011

6.2 Publication of Aggregate DC Quantities

As explained in section 5, the Market Concentration Model will be used to determine the final DC quantities, using a target Herfindahl-Hirschman Index (HHI) set by the RAs.

The RAs will publish, in the form of the table below, the final DC quantities, by quarter and product, and separately for ESB PG and NIE Energy PPB, in **mid June 2011**.

	ESB PG Directed Contract Quantities			*NIE Energy PPB Directed Contract Quantities*		
Quarter	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)
Q4 2011						
Q1 2012						
Q2 2012						
Q3 2012						

This information will be published in a document on DC quantities, prices and supplier eligibilities. It will be in a similar format to last year's paper - see SEM-10-022 at the following link:

http://www.allislandproject.org/en/market_decision_documents.aspx?page=2&article=94e789fa-a86c-42a3-944a-919766a1850b

6.3 Publication of DC Pricing Formula and Indicative Prices

How the "Econometric Pricing Model" works is described in section 5. The RAs will publish the final pricing formula for DC transactions along with indicative DC prices based on this formula, in the paper referred to above on DC quantities, prices and eligibilities, in **mid June 2011**.

The formula expressed is the forward electricity price, i.e. the strike price in the Contract for Differences Agreement, as a non-linear function of the forward fuel and carbon prices. Last year's regression constants and coefficients are shown in the table below.

$$DCStrike_{q,p} = \alpha_{q,p} + \beta_{q,p} * NG_q + \gamma_{q,p} * (NG_q * NG_q) + \delta_{q,p} * CL_q + \varepsilon_{q,p} * C_q$$

The regression constants and coefficients are in the table below.

			Coefficients			
			Multiply Gas coefficient by euro/therm Gas price and all other coefficients by euro/tonne fuel or euro/tonne C02 price. The Gas Squared coefficient should be multiplied by the square of the euro/therm Gas price (this squared figure has units of euro^2/therm^2)			
Contract (p)	**Quarter (q)**	**Constant ($a_{p,q}$)**	**Gas ($\beta_{p,q}$)**	**Gas * Gas ($\gamma_{p,q}$)**	**Coal ($\delta_{p,q}$)**	**CO2 ($\varepsilon_{p,q}$)**
Baseload	Q4 '10	11.65	67.01	0.00	0.0042	0.4519
Mid-Merit	Q4 '10	16.91	70.41	0.00	0.0055	0.4588
Peak	Q4 '10	-6.12	252.72	-195.72	0.0377	0.6237
Baseload	Q1 '11	9.85	68.60	0.00	0.0138	0.4095
Mid-Merit	Q1 '11	13.36	71.17	0.00	0.0179	0.4831
Peak	Q1 '11	-1.18	195.01	-136.83	0.0509	0.5629
Baseload	Q2 '11	7.89	70.70	0.00	0.0310	0.3865
Mid-Merit	Q2 '11	11.69	72.01	0.00	0.0415	0.4628
Baseload	Q3 '11	4.65	71.74	0.00	0.0968	0.5088
Mid-Merit	Q3 '11	9.91	74.61	0.00	0.1049	0.5887

Please see SEM-10-022 for further details. It is anticipated that a formula of this form will be used to price the DCs this year. However, if it becomes apparent that this form is not satisfactory as the DC Pricing formula is developed, then a different form may be chosen.

6.4 Publication of the Eligibility Matrix for Suppliers

As explained in the description of the Eligibility Model in section 5, a supplier's eligibility for DCs with a given seller will simply be that supplier's total eligibility for DCs multiplied by that seller's share of Directed Contract quantities for a given product and quarter.

The Meter Data Providers (in NIE and ESB Networks) will provide the RAs in late May / early June 2011 with the Maximum Import Capacity (MIC) data that will, along with historical "deemed" average load by customer types, determine the final DCs supplier eligibilities. The MIC data will be by supplier by customer type and will reflect a snapshot of maximum import capacity at a given date. The MIC data may be adjusted for any known pending customer supplier changes.

Using MIC data and the historical load shape for each customer type (see SEM-10-005 published last year), the RAs will create a matrix that specifies how the MW eligibility for each type of DCs is derived for each supplier, given that supplier's MVA of MIC for each customer class. Once the MIC data is adjusted as necessary, it will be input into the Eligibility Model that has a matrix of MW eligibility for each Contract for Difference type by customer class and the resulting final eligibilities by product and by quarter will be communicated by the RAs to the suppliers.

The RAs will communicate to suppliers individually the final DC eligibilities in **mid June 2011** in the form of the table below (this will be confidential to the supplier), at the same time that it published its DC quantities, prices and eligibilities paper. The RAs will also notify eligible suppliers individually of their total MIC and the corresponding aggregate MIC of all suppliers for each of the customer classes at the time their eligibility for DCs is communicated to them.

