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**Ref: AIP/SEM/09/072 BNE Peaker for 2010**

Dear Kevin and Priti,

I attach ESB International (ESBI) response to the above consultation

Kind regards

Ramón Cidon  
**Market Strategy Manager**  
**Independent Generation**  
**ESB International**



**ESBI RESPONSE TO  
BNE Peaker for 2010  
SEM/09/072**

# 1. Introduction

ESBI appreciates the opportunity to comment on this consultation paper. We have no objection to all or part of it being published by the Regulatory Authorities (RAs).

ESBI has carefully reviewed the proposals contained in the Consultation Paper.

We are very concerned about the current Regulatory Authorities' proposal, because it reduces the Capacity Payment for 2010 very substantially from the previous one of 2009.

We consider that the proposal does not meet with the criteria published in the Regulatory Authorities paper titled "*Capacity Payment Mechanism and Reserve Charging High Level Decision paper*" (15th July 2005) in which the Regulatory Authorities stipulated their intention to develop a fixed revenue capacity payment mechanism which would provide a degree of financial certainty to generators under the new market arrangements and which would be stable year to year.

In the same document it is also said that the core feature of the Capacity Payment will be to assure the security of the system, in both the long and short-term and to encourage both the construction and maintained availability of capacity in the SEM.

The objective of the capacity payments should be to compensate the generators for their fixed costs, in order to assure that the system may have enough installed capacity

Accordingly, the capacity payment should be a stable economical signal that encourages long term investments, so it should not vary too much over the years, because it increases uncertainty and risk for potential investors in the Irish electricity market.

However, ESBI considers that the current proposal does not agree with the Capacity Payments High Level criteria, because it introduces volatility and financial risk, does not provide an incentive for investment in new plant and the availability of installed capacity, and it is not transparent and predictable.

We believe that the long-term interests of the electricity supply industry in Ireland and of its customers would be best served by having stable capacity payments which will ensure security of supply at a fair and sustainable cost.

Our experience has shown that changes in capacity payment have been difficult to predict, making it difficult to offer customers long-term supply contracts.

Our comments on the specific Consultation Points raised in the paper are set out below.

## **2. ESBI Comments on Consultation Points**

### **2.1 Proposed Technology Option.**

ESBI does not agree with the selection of the Alstom GT13E2 heavy duty open cycle gas turbine as the BNE 2010 peaking plant and is of the view that an aero-derivative one should have been selected.

ESBI's modelling indicates that the system actually requires extremely flexible aero-derivative plant to meet peaking requirements and that this flexibility will become increasingly important with the future proliferation of renewable energy plants.

New build aero-derivative developments in the SEM are being explored by a number of parties but we are not aware of any entity developing green-field new build heavy duty open cycle project.

ESBI would like to suggest to the RAs to review if a 20 minute start-up time is still acceptable, given the increasing penetration of wind in the island. ESBI considers that security of supply would be better assured with aero-derivative power plants with 10 minute start-up time.

The RAs' technology selection is also at odds with the technology proposed by Eirgrid in the 2007 "fast build" consultation process which they conducted on behalf of CER. The fast build consultation suggested that the All Island Market (AIM)

required multi-site aero-derivative engine installations for peaking purposes (ideally 3 x 60MW sites).

From a system perspective, security of supply and generation capacity adequacy metrics would be enhanced by a greater number of smaller rated machines than a smaller number of larger rated machines. It is ESBI's view that the smaller, more efficient aero-derivative gas turbines should be prioritised due to their higher flexibility and not just discounted on grounds of their lower output or price.

## **2.2 Investment Costs**

ESBI does not regard the assumptions and estimates for the 2010 BNE peaking plant as reasonable as they under-state the costs significantly and would be insufficient to ensure the entry into the SEM of an actual best new entrant plant. This is based on ESBI's extensive domestic and international experience in designing, building, operating and maintaining power plants, as well as on developing power plant investment projects.

