Commission for Energy Regulation
An Coimisiún um Rialáil Fuinnimh

Utility Regulator
ELECTRICITY GAS WATER

SEM Committee

Market Monitoring Unit

Bidding Code of Practice

Cost Items Decision Paper :

The treatment of the risk of movement in the value of fuel stocks under the Bidding Code of Practice

SEM-12-063

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2 INTRODUCTION

On 16 May 2011 the SEM Committee (SEMC) published a consultation paper (SEM-11-026)[1], relating to the treatment of certain cost items in the SEM. Comments were sought on the consultation paper and this paper reviews the responses to SEM-11-026. Based on the information received, its own analysis and consideration of the Bidding Code of Practice and associated documents, the SEM Committee has formed its decisions which are set out in this document.

In preparing this paper, the SEM Committee has also had regard to the decision of the Irish Supreme Court delivered on 23 February 2012 (and, in particular, to the judgment of Mr Justice Hardiman[2]) and to the important guidance which it contains as to the approach which ought to be taken by the Committee in interpreting and applying, first, condition 15 of the generic generation licence in Ireland and Condition 17 in Northern Ireland (the Licence Condition) and, second, the Bidding Code of Practice.

The SEM-11-026 paper identified two areas that the SEM Committee wished to consult on. These areas were broken down into two parts:

- Part A - The treatment of the risk of movement in the value of fuel stocks under the Bidding Code of Practice;
- Part B - The Opportunity Cost of Gas Consumption.

This Paper deals specifically with Part A, a separate decision paper will be issued by the SEM Committee regarding part B.

Market participants, who purchase, consume and manage solid and liquid fuels face the possibility that the value of their stock will change over time. The Bidding Code of Practice (BCOP[3]) includes the following provision:

> *"8. In calculating the value of the benefit foregone in employing a cost-item for the purposes of electricity generation, the following principles shall, unless it can be demonstrated to the satisfaction of the Authority or the Commission (as appropriate) that there is good cause not to, be applied:*
>
> > *(i) where there exists a recognised and generally accessible trading market in the relevant cost-item, the Opportunity Cost of that item should reflect the prevailing price*

[1] http://www.allislandproject.org/en/mmu_current_consultations.aspx?article=90ec892d-44cd-4903-980f-fbd2670cc273

[2] http://www.courts.ie/Judgments.nsf/597645521f07ac9a80256ef30048ca52/8DC0B6C9A57DDE37802579AD00527392?opendocument

[3] http://www.allislandproject.org/en/market-power-consultation.aspx?article=44d688de-8ac1-4bd3-846c-06d0f3b85ef8

of the cost-item, which may be for immediate or future delivery or use as appropriate to the circumstances of the relevant generator, having regard to:

(a) costs the relevant generator would incur in offering that cost-item for sale, or acquiring that cost-item, on a recognised and generally accessible trading market;

(b) reasonable provision for the variability of the prevailing price of a cost-item on a recognised and generally accessible trading market;…"

This provision allows for consideration of the movement in commodity prices between the day-ahead price available when generators submit Commercial Offer Data (COD) and the prevailing price on the trading day. However, it has been suggested to the SEM Committee that certain solid/liquid fuel plants face very specific risks in relation to managing their fuel stock over the longer term, in particular between submitting COD and the time that the fuel is replaced.

The SEM Committee obtained respondents' views in relation to the treatment of the risk, in particular:

- Should the risk described above be considered a short-run risk and be allowable as a cost item in generator's Commercial Offer Data (COD)? If so, why?
- If this risk should be considered an allowable cost item then how would you suggest it should be valued?

3 CONSULTATION RESPONSES

Seven responses were received to the Consultation Paper in relation to Part A, these responses came from:

Name	Responded to Part A
Bord Na Mona	☑
Endesa	☑
ESB PG	☑
NIE Energy PPB	☑
The Consumer Council	☑
Tynagh	☑
Viridian	☑
Total	**7**

Table 3.1 – Responses received

A selection of comments received for each part is provided below. All non-confidential responses to the consultation paper are published in full along with this decision paper.