	[Supplier Name] Eligibilities for Directed Contracts with ESB PG			*[Supplier Name] Eligibilities for Directed Contracts with NIE Energy PPB*		
Quarter	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)
Q4 2011						
Q1 2012						
Q2 2012			n/a			n/a
Q3 2012			n/a			n/a

6.5 DC Master Agreement & Rules

DC Agreement

The start date for DCs is 1st October 2011[2] and the term of the DC Master Agreement between the purchaser and seller will be for a full twelve months. The 2011 Agreement will, it is expected, be published by the RAs in **late April 2011**, both in full form and showing any changes from last year's version (via track changes). It is anticipated that there will be no material changes from the Agreement published last year. When the Agreements are executed, the parties to the contracts will need to complete certain items. These items include:

- Names of the buyer and seller (cover sheet);
- Date of execution;
- Jurisdiction of corporate organisation;
- Currency of transaction, (throughout the Agreement, i.e., euros for ESB PG as the Republic of Ireland (ROI) seller and UK pounds sterling for NIE Energy PPB as the Northern Ireland (NI) seller);
- Applicable regulatory authority of transaction, (throughout the Agreement, i.e., the Commission for Energy Regulation in the case of ESB PG as the seller and the Utility Regulator in the case of NIE Energy PPB as seller);
- Bank name for interest calculation;
- Signatories;
- Addresses and contact information.

[2] The contract start date refers to the date upon which the difference payment obligations begin. The Contract for Differences Agreement will be executed in advance of the contract start date.

In addition, when eligible suppliers elect to subscribe to DC quantities during either the Primary or the Supplemental Subscription Windows, their elections will be recorded and confirmation letters - in the form of Schedule 6 - will be made part of the Directed Contract for Differences Agreement.

The Master Agreements are executed in advance of the Primary Subscription Window so that the commercial arrangements that will govern any transactions that are, at the election of the supplier, executed during the Subscription Window are in place. The rights and responsibilities associated with transactions under the Master Agreement will not be triggered until transactions have been executed during the Primary Subscription Window.

The Master Agreements will be executed this year by the DC sellers (ESB PG and NIE Energy PPB) and eligible suppliers **shortly before the Primary Subscription Window** which is anticipated to start in late June (see next section).

DC Rules

The detailed rules from the seller(s) of the DCs will be published by the RAs in **mid June 2011**, with any track changes from last year also shown. No material changes are anticipated at this stage.

6.6 Primary Subscription Window & Process

DC Quantity Elections

This year it is anticipated that the Primary Subscription Window will run for 12 consecutive working days around **late June / early July 2011**. The exact timelines for the DC subscription windows will be published with the paper on DC quantities, prices and eligibilities (which is expected to be published in mid June).

On each day during the Subscription Window, suppliers will be able to elect to purchase a percentage of their eligibility for each product, subject to a maximum of 25 per cent or 25 MW, whichever is the greater (see later). Suppliers will be able to elect for different percentages of their eligibility in each of the four quarters.

Supplier elections will be specified in a form similar to the table below and should be communicated to the sellers (ESB PG and/or NIE Energy PPB) between 8:30am and 10am on a given election day. On a given day, a supplier must submit the same election percentages to ESB PG and NIE Energy PPB if both are selling DCs.

[Supplier Name] Directed Contract Election [Date]				
	Q4 2011	Q1 2012	Q2 2012	Q3 2012
Baseload Percent of Eligibility	__%	__%	__%	__%
Mid-Merit Percent of Eligibility	__%	__%	__%	__%
Peak Percent of Eligibility	__%	__%	n/a	n/a

The eligibility percentage will be applied to that supplier's eligibility matrix to arrive at the MW quantities for each quarter and product to be included in Schedule 6 Agreement transaction confirmations. For example, assume the supplier has the following eligibilities.

	[Supplier Name] *Directed Contract Eligibilities*		
Quarter	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)
Q4 2011	200	100	100
Q1 2012	200	100	100
Q2 2012	100	50	
Q3 2012	200	100	

Assume also that the supplier makes the following election:

[Supplier Name] *Directed Contract Election* *[Date]*	Q4 2011	Q1 2012	Q2 2012	Q3 2012
Baseload Percent of Eligibility	25%	25%	5%	5%
Mid-Merit Percent of Eligibility	8%	5%	25%	25%
Peak Percent of Eligibility	5%	25%	-	-
Note that suppliers need not elect the same percentage for each product. Different percentages for different products in different quarters may be elected.				