### Site Cost:

Finding a site close to an existing 220KV sub-station which is appropriately zoned is extremely unlikely and the land costs associated with such a site would be excessive. ESBI considers that the 20,600m<sup>2</sup> site area as suggested is fitted to the footprint of the Alstom GT13E2, but that the estimated reduction of 63% in the price per m<sup>2</sup> compared with last year price is too aggressive. ESBI's experience is that such a price fall has occurred with commercial and retail property but for industrial sites there has been a price drop more like 35% to 40%.

### Electrical Connection Cost:

ESBI would question the viability of connecting a nominal 190MW plant to the 110KV system in NI. We would be of the view that a 220KV connection would be more realistic and would result in significant cost increases above and beyond the assumed NI capex value of €5.76M. Also, Eirgrid establish in its Node Assignment Rules that power plants with a capacity above 177MW shall be connected at either 220kV or 400kV.

We suggest considering the same cost in ROI and NI of €7.4M

Water and gas Connection Cost:

The RA's is not considering any water connection cost in NI site due to the proximity of the water mains to the proposed site and estimates 1 km of gas pipeline, so it seems that the site has been already chosen. ESBI considers that the estimated cost should be based in a theoretical site, so we suggest considering the same cost than in the ROI, 0,4M€ and 3,38M€ for water and gas connection respectively.

Financial, Interest during Construction (IDC) and Construction Insurance

Next year, under the financial world crisis, the investors and the banks are requiring higher margins to these investments. Nevertheless, the RA's are proposing a very similar amount of IDC and Financial Cost for 2010 compared to 2009 based on CEPA / PB's past experience. Last year, financial markets have changed a lot, so ESBI considers that the Interest during Construction (IDC) are underestimated for a project of this scale, so we think that a more realistic scenario could be to consider a 7% interest rate during construction over total cost (EPC, site procurement, electrical, gas and water connection, owner's contingency, initial fuel working capital and other non EPC costs). Assuming a construction period of 18 months the IDC should be increased by a factor of at least five. Additionally under the current scenario, insurance cost should be also increased from past year.

Recurring Cost:

ESBI would question the amount estimated for Gas Transmission Charges. In Annex A it is proposed to calculate this item just for 4 hours of consumption during a peaking day. Although it could be argued that a peak plant with a very low load factor would only run this short period, ESBI suggest that should be considered the worst scenario, where it will be needed to run during 8 hours (the value of GSS Loss of Load Expectation per annum) so the Gas Transmission Charges should be €1.6M

Additionally, internal international benchmarking for open cycle gas turbines show us that the value considered in the paper for O&M cost of 1,65M€/year is underestimated and values between 10-15 €/kW-year would be more realistic.

Finally, the insurance cost should be increased because under the financial crisis, the insurance companies are raising their fees.

#### Economic and Financial Parameters

ESBI agrees with the RAs' capital asset pricing model approach to the derivation of the Weighted Average Cost of Capital on the basis of its transparency compared with possible alternatives. However, the assumptions on which the derivation is based should reflect current financial costs and conditions faced by generators in the Irish market.

In particular, ESBI does not agree with the following parameters:

- It is assumed that the BNE investor is seeking to raise funding at the corporate level for the peaking plant investment project, but the reality is the most of this kind of projects are financed via non recourse project finance.
- The maximum debt/equity ratios for a peaking plant that are achievable for generation project financing in Ireland is nearer to 50/50 than 60/40 (the same level of gearing which was used in the 2009 calculations).
- Additionally, it is not very realistic to suppose as possible a 10 years average tenor on the new debt. ESBI wants to remark that the current position of the financial market is very conservative and only the less risky project will get a financial close. In any case, if a 10 years average could be considered, it will be needed to add the refinancing cost in the year 11.
- Debt service coverage now demanded by lenders that has been increased to values near to 1.50
- Plant Life is a very important parameter which affects the final cost of BNE value of BNE Peaker substantially. But this value has been raised from 15 years (as considered in previous consultations) to 20 years without enough comprehensive review.

