

Single Electricity Market Committee

ESB Power Generation Directed Contract Subscription Rules Version 2 – Tracked Changes

SEM/12/047

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~~21st June 2011~~ **26th June 2012**

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1 Introduction

The Commission for Energy Regulation (“CER”), in consultation with the Northern Ireland Authority for Utility Regulation (jointly referred to as the Regulatory Authorities), have directed ESB Power Generation (“ESB-PG”) to offer Contracts for Differences to licensed retail suppliers in Ireland and Northern Ireland. The Regulatory Authorities have provided the form of contract that is to be used, have specified the aggregate volumes to be offered, and have specified the method by which the contracts will be priced. In addition, the Regulatory Authorities have specified a subscription process by which licensed retail suppliers may enter into these “Directed Contracts” during a specified time frame. All licensed retail suppliers serving customers in Ireland or Northern Ireland as of ~~1st April 2009~~^{1st June 2012} are eligible to participate in the first Directed Contracts subscription process scheduled from the 28th June 2012 to 11th July 2012. In addition, new entrants serving customers in Ireland or Northern Ireland as of ~~12th June 2009~~^{6th June 2012} will be permitted to participate in the supplemental subscription window which runs from 17th to 19th July 2012, as described in Section 7 below. For subsequent Subscription Windows, see paragraph 7 also.

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This document contains rules designed to facilitate and to clarify the subscription process for suppliers. The rules were developed by ESB-PG in consultation with the Regulatory Authorities. The document has been submitted to the CER for approval in accordance with condition 4 of ~~the ESB-PG's~~ licence to generate electricity. As this is an SEM matter the SEM Committee¹ has reviewed and decided to approve this guideline document on behalf of CER.

2 Dates for Directed Contract Subscriptions

A Directed Contract (DC) Subscription Window will be opened every quarter with DCs being allocated on a rolling basis up to 5 quarters ahead, ~~gin on 27th June 2011 and continue through 11th July 2011 inclusive. The “Supplemental Subscription Window” will~~

¹ 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 (Amendment) Act 2007, and Article 6 (1) of Electricity (Single Wholesale Market) (Northern Ireland) Order 2007 respectively. The SEM Committee is a Committee of both CER and NIAUR (together the Regulatory Authorities) that on behalf of the Regulatory Authorities, takes any decision as to the exercise of a relevant function of CER or NIAUR in relation to an SEM matter

~~run from 18th July 2011 through 22nd July 2011.~~ The timetable for the [Subscription Windows](#) is as published in the decision paper [SEM-12-026](#), -“Directed Contracts Implementation for 2012/’13 and Beyond”.

3 Execution of Directed Contract Documentation

Any eligible supplier wishing to enter into Directed Contracts during the Subscription Window must have:

1. Executed the ~~[Directed Contract 2011/12](#)~~ Master Contract for Differences Agreement with ~~ESB-PG~~. The executed agreement must be in the form published by the Regulatory Authorities ~~in advance of the Subscription Window~~;
2. Posted the appropriate credit cover;
3. Executed ~~ESB-PG~~’s Trading Mandate;
4. Provided ~~ESB-PG~~ with a list of its authorised traders and contact details.

This complete suite of documentation must be received by ~~ESB-PG~~ at a minimum of 2 business days prior to commencement of any trading activity between the supplier and ~~ESB-PG~~ for either the Subscription Window or the Supplemental Subscription Window.

4 Supplier Eligibility

On the ~~17th June 2011~~^{25th June 2012}, the Regulatory Authorities issued each eligible supplier a matrix showing the total megawatt quantity of Directed Contracts for which they are entitled to subscribe. The eligibility is broken down by quarter and by product, as illustrated in the table below per the products as defined in the [Directed Contracts 2011/12](#) Master Contract for Differences Agreement.

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| | <i>[Supplier Name] Eligibilities for Directed Contracts with ESB-PG</i> | | |
|----------------------------------|--|-------------------------------|--------------------------|
| Quarter | Baseload Quantity (MW) | Mid-Merit Quantity (MW) | Peak Quantity (MW) |
| Q4 201 2 ¹ | | | |
| Q1 201 3 ² | | | |
| Q2 201 3 ² | | | n/a |
| Q3 201 3 ² | | | n/a |

ESB-~~PG~~ has been provided with each supplier's eligibility and will confirm that each supplier's elections are within the eligibility parameters set by the Regulatory Authorities.