The corresponding quantities to be included in the Schedule 6 transaction confirmations would be as follows:

	[Supplier Name] *Directed Contract* *Transaction Quantities for [date]*		
Quarter	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)
Q4 2011	50	8	5
Q1 2012	50	5	25
Q2 2012	5	12.5	-
Q3 2012	10	25	-

For the above example, a separate Schedule 6 transaction confirmation will be used for election for a given product for a given quarter. Since the supplier in this example elects to subscribe a percentage share of all three products (peak, mid-merit, and baseload) across all four quarters, the supplier would need to execute ten Schedule 6 transaction confirmations, one for each product and each quarter.[3]

3 Note that peak products will not be available in the second and third quarters of 2012.

The RAs will continue to set a cap on the quantities elected by a supplier *on any given day* during the Subscription Window. This cap is equal to the maximum of 25% or 25 MW, whichever is the greater. This is in order to allow DC sellers to hedge with the fuel markets the DC purchases made, without moving the market (i.e. impacting on fuel market prices). The DC sellers will apply the cap as follows:

1. For each product type and each quarter, the DC sellers will calculate what percent 25MW is of the supplier's total eligibility - eligibility with ESB PG plus that with NIE PBB - in that quarter and for that product type. If eligibility is zero for a particular quarter and product type, then this percentage is not applicable for that quarter and product type. Each figure will be rounded to the nearest whole percentage point. An example is provided in the table below.

	[Supplier Name] *Directed Contract Eligibilities*			*[Supplier Name]* *25 MW is this percent of Directed Contract Eligibilities (Rounded)*		
Quarter	Baseload Quantity (MW)	Mid-Merit Quantity (MW)	Peak Quantity (MW)	Baseload	Mid-Merit	Peak
Q4 2011	30	120	120	83%	21%	21%
Q1 2012	40	100	130	63%	25%	19%
Q2 2012	20	90	n/a	125%	28%	n/a
Q3 2012	20	50	n/a	125%	50%	n/a

2. For each product type, the tentative maximum percentage the supplier can elect on any given day is the maximum of 25% and the percentage calculated in Step 1 above. This is illustrated, using the products nominated in the first quarter of 2012, in the table below.

Product	*Percentage from Step 1*	*Applicable Maximum Percent Election (from Step 3)*
Baseload	63% (from Q1 2012)	Max of 25% and 63% is: **63%**
Mid-Merit	25% (from Q1 2012)	Max of 25% and 25% is: **25%**
Peak	19% (from Q1 2012)	Max of 25% and 19% is: **25%**

Note that during the Subscription Window, suppliers cannot enter into transactions that exceed 100% of their eligibility in any product. Hence, the maximum daily election for a product is also constrained by previous elections for that product. For example, if a supplier has already subscribed 96% of its baseload eligibility, any additional elections of baseload transactions may not exceed 4% of eligibility during the Subscription Window.

Finally, the elections will be subject to a minimum. The minimum quantity will be set equal to 1%. The same minimum applied last year.

The RAs will also continue to require that all elections be made as whole number percentages. Elections seeking to transact for a fraction of a percentage point of eligibility will not be accepted.

DC Subscription Guidelines

The DC seller(s) will submit Subscription Guidelines to the RAs for approval by mid May 2011. This document, when approved, will be issued to eligible suppliers a fortnight in advance of their notification of eligibility, i.e., **in early June 2011**. The Subscription Guidelines will inform the eligible supplier of the subscription process and set out in detail its exact mechanics.

DC Strike Prices

As referred to earlier, the strike prices that apply to a given election are determined in accordance with the final DCs pricing formulae that will be published by the RAs in **mid June 2011**. These formulae convert forward fuel and carbon prices into forward electricity prices for each product and each calendar quarter. When a supplier elects to purchase a share of its DC eligibility, the strike prices for that purchase are the estimated electricity prices for the relevant product and quarters on the day that election is made, as determined by the DC pricing formulae. In other words, the forward fuel and carbon price indices that are used to determine strike prices for a given transaction are those that are quoted on the day that the transaction is entered into.

Time of Election to Purchase

Any supplier seeking to make an election during the Subscription Window will need to notify the seller between 8:30am and 10:00am on the day upon which it wishes to enter into Directed Contract transactions for a percentage of its eligibility. The forward fuel prices used to price all transactions entered into on a given day will be the end-of-day forward fuel prices for that trading day. Hence, while the quantities transacted will be known by 10:00am, the corresponding prices will not be known until later that day or early the following day.

DC Seller Obligations

The DC sellers will provide the RAs with a close-of-day status report on transactions entered into on each day during the Subscription Window. The status report will include the names of the suppliers entering into Directed Contracts, their eligibility and the details of each transaction (e.g., product type, quarterly quantities, strike prices). Furthermore, at the end of each business day within the Subscription Window, the DC sellers will notify suppliers by e-mail of the total cumulative MW quantity (by product and by quarter) subscribed for up to and including that date.