ESBI does not agree with assumption about equity investors are accepting long term returns from relatively low risk assets and banks are tending to supply debt with longer life. Our experience in the financial markets is just the contrary with

the investors looking for lower risk and shorter return investments, so we consider that this value should not be modified in this current consultation paper but could be review in the future.

- The risk premium required by investors has raised, and now the return on capital (post tax return on equity) must be at least 10%.
- The margins required by the lenders under the financial crisis have raised, and now it can not be considered projects with a cost of debt under 7%.

In conclusion, ESBI considers that WACC of 6.80% and 7.13% considered in ROI and NI respectively included in the 2010 Capacity Payment decision are too low under current and likely future conditions and a value of WACC over 8.5% would be more realistic.

#### Ancillary Services and Infra Marginal Rent

ESBI does not agree with the concept of deducting ancillary services revenues from the estimated fixed costs. The current mechanism proposed for compensating the BNE Peaking Plant in the market will not attract new entry and offers developers an unacceptable level of regulatory risk.

This position is reinforced by the following extract from paper SEM-08-177: *“Therefore, currently the responsibility of incentivising the type of availability is within the remit of ancillary service payments.”* ESBI’s view is that capacity payments should reward available capacity and that any incentives to reward particular types of capacity or particular generator performance should be provided separately through the ancillary services arrangements.

Additionally, the consultation paper does not give the enough information about the calculations and hypothesis considered to get the final amount of 960,383 € per year, so we can’t replicate this number. Nevertheless, just comparing with the estimated incomes from ancillary services of a 400 MW power plant, base load, 95% availability (example B.1, paper SEM 09-062) where they were 2M€, it seems that the incomes considered for the peaking plant could be overestimated.

Moreover, ESBI favours dropping infra-marginal rent from the capacity payment mechanism because to consider them introduces unpredictable uncertainty into the



calculation of capacity payment and provides a contradictory market signal in that the tighter supply is, and the more new capacity is needed, the higher will be infra-marginal rent and the lower will be capacity payments.

#### Demand Forecast:

According to the document AIP-SEM-07-54, the forecast of the demand will be produced by the TSO for the coming year based on a linear regression analysis of the peaks from previous years with temperature correction. ESBI agrees with this point of view about not taking in account economical factors because they introduce volatility and the final result will not be transparent and predictable.

ESBI notes that the forecast all-island peak demand is falling in line with current economic circumstances, but that the all-island capacity requirement is falling at a faster rate (there is a reduction of 7.1% from the Capacity Requirement for 2009 but the demand just decreases 3.8%) Although the RAs highlight that generator forced outage rates have improved, ESBI requests that more details are provided in the interests of transparency. The LOLE methodology employed in this analysis is not easily replicated and there is a danger that it is seen as a 'black box' process. Without further clarity on the assumptions used, it is difficult for market participants to assess the appropriateness of this revised capacity requirement

#### Forced Outage Probability

In the Eirgrid's latest Generation Adequacy Report (GAR) 2009-2015, figure 4.13, it can be checked that the outturn Forced Outage Probability in the last five years always was above 11% and in 2007 it reached 13.8%. ESBI considers that the Forced Outage Rate of 4.23%, used to date, is lower than the actual forced outage rate in the SEM and results in an unrealistically low Capacity Requirement. ESBI suggests that the average all-island system forced outage rate be used for the Capacity Requirement calculation.

### **3. Conclusion**

It is essential to send stable long-term signals to the market, in order to assure the security of the system. The consequences of underestimating the Annual Capacity Payment sum may have a short term benefit in terms of depressing wholesale prices, but this approach will ultimately lead to underinvestment in new plant, shortages in supply and at the end, higher energy prices to consumers in the future.