5 Pricing of Contracts

5.1 Strike Price

The strike price for each transaction will be set using the formulae published by the Regulatory Authorities on the ~~17th June 2011~~^{25th June 2012} and associated forward fuel prices. A new DC pricing formulae shall be derived every second quarter. For the quarters in which the new formulae are not newly derived, the formulae constants will be adjusted so that the formulae outturns match the results of a new PLEXOS run. The forward price indices for each fuel to be inputted to the formulae are described below.

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For the avoidance of doubt, the prices in the formulae are denominated in Euros per therm or Euros per tonne, as appropriate. The fuel indices below therefore have to be converted from Sterling pence per therm (in the case of Natural Gas) and US Dollars per metric tonne (in the case of Coal) into Euros using the spot daily Sterling-Euro and spot daily US Dollars-Euro exchange rate. The Natural Gas price also has to be converted from Euro cents per therm to Euros per therm by dividing by 100.

The rounding rules to be used in the calculation of the Directed Contract strike price using the regression formulae in the Directed Contract 2011/12 Master Contract for Differences Agreement are as follows:

- 1 The fuel prices and exchange rates should be used to the number of decimal places to which they are published (by ECB, ICE, etc.). In other words, if a price/exchange rate can be quoted to five decimal places (as exchange rates sometimes are), it should be used in the calculations with five decimal places. In the case of the regression coefficients in the DC strike price formulae, the coefficients should be used with the number of decimal places published by the Regulatory Authorities.
- 2 In any subsequent calculations (e.g. in converting from US\$/tonne into €/tonne), the result of the calculation should be rounded to the number of decimal places of the constituent number in the calculation with the lowest number of decimal places. So in the case of a fuel whose price is quoted to two decimal places, the result of converting from sterling/dollars into euros should be rounded to two decimal places.
- 3 In the case of the gas prices, when dividing by 100 to get from euro cents per therm to euros per therm, no further rounding should be done. In other words if the result of bullet point (2) above is 39.45 euro cents per therm, the price in euros per therm should be €0.3945/therm. It should not be rounded at this stage.
- 4 The constituent fuel terms in each formula should each be rounded to two decimal places. In MS Excel formula terms the formula would look like this:
= ROUND(coefficient *price, 2)
- 5 Where a constituent term in the formula includes the product of two fuel prices (e.g. the gas squared term), the rounding takes place on the result of the three values (i.e., the regression coefficient and the two fuel prices) being multiplied together. In MS Excel formula terms the formula would look like this:
= ROUND(coefficient *price₁*price₂, 2)
- 6 The constituent fuel terms in each formula, individually calculated using the rounding rules set out above, should then be added together, together with the constant.

7 The result of the addition of the various constituent terms in the strike price equations should then be rounded, to conform with Schedule 1, Part 2 of the [2011/12 Directed Contract](#) Master Contract for Differences Agreement, to two decimal places.

5.1.1 Natural Gas

The Settle price (in pence Sterling per therm) for the Quarterly Intercontinental Exchange ("ICE") Natural Gas Futures as reported on www.theice.com as the "Daily Volumes for ICE UK Natural Gas Futures (Quarters)" will be used.

5.1.2 Coal

The Average of the Bid and Ask prices (in US dollars per tonne) for quarterly Forward Coal CIF ARA API2 swap transactions as reported daily in Argus Coal Daily International will be used. If no price is available from "Argus Coal Daily International" for a given quarter, the price for the nearest preceding quarter for which a price is available will be used.

5.1.3 Carbon

The daily settle price (in Euro per tonne of Carbon Dioxide) for the December month Intercontinental Exchange ECX EUA Carbon futures as reported on www.theice.com as "ICE ECX EUA Futures (monthly)" for the given calendar year will be used. This data is available under the report section of this website once the following options are selected – Category "End of Day Report"; Market – "ICE Futures Europe"; Report – "ICE Futures Europe". If the weighted average price is zero due to a zero volume of transactions on the day in question or, if no price is published in respect of a particular day, the value to be used shall be the value published the last time a transaction was concluded.