There was a variety of opinion in relation to the issues highlighted in Part A, with the majority of responses indicating that they believe the risk described in the consultation paper should be considered allowable as a cost item in the generators COD. The responses to Part A are summarised below:

Bord na Móna argued that the risk described in the consultation paper should be considered a short run risk, in particular how the risk can be defined as an Opportunity Cost under the BCOP. For this reason they argue the cost of this risk should be allowable as a cost item in the generator's COD. They also stated that they are not averse to an independent mechanism which could 'price in' risk based on market conditions. However, in the absence of such an 'index', Bord na Móna instead propose that the fuel element of the current bid price for a typically 'out of merit' plant be no longer based on the 'replacement' cost but rather the average First In First Out (FIFO) cost of replacing 24 running hours of the applicable fuel reserves, i.e. based on the average cost of the 'oldest' 24 hours of fuel in storage.

The Consumer Council stated that the consumer should be at the forefront of any decision made particularly when adding cost items which could be recoverable through consumers. They also highlight that generators already receive capacity payments to offset the risk of them not being required to run.

Endesa Ireland contends that this risk represents a recoverable short-run marginal cost that should be reflected in a generator's COD. They considers that the valuation of the price and volume risk should take into account the length of the period over which stock is held and the volatility of the commodity price over that period for the station. They also suggested one acceptable way to measure the costs would involve the following steps:

- Generating daily commodity prices using Monte Carlo Simulation;

- Simulating daily consumption values using a distribution best fitting historical production data;
- After simulating daily prices and daily consumption, the potential loss can be calculated as the difference between the price at which a cargo is bought and the price at which the cargo is consumed;
- The risk can be quantified by the potential loss for a particular month.

ESB PG believes that the risks associated with the purchase of solid fuels and fuel oils and any related stock values can be considered a short-run risk and can be included in the definition of the opportunity cost defined in the BCOP. They also stated that an index using a basket of historical and forward product prices will achieve this.

PPB argued that the risk cannot be hedged and it is a real operational risk and hence a cost that should be included in a generator’s COD. They also stated that as there can be no pre-determined rule for determining the cost as it will vary for each generator. The principle should be that generators take a view, based on the historical experience of actual dispatch outturn compared to what their budget indicates such that they can then match this time deviation with the price volatility curves to determine a risk determined volatility margin to include in a generator’s COD.

Tynagh commented on the Bidding Code of Practice which requires generators to submit bids based on the opportunity costs of fuel as measured by reference to the prevailing market price. They state that the replacement cost risk of solid and liquid fuel stocks as identified in the consultation paper typically relates to plant which are not in merit as there is the potential for a long time delay between bidding into the SEM and when the fuel is replaced but this risk is not confined to plant that are out of merit. They feel that allowing this risk to be included in the bids has the potential to increase the cost of must run constraints that exist in SEM. Therefore they feel that this should not be considered a short-run risk and as such should not be an allowable cost item in generator COD.

Viridian stated that it is VPE’s considered view that in principle the risk associated with movements in fuel stock values is a legitimate short-run risk and should be allowed as a cost item in generators’ COD. However, they also highlight that any argument in relation to the inclusion of a cost item in COD should consider the relevant Licence obligations.

Viridian suggests the inclusion of a value for this specific risk should be based on an appropriate methodology based on forecasts and forward curve analysis of relevant commodities and market fundamentals.

4 CONCLUSIONS AND DECISION ON RISK

The consultation paper concentrated on the specific issue of risk relating to plants that have a very unpredictable running regime and have limited visibility on when they will replace their stocks. As highlighted above, respondents to the consultation provided a variety of views on this issue, with the majority in favour of such risks being considered allowable for inclusion in generator's Commercial Offer Data (COD).

One respondent highlighted that in considering the inclusion of such a cost item in a Participant's COD, the relevant licence condition (Cost-Reflective Bidding in the Single Electricity Market) must also be considered in conjunction with the Bidding Code of Practice (BCOP). For the purpose of compliance with this Condition, cost items included in a generators' COD ultimately must be valued at the Opportunity Cost of that cost item in relation to the relevant Trading Day. The Opportunity Cost is then defined in the BCOP as the value of the benefit foregone by a generator in employing that cost-item for the purposes of electricity generation. Further detail on the wording of the relevant licence condition and BCOP is set out below.

In relation to how such a cost, if allowable, should be valued in COD, a number of respondents offered solutions, which are summarised as follows:

- Bord na Móna - a value based on the average First In First Out (FIFO) cost of fuel for 24 hours (the complete trading day) of continuous operation at the rated output i.e. the average cost of the 'oldest' 24 hour portion of total fuel on reserve;
- PPB – a value based on the historical experience of actual dispatch outturn compared to what their budget indicates;
- Endesa Ireland – a value using Monte Carlo Simulation and a distribution best fitting historical production data with the potential loss being calculated as the difference between the price at which a cargo is bought and the price at which the cargo is consumed;
- ESB PG - a value based on the historical and forward product prices.
- Viridian - a value based on an appropriate methodology based on forecasts and forward curve analysis of relevant commodities and market fundamentals.