At the end of the Primary Subscription Window, notice will be sent to suppliers who have taken 100% of their allocation of a specific product(s) specifying the extent to which there are unsubscribed quantities for that product(s).

RA Right to Suspend Process

Sellers and buyers of DCs should note that if, between the time at which the pricing formulae were published and a time at which it is applied during the Subscription

Window, forward fuel or carbon markets move to a point outside the range of values for which there is sufficient confidence in a particular pricing formula (e.g. if the performance of the formula was never tested at those relative index levels, or if it is known that the formula does not produce reasonable prices at those index levels), then the RAs reserve the right to suspend the subscription process and rerun the Econometric Pricing Model at that time, using the prevailing forward fuel and carbon prices as inputs. In this case, the resulting formula(e) would replace the original formula(e) and would be used to establish strike prices. The formulae may also be rerun if there is significant change to plant availability. The subscription window would reopen once the formula has been revised.

6.7 Supplemental Subscription Window & Process

The Supplemental Subscription Window for DCs will be held for 5 consecutive working days in **July 2011**, about a week after the Primary Subscription Window. The exact dates for the DC subscription windows will be published with the paper on DC quantities/prices (which is expected in mid June).

The Supplemental Subscription Window is designed to give suppliers who have fully subscribed their eligibility for a specific product(s) during the Primary Subscription Window an opportunity to enter into additional DC transactions. To be eligible to enter into DC transactions for a specific product(s) during the Supplemental Subscription Window, suppliers must have subscribed 100% of their eligibility for that specific product(s). For example, a supplier who purchased 100% of its eligible volume for the Q1 2012 baseload product, but not for the Q2 2012 baseload product, would be eligible to make elections in the supplemental window for the Q1 2012 baseload product, but not for the Q2 2012 baseload product.

Each supplier who is eligible to make elections in the Supplemental Subscription Window for a specific product will have an eligibility equal to the entire quantity of remaining contracts for that product. This ensures that if only one supplier wishes to subscribe to DCs for a specific product in the Supplemental Subscription Window, then all remaining DCs for that product may be subscribed to. When all the DCs assigned to ESB PG and NIE Energy PPB are subscribed to then no further subscriptions can be made – even if suppliers may notionally have eligibility remaining in the Supplemental Subscription Window.

New entrant suppliers who are granted a supply licence between the period when the MIC supplier shares are initially gathered (i.e. late May/early June as stated earlier) and the day after the end of the Primary Subscription Window (i.e. mid July 2011), and who are not affiliated with any existing market participant, will also be allowed to participate in the Supplemental Subscription Window. Such suppliers will have a maximum entitlement based on their MIC as measured one week prior to the start of the Supplemental Subscription Window. Their eligibility will be calculated using the Eligibility Model and their elections will take the form of existing supplier elections. New entrants will need to execute the DCs prior to the first day of the Supplemental Subscription Window. New entrants will only be entitled to subscribe for DCs if the contracts are not fully subscribed during the Primary Subscription Window.

DC Quantity Elections

Suppliers making quantity elections during the Supplemental Subscription Window will be required to do so in the same manner in which the elections were made during the Primary Subscription Window. Specifically, the elections must contain the data that is presented in the table below and must be communicated to the seller(s) between 8:30am and 10:00am on the transaction day.

[Supplier Name] *Directed Contract Election during Supplemental Subscription Window* *[Date]*	Q4 2011	Q1 2012	Q2 2012	Q3 2012
Baseload Percent of Eligibility	_%	_%	_%	_%
Mid-Merit Percent of Eligibility	_%	_%	_%	_%
Peak Percent of Eligibility	_%	_%	n/a	n/a

Further, as was the case during the Primary Subscription Window:

- Supplier elections will be subject to a minimum of 1%.
- Supplier elections will be subject to a maximum of 25% or 25MW.
- Supplier elections must be specified as whole number percentages.

If the available DC quantities for a given product are oversubscribed as a result of multiple suppliers' electing the same transaction on the same day during the Subscription Window, those suppliers' elections will be scaled down on a *pro rata* basis until 100% of the available Directed Contract quantities are subscribed.

The DC sellers will provide the RAs with a close-of-day status report on transactions entered into on each day during the Supplemental Subscription Window. In addition, at the end of each business day within the Supplemental Subscription Window, DC sellers will notify suppliers by e-mail of the total cumulative MW quantity (by product and by quarter) of DCs subscribed for up to and including that date. This is in a similar manner to the initial/primary window. Also, as per the initial window, the RA right to suspend the process remains.

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