~~The following data will be used as the relevant monthly prices for the remaining months in the Quarter:~~

~~[e-Directed Contract Master Contract for Difference](#)~~

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5.1.4 Foreign Exchange

The forward fuel prices to be used in the daily strike price calculation will be converted to Euro per tonne using the daily spot Dollar-Euro foreign exchange rate and into Euro per therm using the daily spot Sterling-Euro foreign exchange rate, as defined in the [Directed Contract 2011/12](#) Master Contracts for Differences Agreement. The source is the daily euro foreign exchange reference spot rate from the European Central Bank.²

Appendix 2 to these Subscription Rules sets out further detail on how the fuel prices will be used.

5.2 Pricing Formulae

The Regulatory Authorities have reserved the right to alter and republish the pricing formulae during the Subscription Window and the Supplemental Subscription Window. The formulae may be altered if there is recognition that they are no longer correct. This could occur where the daily price of a fuel or carbon falls outside the range of fuel/carbon prices under which the formulae was developed or where there is a significant change in future plant availability.

6 Subscription Window

6.1 Daily and Aggregate Subscription Limits

On each business day during the Subscription Window, suppliers can elect to enter into transactions for a percentage of their eligibility for each product and quarter.

To do so, suppliers must inform ESB-~~PG~~ via fax (in the form, constituting the Daily DC Supplier Subscription Form set out in Appendix 1) between 8:30am and 11:00am on a given election day with the following:

- a) the product that is being subscribed (baseload, mid-merit or peak); and
- b) the percentage quantity that is being subscribed in each quarter.

² <http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html>

The quantity must be expressed as a whole number percentage of that supplier's eligibility for that product and quarter. Where a supplier's election does not constitute whole percentages, ESB~~PG~~ shall round the subscription down to the nearest whole number percentage. Suppliers may elect different percentages of the different products and across quarters. Suppliers may also choose not to elect a particular product or quarter.

The quantity subscribed for a given product and quarter on a given business day is subject to a minimum and a maximum.

- The minimum subscription will be 1% of the supplier's eligibility for that product and quarter (the "Minimum Daily Amount").
- The maximum subscription will be 25% or 25 MW for that product and quarter, whichever is greater (the "Maximum Daily Amount"). For each product type and each quarter elected, ESB~~PG~~ will calculate what percent 25 MW is of the supplier's eligibility 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.

Daily subscriptions are subject to the credit requirements set out in Section 8

In the event that a supplier submits a subscription that:

- Exceeds the Maximum Daily Amount in respect of any product and quarter, ESB~~PG~~ will in respect of the relevant product and quarter calculate the maximum volume consistent with the Maximum Daily Amount and will deem the subscription to be for that amount.
- On any given day exceeds its total eligibility for any product and quarter as per the matrix in Section 4 above, ESB~~PG~~ will calculate the maximum volume consistent with the total eligibility matrix and will deem the subscription to be for that amount.

- Is for an amount less than the Minimum Daily Amount, ESB-PG will deem the subscription in respect of that day to be rejected for that product and quarter.

ESB-PG will notify each supplier of any rejections (by product and quarter), and the cause of the rejection, on the relevant trading day by 1:00pm.

6.2 Subscription Logistics

As stipulated in Section 6.1, subscriptions by eligible suppliers must be made via fax (in the prescribed form as set out in Appendix 1) between 8:30am and 11:00am on business days during the Subscription Window. The fax must be signed by an authorised trader (as notified to ESB-PG under Section 3).

Suppliers should submit one fax of the Daily DC Supplier Subscription Form on any given trading day. In the event that multiple elections are submitted by a supplier for a given trading day, ESB-PG will utilise the first valid fax as the daily subscription election. To be valid, a fax must be clear and unambiguous. Where the supplier's faxed subscription form is either unclear or ambiguous, the judgement of ESB-PG as to its unclear or ambiguous terms shall be final. Suppliers are accordingly requested to submit the subscription form to ESB-PG also via email (pgdc@esb.ie) within the 8:30am to 11:00am period.

ESB-PG will convert the percentages of eligibility into MW quantities by quarter and product (MW values will be rounded to 3 decimal places). In addition, ESB-PG will use the DC strike price formulae as set by the Regulatory Authorities to determine transaction prices by product and by quarter.

The Regulatory Authorities have specified that ESB-PG shall input each trading day's closing forward fuel and emissions and foreign exchange prices into the Directed Contract pricing formulae to set the transaction prices. Hence, while the subscriptions will be made in the 8:30 AM to 11:00 AM period, the transaction prices will not be known until that trading day's closing fuel and emissions prices and exchange rates are published.

