

ESB PG Response to Consultation Paper “Fixed Cost of a Best New Entrant Peaking Plant for the Calendar Year 2009” (AIP/SEM/08/083)

ESBPG welcomes the opportunity to comment on this consultation. ESBPG has two key concerns with what is proposed in the consultation. Firstly, ESBPG believes that the signal being given to the market in relation to capacity payments might not deliver adequate investment in peaking plant that will be increasingly required as more wind comes onto the system. Secondly, ESBPG does not consider that the Siemens 2000E is the optimum BNE plant for the Irish market.

ESBPG would like to address each of the items in Section XI of the consultation as follows:

1. In relation to the choice of Best New Entrant Peaking plant, ESBPG is surprised that the smaller aero-derivative gas turbines of ~50MWe have been excluded. 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. Indeed, there are 4x52MWe such peaking units already on the system. In addition, the recent All Island Grid Study would seem to push towards smaller peaking plant co-located with wind as the better way to move towards greater penetration of Wind generation on the transmission system – hence again questioning the rejection of ~50MWe peaking plant. It is ESBPG’s view that the smaller more efficient gas turbines should not be discounted on grounds of their lower output.

One of the key requirements for a new peaking plant is rapid start-up time to provide cover for other generator trips, delayed starts, variations in Wind output etc. ESBPG believes that the BNE peaking plant proposed in the consultation currently has a start-up time of 20-30mins which in some cases has risen to 30-40mins. It is ESBPG’s understanding that Siemens have been working on

improving the start-up time and <20 minutes is achievable but it is unlikely that these improvements have been built into the costs presented in the consultation.

2. In issuing an Integrated Pollution and Prevention Control (IPPC) licence to any new gas-turbine generator, the EPA will include different NO_x limits for firing either natural gas or distillate. Expected NO_x limits for natural gas would be in the region of ~60mg/Nm³ and for distillate in the range 80-120mg/Nm³. The NO_x emissions figures quoted for the Siemens 2000E in the consultation appear to confuse distillate and natural gas fuel firing. The figure of 50mg/ Nm³ may be achieved when firing natural gas but even then this estimate looks low. When firing on distillate, the NO_x emissions of ~165mg/ Nm³ could be expected from the Siemens 2000E fitted with Dry Low NO_x technology. Spray-water injection would reduce NO_x levels to lower than 120mg/Nm³ but the associated considerable costs for water treatment, storage and injection would need to be included. In last year's consultation paper, it was decided that SCR should be included for NO_x abatement on the peaking unit although it is proposed to drop this requirement for 2009. The paper also states that gas turbines which operate for less than 500 hours per year are excluded from these limits. However, a rational investor would not invest in a technology that would be limited to 500 hours operation per year due to an environmental constraint.

The BNE peaking plant is assumed to connect at 110kV. As per the Transmission Forecast Statement 2007-2013, typically the ratings on future planned 110kV lines is in the range of 137 - 164 MVA (summer/winter ratings). Many existing 110kV lines would have ratings significantly lower than these values. This would preclude connection of a 168MWe plant to the 110kV system in order to avoid overloads etc., meaning that the peaking plant would have to connect at 220kV. Also, the proposed connection method (a 2km single circuit) would appear to be a very insecure connection method and perhaps out of line with prudent transmission planning policies. Using either a looped in connection or a 2km

double circuit to connect the new station would be a more appropriate approach to maintain system security and ensure plant remains available during system events. In the event that the proposed BNE peaking plant is chosen, such additional costs should be factored into the calculations.

Furthermore, the size of the proposed BNE peaking plant conflicts with facilitating greater connections of Wind generation. Wind generation connections typically are at weak points on the 110kV network and may not be located close to 220kV. Wind generation requires peaking plant to act as back-up generation when the Wind is not blowing.

In deciding on technology options for BNE in 2007, account was taken of the IPPC directive relating to the use of best available technology. This gave preference to machines with the highest efficiency, if all other criteria were filled. However, in the 2009 consultation this does not appear to have been considered. It may affect the selection of BNE peaking plant if IPPC was taken in to account. The 2007 BNE efficiency was 36.3%, whereas the 2009 proposed is 34.7%.

The Ancillary Services revenue for the proposed peaking plant increases from the previous BNE paper. However, given that the overall pot available for Ancillary Services payments is not growing significantly, and there are more units on the system now, it would be reasonable to expect that the Ancillary Services payments would decrease.

In summary, ESBPG believes that the Pratt & Whitney machine (or one of the other Aero machines) may be a better solution for the system than the Siemens 2000E due to their relative size, flexibility and efficiency. Costs of all units have not been set out in the consultation but aero costs might be expected to be higher on a fixed cost per year basis. ESBPG would request that the SEMC consider the additional costs (such as transmission connection, spray-water injection, premium

for additional flexibility, lower ancillary services income) of the Siemens machine when making final comparisons.

3. ESBPG believes that using historic costs is at odds with the forward looking nature of the exercise and that the relevant cost for an investor is the cost that that investor would incur in building an OCGT. On that basis, ESBPG believes that current EPC prices should be inflated with a relevant inflation factor to reflect the likely cost of a new build in the future. This approach has been taken by the Competition Commission in its recent decision relating to Heathrow and Gatwick Airport in the form of a construction index.¹ ESBPG has not had the opportunity to investigate an appropriate index that would be appropriate but given recent increases in material costs, this could be well in excess of CPI.
4. ESBPG supports the SEMC proposal to maintain the equity risk premium of 5.5%. To reduce the ERP could, in the long run, be more detrimental to the interests of customers than taking too high a value. Investors may choose to postpone investment decisions which, in the medium/long term, will leave a shortage of supply and increased prices to customers.
5. ESBPG does not believe that the use of historic values will accurately predict the future and on that basis would discount options (b) and (c) in Section IX. The current methodology of computing the WACC based on current data, i.e. the current costs of financing is deemed by ESB to be more appropriate

¹ <http://www.competition-commission.org.uk/inquiries/ref2007/heathrow/index.htm>