The variation in the different approaches above would suggest difficulty in putting a value on the treatment of risk of movement in the value of fuel stocks under the BCOP.

The SEM Committee acknowledge that this is a complex issue and have given consideration to the relevant conditions of the generator's licence and the BCOP. In particular, the Licence Condition sets out the requirements for Cost-Reflective Bidding in the Single Electricity Market and is summarised below:

> *"1. The Licensee shall ensure that the price components of all Commercial Offer Data ... are cost-reflective.*
>
> *2. For the purposes of this Condition, the price component of any Commercial Offer Data shall be treated as cost-reflective only if, in relation to each relevant generation unit, the Schedule*

Production Cost related to that generation unit in respect of the Trading Day to which the Commercial Offer Data submitted by or on behalf of the Licensee apply is equal to the Short Run Marginal Cost related to that generation unit in respect of that Trading Day.

3. For the purposes of paragraph 2, the Short Run Marginal Cost related to a generation unit in respect of a Trading Day is to be calculated as:

(a) the total costs that would be attributable to the ownership, operation and maintenance of that generation unit during that Trading Day if the generation unit were operating to generate electricity during that day;

minus

(b) the total costs that would be attributable to the ownership, operation and maintenance of that generation unit during that Trading Day if the generation unit was not operating to generate electricity during that day, the result of which calculation may be either a negative or a positive number.

4. For the purposes of paragraph 3, the costs attributable to the ownership, operation and maintenance of a generation unit shall be deemed, in respect of each relevant cost-item, to be the Opportunity Cost of that cost-item in relation to the relevant Trading Day..."

The licence condition goes on to make reference to the Bidding Code of Practice (paragraphs 5 to 7). The BCOP subsequently defines the term Opportunity Costs as follows:

"7. The Opportunity Cost of any cost-item shall comprise the value of the benefit foregone by a generator in employing that cost-item for the purposes of electricity generation, by reference to the most valuable realisable alternative use of that cost-item for purposes other than electricity generation.

8. In calculating the value of the benefit foregone in employing a cost-item for the purposes of electricity generation, the following principles shall, unless it can e demonstrated to the satisfaction of the Authority or the Commission (as appropriate) that there is good cause not to, be applied:

(i) where there exists a recognised and generally accessible trading market in the relevant cost-item, the Opportunity Cost of that item should reflect the prevailing price of the cost-item, which may be for immediate or future delivery or use as appropriate to the circumstances of the relevant generator, having regard to:

(a) costs the relevant generator would incur in offering that cost-item for sale, or acquiring that cost-item, on a recognised and generally accessible trading market;

(b) reasonable provision for the variability of the prevailing price of a cost-item on a recognised and generally accessible trading market;..."

Setting aside the argument as to how this cost should be valued, in its assessment of whether the specific risks associated with fuel stock movements faced by solid/liquid plants should be considered to form part of the Short Run Marginal Cost (as defined in the Licence Condition) related to such plants in respect of a Trading Day, the SEM Committee has decided that, on the basis of the evidence available to it, those risks do not form part of Short Run Marginal Cost (as so defined).

The SEM Committee is of the view that the cost associated with this specific risk is not avoidable, as required by the Licence Condition, in respect of a Trading Day. The risk of movement in the value of fuel stocks for solid/liquid fuel plants include risks associated with both movement in fuel prices and the volume of stock. However, the cost of managing these risks does not, in the view of the SEM Committee, vary in respect of a Trading Day. In this regard, the SEM Committee is of the view that the costs associated with the risk of movement in the value of fuel stocks are a fixed aspect of choosing to generate electricity by purchasing and burning solid and liquid fuels.

Further, the SEM Committee is not persuaded that it would be entitled, having regard to the Licence Condition and the BCOP, to permit 'reasonable provision' for that risk to be included in the Opportunity Cost of the relevant fuel in addition to the allowance for movement in price that has already been made, which as stated earlier in this paper relates to consideration of the movement in Opportunity Cost of commodity prices between the day-ahead price available when generators bid into the SEM and the prevailing price on the trading day.

As such the SEM Committee has decided that that **these costs should not be considered as allowable costs for inclusion in Commercial Offer Data.**