Within two business days following subscription, ESB-PG will send to the supplier a Transaction Confirmation Letter substantially in the form of Schedule 6 to the [Directed Contract 2011/12](#) Master Contract for Differences Agreement for each transaction entered into. (Each subscription for a given product and quarter is considered a transaction.) The transaction confirmation will contain the MW quantities and prices by quarter. The transaction confirmation will reflect any adjustments made to subscriptions to reflect breaches of Maximum or Minimum Daily Amounts, total eligibility or the credit provisions set out in Section 8.

The supplier will have the opportunity to review the accuracy of the transaction confirmation and to request corrections if necessary pursuant to the terms of Section 3.3 of the [Directed Contract 2011/12](#) Master Contract for Differences Agreement. As provided at clause 3.3.5 of the [Directed Contract 2011/12](#) Master Contract for Differences Agreement, in the event that the price information contained in the confirmation differs from the calculated price under the pricing formulae then the price formulae calculation shall prevail. Similarly, in the event that the MW quantity information contained in the confirmation differs from the valid percentage of eligible volume subscribed, then the latter shall prevail.

6.3 Notification of Subscriptions

At the end of each business day within the Subscription Window, ESB-PG will notify the Regulatory Authorities and the eligible suppliers of the total cumulative MW quantity (by product and quarter) of Directed Contract volumes subscribed to, up to and including that date.

ESB-PG will also notify the Regulatory Authorities by 2:00pm on the following business day for a given trading day of:

1. the volumes transacted by each supplier, by product for each quarter, and
2. ESB-PG's calculation of the ESTSEM prices per product and quarter,

for each trading day during the Subscription Window.

7 Supplemental Subscription Window

The Supplemental Subscription Window is designed to give suppliers who have fully subscribed their eligibility for a product and quarter during the initial Subscription Window an opportunity to enter into additional Directed Contract transactions for those products and quarters.

New entrants who were licensed in the period to ~~beginning mid-July~~ ~~May~~ immediately prior to the opening of a Subscription Window and are not affiliated with any existing market participant will also be permitted to participate in the subsequent Supplemental Subscription Window. Such suppliers will have a maximum entitlement based on their MIC as measured ~~at 6:12th July~~ ~~June 2012~~ on the third day preceding the start of the Supplemental Subscription Window~~09~~. New entrant eligibility will be notified to ESB-PG by the Regulatory Authorities. ESB-PG will monitor new entrant activity during the Supplemental Subscription Window to assure that subscriptions by new entrants do not exceed eligibilities.

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Suppliers who participated in the initial Subscription Window will be eligible to participate in the subsequent Supplemental Subscription Window for a specific product and quarter if they subscribed 100% of their eligibility for that specific product and quarter. A supplier who is fully subscribed for baseload, for example, but not fully subscribed for peak will be permitted to make additional elections during the Supplemental Subscription Window for baseload but not for peak.

Following the Subscription Window, ESB-PG will notify those suppliers who are eligible to participate in the Supplemental Subscription Window of the unsubscribed quantities that remain for each product (baseload, mid-merit and peak) and for each quarter. These unsubscribed volumes will be rounded to one decimal place before being issued. The eligibility of suppliers will be reset for the purposes of the Supplemental Subscription Window and each supplier who is eligible to participate will be separately eligible to take all of the unsubscribed quantities over the course of the Supplemental Subscription

Window, subject to the daily subscription limits described below and the posting of sufficient credit cover.

7.1 Subscription Logistics

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 initial Subscription Window.

In particular, the subscriptions must be made via fax between 8:30 AM and 11:00 AM on business days during the Supplemental Subscription Window as per the form in Appendix 1.

Further, as was the case during the initial Subscription Window, the following also apply to suppliers in the Supplemental Subscription Window:

- Supplier subscriptions will be subject to a minimum of 1% (the “Minimum Daily Amount”). Suppliers also may choose not to elect a particular product or quarter.
- Supplier subscriptions will be subject to a maximum of 25% or 25 MW, whichever is greater (the “Maximum Daily Amount”), as illustrated above in respect of the initial Subscription Window.
- Supplier subscriptions must be specified as whole number percentages.
- Suppliers may elect different percentages of the different products and quarters.
- Subscriptions are subject to the credit requirements set out in Section 8.

