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Subject: Response to Capacity Requirement and De-Rating Factor Methodology Detailed Design Consultation Paper

Dear Karen, Thomas,

I am writing in response to your Consultation on the Capacity Requirement and De-Rating Factor Methodology Detailed Design Consultation Paper. Firstly, I would like to thank you for arranging the workshop on the 29th September on such short notice and in response to industry's requests for clarification.

Bord Gáis Energy's (BGE) response is presented in four parts:

- Part 1 comments directly on the TSO's Capacity Requirement and De-Rating Factors Methodology (i.e. Appendix 1 of the Consultation);
- Part 2 comments directly on the RA's Interconnector De-Rating Methodology (i.e. Appendix 2 of the Consultation);
- Part 3 comments directly on the proposed tolerance bands as outlined in Section 3 of the high level Consultation Paper (i.e. the 'Institutional Arrangements' Paper), and
- Part 4 provides a brief summary and conclusion of BGE's key concerns and proposals.

1. TSO's Capacity Requirement and De-Rating Factors Methodology

Recognising the objective of the de-rating process and notwithstanding the complexity of the overall approach, BGE supports the suggested high level methodology proposed and presented by the TSOs in Appendix 1 **with certain amendments**. Specifically, BGE would suggest certain changes to the assumptions and scenarios relating to 'Wind Forecasting' within the methodology.

1.1 Wind Forecasting

Firstly, we do not believe that it is appropriate to deduct 'out-of-market wind' from demand ahead of the capacity requirement being calculated. The objective of this methodology is to calculate the marginal de-rating factor for each technology type, however taking out circa 17% of the overall wind technology class before calculating the de-rating factors has 2 implications:

- 1) It fails to account for the de-rating factors of the de-minimus wind removed at the beginning of the process and therefore under estimates the total capacity requirement, and
- 2) It removes 17% of the wind portfolio from the marginal de-rating factor calculation. As mentioned by the TSOs at the workshop, larger units have a higher de-rating factor than smaller units by virtue of the 'statistical effect' of outages of larger units relative to outages of smaller units. Removing de-minimus wind units from the marginal de-rating calculation therefore skews the outcome of the marginal de-rating calculation for wind units.

On that basis, BGE suggests that when calculating the initial capacity requirement for the system, that de-minimus wind should **not** be deducted and instead should be included as part of the step to calculate the marginal de-rating factor for wind and accordingly in the scenario of capacity requirements inputted into the 'Least Worst Regret' scenario analysis.

Secondly, it was suggested at the workshop that in developing the 'Capacity Adequacy Portfolios' within its methodology the TSOs assume a fixed scenario of wind across all Capacity Adequacy Portfolios – both in terms of build-out and wind capacity factor. In our view, this does not recognise that the actual

build-out of wind in future years is uncertain and that the wind capacity factor can vary year on year. BGE therefore suggests that high, median and low wind build-out and capacity factor scenarios should be considered as part of the Capacity Adequacy Portfolio scenarios and therefore reflected in the 'Least Worst Regret' scenario analysis.

2. RA's Interconnector De-Rating Methodology

Although BGE can support the high level approach outlined in Appendix 2 to compute the de-rating factor of both Interconnectors (ICs) on the island of Ireland, we have certain concerns relating to the data used and the assumptions made in applying the methodology.

2.1 GB Demand Scenarios

In computing the GB demand scenarios, the methodology assumes a correlation between Single Electricity Market (SEM¹) and GB demand such that GB demand can be derived from SEM demand. However, our understanding from the workshop is that the actual correlation between GB and SEM demand is poor at around 0.6. In our view it is therefore inappropriate to use SEM demand as a starting point to create GB demand scenarios. It is particularly misleading when the methodology goes on to compute the probability of contiguous scarcity in SEM and GB – assuming a correlation that we know in reality does not exist likely over-estimates the contiguous nature of these events.

In our view, GB demand should be computed independently and in a similar manner to the methodology used to calculate the SEM demand scenarios (but of course using the relevant GB based data).