ESB-PG shall apply the same rules as during the initial Subscription Window for breaches of Maximum or Minimum Daily Limits (the Total Eligibility Matrix does not apply during the Supplemental Subscription Window). The same rounding rules shall apply.

Where a supplier’s election does not constitute whole percentages, ESB-PG shall round the subscription down to the nearest whole number percentage.

7.2 Oversubscription

If the available Directed Contract quantities for a given product and quarter are oversubscribed as a result of multiple suppliers' electing the same transaction on the same day during the Supplemental Subscription Window, those suppliers' valid elections will be scaled down on a *pro rata* basis until all of the available Directed Contract quantities are subscribed. The scaling down on a *pro rata* basis will be on the valid percentage elections, and these percentage elections will be scaled down and rounded to two decimal places before being converted to a MW equivalent.

7.3 Notification of Subscriptions

ESB ~~PG~~ shall apply the same notifications during the Supplemental Subscription Window as during the Subscription Window to both the Regulatory Authorities and eligible suppliers.

8 Management of Credit Cover

The SEM Committee has decided that the credit cover requirements for Directed Contracts may be determined by the seller. The arrangements should take account of, *inter alia*, the seller's legal or statutory requirements and risk tolerance. The arrangements however should be no more onerous than those specified in the [Directed Contract 2011/12](#) Master Contract for Differences Agreement.

ESB ~~PG~~'s requirements are set out below:

Each supplier with Directed Contract (DC) eligibility intending to exercise any of its DC eligibility will need to have posted credit cover in advance of the relevant subscription window. Suppliers will be required to ~~provide a~~~~ledge separate~~ Letters of Credit ~~or Cash Deposit~~ in respect of ~~upcoming~~~~2011/12~~ DC subscriptions, and will not be entitled to utilise for the purpose of ~~upcoming~~~~2011/12~~ DC subscriptions any Surplus Margin (as defined in the ~~2010/11~~ [Directed Contract Master Contract for Differences Agreement](#)~~DC~~

Master Agreement) from their Letter of Credit provided as cover against ~~2010/11~~2011/12 DCs.

The initial credit cover requirements during the ~~2011/12~~ subscription windows are calculated as follows:

- The expected prices for each product in each quarter will be calculated based on the closing fuel and carbon prices and exchange rates on the ~~15th June 2011~~8th June 2012

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- The matrix, below, of ESTSEM p,q prices is based on the closing fuel and carbon prices and exchange rates on the ~~15th June 2011~~8th June 2012

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- This matrix will be "baselined" for the duration of the Subscription Window and the Supplemental Subscription Window for the purpose of credit cover calculations.

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| | ESTSEM p,q | | |
|-------------------------|---------------------------------|---------------------------------|-----------------------------------|
| | Baseload | Mid-Merit | Peak |
| Q4 2012 1 | €63.95xx.xx76.15/MWh | €68.73xx.xx84.76/MWh | €94.39xx.xx/MWh/MWh |
| Q1 2013 2 | €68.70xx.xx77.04/MWh | €73.70xx.xx84.46/MWh | €102.03xx.xx103.88/MWh |
| Q2 2013 2 | €59.04xx.xx71.91/MWh | €62.10xx.xx78.32/MWh | n/a |

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| | | | |
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| Q3 2013 2 | € 60.38xx.xx 71.48/MWh | € 64.35xx.xx 78.58/MWh | n/a |
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- Each supplier is required to provide ESB-PG with 15% of the value of the underlying energy in credit cover for any volumes they wish to subscribe for, based upon the baseline prices in the table above. ESB-PG has the right to decline any subscription volume in excess of the credit cover in place.
- Therefore each supplier should calculate the maximum DC volume they may wish to subscribe for during the relevant Subscription Window in MWh (see the non-binding worked example below).
- If a supplier's elections exceed the amount of credit cover lodged then ESB-PG will:
 - Calculate the credit cover required for the otherwise eligible bids for that day
 - Compare that value to the remaining unused credit cover.
 - If the required credit cover is greater than the remaining credit cover then all the otherwise eligible bids for that day are scaled back by the ratio of "remaining credit cover" to "required credit cover" and rounded down to the nearest whole number percentage.
 - Send out confirmations for the accepted subscriptions consistent with the standard timetable for confirmations.

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If a supplier subsequently posts additional credit cover before the end of the relevant Subscription Window, they will be eligible for additional subscriptions up to the limit of the additional credit cover. The subsequent elections will be subject to the same constraints on Maximum Daily Amounts and total eligibility. Therefore if the supplier in question does not lodge the additional credit cover until late in the Subscription Window, it may be at risk of not being able to subscribe to its total eligibility as per the total eligibility matrix.

Note that the above process has been based upon certain assumptions. ESB-PG reserves the right to amend the above process if there are material changes in the following areas:

- The duration between the date the DC pricing formulae are published (and hence the date the prices are “baselined” for the purposes of the upfront credit requirements) and the start of the Subscription Window.
- The duration between the start of the Subscription Window and the end of the Supplemental Subscription Window.
- Revisions to the DC strike price formulae in accordance with the provisions set out in Section 5.2 above. Any revisions to the DC Pricing formulae will apply to both new and existing trades for the purposes of credit calculation.

Once the Subscription Window and the Supplemental Subscription Window processes have been completed, the specific provisions covering credit during the subscription process as described in this section will expire. The normal monthly and intra-monthly margining provisions will apply as per the Directed Contract 2011/12 Master Contract for Differences Agreement.

For each subsequent quarterly DC auction subscription each supplier must:

- post sufficient credit to cover the all existing positions held from the most recent margin call.
- post 15% of the value of the underlying energy in credit cover for any volumes they wish to subscribe for, based upon the most recent baseline price to be deemed an eligible supplier.

In the instance where the date of a margin call falls within the DC subscription window, all DC subscriptions executed within this window shall be excluded from the credit margin calculation.

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Supplier eligibility shall not be affected by the margin call once the supplier has met the initial eligibility requirement of 15% of the value of the underlying energy in credit cover for any volumes they wish to subscribe, unless they fail to meet their obligations under the credit margin conditions as provided in clause 10.2, of the Directed Contract Master Contract for Differences Agreement

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If resulting from the margin call which falls within the DC subscription window and by using the updated DC pricing formulae as advised by the RAs a suppliers existing credit exposure increases. The Supplier must then increase their posted credit cover within credit margin timeframe in order to continue DC subscriptions.

Note (1): when a margin call falls within a subscription window ESB advises suppliers to consider their existing credit requirements based on any revised publication of the DC pricing formulae when posting credit to cover potential subscriptions.

Note (2): a supplier may elect to forgo eligibility to a DC subscription window after a margin call by informing ESB of their intention to allocate additional credit cover posted for the purposes of DC participation to cover additional margin requirements.

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Non- binding Worked Example:

- Suppose a supplier decides that they wish to subscribe to the following volumes:

| | Mid-Merit | Peak |
|----------------------------------|-----------|-----------|
| Q4 201 2 ⁴ | 8,000 MWh | 1,000 MWh |
| Q1 201 3 ² | 4,000 MWh | 1,000 MWh |
| Q2 201 3 ² | 4,000 MWh | n.a. |
| Q3 201 3 ² | 8,000 MWh | n.a. |

- Then the supplier should calculate the credit cover required to support their likely maximum DC subscription as follows:

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| | Mid-Merit | Peak | Total |
|----------------------|---|---|----------|
| Q4 2012 ¹ | €68.73/MWh x 8,000 MWh x 15% = €82,476 | €94.39/MWh x 1,000 MWh x 15% = €14,159 | €96,635 |
| Q1 2013 ² | € 73.70 /MWh x 4,000 MWh x 15% = € 44,220 | €102.03 /MWh x 1,000 MWh x 15% = € 15,305 | €59,525 |
| Q2 2013 ² | € 62.10 /MWh x 4,000 MWh x 15% = € 37,260 | n/a | €37,260 |
| Q3 2013 ² | € 64.35 /MWh x 8,000 MWh x 15% = € 77,220 | n/a | € 77,220 |
| Total | €241,176 € | €29,464 | €270,640 |

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- Therefore the supplier would need to have lodged a minimum of €270,640 collateral before the start of the Subscription Window in order to cover the intended volume as set out in the example.
- Suppliers may elect their preferred mix of baseload, mid-merit and peak product, subject to its eligibility matrix, provided that the value of the underlying energy calculated at the “baselined” prices above does not exceed the €270,640 collateral lodged.
- If a supplier has an existing credit exposure of €100,000 from the most recent margin call prior to the subscription window then that supplier must provide sufficient credit to cover both the existing exposure and any intended subscriptions. Taking the example above that would mean a total credit requirement of €370,640 (€100,000 existing exposure + €270,640 to cover total potential subscription).