2.2 Assumptions leading to Over-Estimates of Scarcity and Contribution of ICs

BGE is concerned that the methodology outlined in Appendix 2 proposes a number of assumptions which, in our view, over-estimates the reliability of the ICs during a scarcity event in SEM. The effect of which is twofold; 1) it exposes suppliers to a greater risk of a 'hole in the hedge' given that ICs only pay out under the Reliability Option when they are on physical outage or experience a "technical failure", and 2) where the actual reliability of the ICs is less than that provided for by this methodology, it risks the under-procurement of capacity through the competitive T-4 capacity auction, which will raise costs for customers in the long-term.

The specific assumptions of concern to BGE are:

- In assuming a supply volume equating to the de-rated capacity requirement to force a scarcity event on the SEM system, the methodology over estimates the actual probability of scarcity events in the SEM and therefore over-estimates the ability of GB to contribute positively to scarcity events in SEM.
- The methodology also assumes that GB prices will always be lower than the SEM strike price and therefore assumes that GB power will always flow to SEM in the event of a scarcity. The past winter has shown that scarcity events occur in GB sending prices up to £1000/MWh and these are likely to become more frequent over the coming months and years given the capacity scarcity expected in GB.
- In removing the extended outage at Moyle from the outage data relating to ICs, the methodology also over-estimates their actual reliability. Given that the ICs account for such a high proportion of Irish generation and in light of the recent EWIC outage over the coming winter period, we think that it is important that the assumptions and inputs used in the methodology reflect the true and real risks relating to the assets in question.

Recognising that no forecasting methodology will be or can be perfect, we still believe that the shortcomings in the assumptions as outlined above put suppliers at risk of a greater 'hole in the hedge' and also puts the system and customer at risk of under-procuring capacity through the competitive auction. On that basis, we would suggest reviewing these assumptions, making them more

¹ Please note that when referring to 'SEM' within the context of this response we are referring to the all-island market be it as it is now under the SEM arrangements or as it is envisaged to be in future under the I-SEM arrangements.

conservative to reflect the real uncertainty relating to scarcity and prices in GB and the availability of the ICs during scarcity events in SEM.

3. Tolerance Bands

In its decision to apply marginal de-rating factors on a technology class basis the objectives of the RAs were to firstly provide a mechanism which reflected “the extent to which each plant contributes to the need for capacity” and to “provide the right incentives for plant owners to invest to maintain or improve plant performance” (SEM-15-103). In our view, this is critical to the capacity market providing investment signals to the market and ensuring that the capacity that is awarded contracts is incentivised to improve/maintain its unit(s) or to exit the market.

Allowing capacity to justify a de-rating away from this undermines this objective and the value to the consumer of under-writing the fixed costs of this capacity. Furthermore, to the extent that parties want to reflect the risk of having a de-rating factor below that of the marginal de-rating factor for that technology type, they can do so through the flexible PQ pairs that they submit to the auction.

On that basis, BGE supports the RAs proposal to set a tolerance band of -0% and +0% for the inaugural capacity auction.

Also, and further to the clarification given at the workshop regarding distillate units being part of the Gas Turbine class, BGE’s only comment relating to the technology classes is that the grouping of technologies across the Gas and Steam Turbine classes are as broad as each-other. Given that an OCGT is a much simpler system than a CCGT, it is technically quite different to that of a CCGT. Similarly, a coal and peat unit are technically quite different but in the interests of driving efficiencies in the units on the system and being equally demanding on all large unit types, BGE does not believe that the classes should be dis-aggregated any further.

4. Summary and Conclusion

Having reviewed the two methodologies proposed as part of this Consultation Paper, BGE broadly supports the high level approaches proposed in both Appendices. However, there are certain inputs and assumptions in each of the TSO’s Capacity Requirement and De-Rating Factors Methodology Paper and the RA’s Interconnector De-Rating Methodology Paper that BGE would suggest and support amending. In particular, we are concerned that some of the assumptions used in the methodology to calculate the de-rating factors of the ICs ignore the rising level of scarcity in GB, the recent evidence of price spikes in GB and the expectation that these scarcity events are set to increase in frequency over the coming years. Given the risk that over-estimating the reliability of the ICs could have both in terms of the ‘hole in the hedge’ for suppliers and the risk of under-procuring capacity for the system at large, BGE strongly urges the RAs to consider revisiting these assumptions to reflect the most recent available information and provide a more conservative and accurate view of the actual reliability of the ICs to and for the system.

Yours sincerely,

Jill Murray
Bord Gáis Energy