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- If resulting from a margin call which falls within the DC subscription window a suppliers existing credit exposure increases by €50,000. In accordance with clause 10.2.3 and using the example above the supplier has three business days to increase their credit to €320,640 in order to continue subscriptions. A Ssupplier will continue to be deemed eligible once they have posted sufficient initial cover.

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8.1.1 Credit Margin

The following data will be used as the relevant monthly prices for the remaining months in the Quarter:

“Current Month Natural Gas Price” means the midpoint NBP price for the Balance of Month (BOM) contract under the caption “ESGM Price assessment” as reported in “European Spot Gas Markets” published by Heren Energy.

“Current Month Low Sulphur Fuel Oil Price” means the midpoint spot price for Low Sulphur Fuel Oil FOB NWE Energy Swap Contract as reported by Thomson Reuters Eikon.

“Current Month Gasoil Price” means the midpoint spot price for Gas oil 0.1% FOB NWE Energy Swap Contract as reported by Thomson Reuters Eikon.

“Current Month Coal price” means the midpoint spot price for “up to 1% Sulphur” coal cif ARA under the caption “International Coal Prices” as reported by Argus Coal Daily International”.

Other remaining months in the quarter: The remaining months in the quarter will be quoted at monthly granularity for the relevant indices, based on the forward fuel price definitions contained in the Schedule 1 of the Directed Contract Master Contract for Difference Agreement.

9 Appendix

9.1 Appendix 1: Daily DC Supplier Subscription Form (Part 1)



Power Generation

Daily DC Supplier Subscription Form Directed Contracts 2011/12

Part 1: Supplier Information

General Information

This submission form must be submitted to PG before the close of daily Subscription Window and in accordance with the DC Subscription Rules.

Each Eligible Supplier must complete:

- (a) the information required in Table 1 of Part 1 and all of Part 2, and
- (b) submit the fully completed subscription form via fax, as executed by an authorised representative of the Eligible Supplier.

Table 1: Identity of Supplier
(to be completed by Eligible Supplier)

| | |
|-----------------------------------|--|
| Participant Entity Name: | |
| Address: | |
| Telephone: | |
| Facsimile: | |
| Email address: | |
| Authorised Representative: | |

Note: For the avoidance of doubt in legibility, please complete this form electronically and provide ESB PG with the printed version of this form fully completed via fax.

For the Attention of: _____



**Daily DC Supplier Subscription Form
Directed Contracts**

Part 1: Supplier Information

General Information

This submission form must be submitted to ESB before the close of daily Subscription Window and in accordance with the DC Subscription Rules.

Each Eligible Supplier must complete:

- (a) the information required in Table 1 of Part 1 and all of Part 2, and
- (b) submit the fully completed subscription form via fax, as executed by an authorised trader of the Eligible Supplier.

Table 1: Identity of Supplier
(to be completed by Eligible Supplier)

| | |
|-----------------------------------|--|
| Participant Entity Name: | |
| Address: | |
| Telephone: | |
| Facsimile: | |
| Email address: | |
| Authorised Representative: | |

Note: For the avoidance of doubt in legibility, please complete this form electronically and provide ESB with the printed version of this form fully completed via fax.

For the Attention of: Jenny McGovern or Shane O'Sullivan

Appendix 1: Daily DC Supplier Subscription Form (Part 2)



Part 2: Directed Contracts Subscription Form

Supplier Name: _____

Trading Date: _____

| | Q4 2012 | Q1 2013 | Q2 2013 | Q3 2013 |
|----------------------------------|----------------------|----------------------|----------------------|----------------------|
| Baseload | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Mid-Merit (0700-2300) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Peak (1700-2100) | <input type="text"/> | <input type="text"/> | | |

Note: The products above are as defined in the Directed Contract Master Contract for Differences Agreement.

IMPORTANT NOTICE:

This Subscription Form is issued by ESB in accordance with the DC Subscription Rules. Only an Eligible Supplier may submit an election in Subscription Window.

By submitting a bid in this DC Subscription Window, the Eligible Supplier shall be deemed to have unconditionally accepted:

- (a) the terms and conditions of the Subscription Rules; and
- (b) that successful bids will be transacted under the Directed Contract Master Contract for Differences Agreement between ESB and the Supplier, i Schedules to that Agreement.

Please return this template via **FAX to 01 7021164** between 8:30am to 11:00am today.
**** PLEASE DO NOT ALTER FORMAT ****
 Additional Info: An email of this form can be sent to ESB at pgdc@esb.ie.

Supplier Signature: _____

Date: _____

Name of Signatory: _____



Part 2: 2011/12 Directed Contracts Subscription Form

Supplier Name: _____

Trading Date: _____

| | Q4 2011 | Q1 2012 | Q2 2012 | Q3 2012 |
|----------------------------------|---------|---------|---------|---------|
| Baseload | | | | ■ |
| Mid-Merit (0700-2300) | □ | □ | □ | □ |
| Peak (1700-2100) | □ | ■ | | |

Note: The products above are as defined in the 2011/12 Master Contract for Differences Agreement

IMPORTANT NOTICE:

This Subscription Form is issued by ESB Power Generation in accordance with the DC Subscription Rules. Only an Eligible Supplier may submit an election in this DC Subscription Window.

By submitting a bid in this DC Subscription Window, the Eligible Supplier shall be deemed to have unconditionally accepted:

- (a) the terms and conditions of the Subscription Rules; and
- (b) that successful bids will be transacted under the 2011/12 Master Contract for Differences Agreement between ESB PG and the Supplier, including the Schedules to that Agreement.

Please return this template via **FAX to 01 7021164** between 8:30am to 11:00am today.
**** PLEASE DO NOT ALTER FORMAT ****
Additional Info: An email of this form can be sent to ESB PG at pgdc@esb.ie.

Supplier Signature: _____

Date: _____

Name of Signatory: _____

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9.2 Appendix 2: Fuel Indexation Methodology

The rules described below set out the methodology for applying fuel indices in the strike price calculation during the subscription window.

Natural Gas ICE, NBP

| Quarter | Approach | Rationale |
|----------------------------------|-------------------------------|--|
| Q4 201 2 ⁴ | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |
| Q1 201 3 ² | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |
| Q2 201 3 ² | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |
| Q3 201 3 ² | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |

Coal (CIF ARA API2)

| Quarter | Approach | Rationale |
|----------------------------------|--|--|
| Q4 201 2 ⁺ | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |
| Q1 201 3 ² | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |
| Q2 201 3 ² | Use published quarterly price | Quarterly prices will be directly observable by the start of the subscription window |
| Q3 201 3 ² | Use published quarterly price, if this is unavailable then use the price for the latest preceding quarter for which a price is available | Quarterly prices may not be directly observable by the start of the subscription window. |

Carbon

| Quarter | Approach | Rationale |
|----------------------------------|---|---|
| Q4 201 2 ⁴ | Use the Intercontinental Exchange ECX daily settle price for EUAs for the December 201 2 ⁴ contract | The December month contract is the most liquid contract for any given year. |
| Q1 201 3 ² | Use the Intercontinental Exchange ECX daily settle price for EUAs for the December 201 3 ² contract | |
| Q2 201 3 ² | Use the Intercontinental Exchange ECX daily settle average price for EUAs for the December 201 3 ² contract | |
| Q3 201 3 ² | Use the Intercontinental Exchange ECX daily settle price for EUAs for the December 201 3 ² contract | |

9.3 Appendix 3: Bank Holidays 2012/2013

The following dates are those known at the time of execution to be bank and public holidays between 1st October 2012 and 30th September 2013:

| |
|-------------------------|
| <u>29 October 2012</u> |
| <u>25 December 2012</u> |
| <u>26 December 2012</u> |
| <u>01 January 2013</u> |
| <u>178 March 2013</u> |
| <u>29-March 2013</u> |
| <u>01 April 2013</u> |
| <u>06 May 2013</u> |
| <u>27 May 2013</u> |
| <u>03 June 2013</u> |
| <u>12 July 2013</u> |
| <u>05 August 2013</u> |
| <u>26 August 2013</u> |

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