Bord Gáis Energy Response To I-SEM CRM State Aid Update, 2019/20 T-1 Capacity Auction Parameters and Enduring Storage De-rating Methodology, SEM-18-009, Consultation

13th April 2018

Introduction

Bord Gáis Energy (**BGE**) welcomes the opportunity to respond to this Consultation on the 2019/20 T-1 Capacity Auction Parameters and Enduring Storage De-Rating Methodology, (**the Consultation**).

At a high level our key concerns when it comes to the Capacity Remuneration Mechanism (**CRM**) for I-SEM relate to the need for urgent network upgrade and/ or reinforcement works to be undertaken in the two main constraint areas of Dublin and Northern Ireland and the need to consider simplifying the approach for de-rating storage units.

With regard to the former, we support the SEM Committee's (**SEMC**) intention to consult in May 2018 on the future incorporation in to CRM auctions of transmission capacity constraints given the need to ensure capacity is procured at least cost, but maximum value, for the consumer. We urge the SEMC and TSOs alike however to undertake significant steps towards redressing the Dublin and Northern Ireland constraints that are increasing capacity costs for consumers as is evidenced by the outcome of the December 2017 T-1 auction. It is not acceptable that an auction approach that "substitutes" in-merit capacity for out-of-merit more expensive constraint-driven capacity, endures beyond the short term. The network bottlenecks in these areas have been a long-term issue. Their amelioration needs to be prioritized as soon as possible for medium and long-term benefits, from consumer costs and wider competition perspectives.

With regard to de-rating factors (**DRFs**) we suggest simplification of the methodology. This includes deriving DRFs for storage using only one single reference unit (MWs) as against multiple storage volumes (durations) and the application of a single outage factor for all storage units, so as not to undermine the performance capability of such units at least until such time as sufficient experience and statistics of storage units in the market, exist.

Further detail on these issues is captured in the remainder of this response together with our views on the various questions raised in the respective sections of the Consultation.

Auction Timings

Q: Do you have any comments on the indicative auction timetable set out in this section?

Overall, it would be very helpful from a market participant and potential investment perspective if, in the final decision to the Consultation, the SEMC could include a comprehensive table that covers all expected T-4, T-2 and T-1 auctions out to CY2025/26 (being the final Capacity Year (**CY**) covered in Table 1 on pages 13-14). This is in light of various inconsistencies in the text and Table 1 as to auction times and related CYs, as discussed below.

For example, the text on pages 13-14 notes that the combinatorial auction solution will be in place for auctions taking place in 2020 or later. This implies a delivery date of CY2023/24 but the actual text states that "CY2024/25 T-4 auction is likely to be the first auction that uses the full combinatorial format." Please clarify what auction year and CY the first combinatory auction approach is expected to apply to?

Furthermore, reference is made in section 3.1.7 of the Consultation to the fact that cross-border capacity should be able to directly participate in the CY2022/23 T-1 auction; however, no reference to a T-1 auction for delivery in CY2022/23 is made on the table. We are however assuming that there will be T-1 auctions held annually for capacity adjustment purposes for each CY, and would welcome confirmation of this?

Finally, we note also some discrepancies in terms of the number of auctions to be held pursuant to the Consultation, as against the State Aid decision on the I-SEM capacity remuneration mechanism which also needs clarification.[1]

Capacity Year 2019/20 T-1 Parameters

[1] For example a number of T-4 auctions are noted in the State Aid decisions as having to occur before 2022 and it is unclear if this is the auction year 2022 or CY2022

Q: Do you agree with the SEM Committee's minded to position to keep the parameters (excluding capacity requirement and de-rating factors) for the CY2019/20 capacity auction consistent with the CY2018/19 parameters?

BGE supports the SEMC's minded to position to continue with the same parameters for this second transitional CY2019/20 capacity auction, subject to BGE's views on de-rating and tolerance bands as expanded on further below.

The proposal to update the Capacity Requirement only to reflect the latest demand forecast for CY2021/22 before applying the, previously agreed, Least Worst Regret Cost methodology is also accepted.

Finally, with regard to the first T-4 auction in March 2019 BGE supports the proposal to review all parameters prior to that auction given the longer duration of contracts that might be entered into at that particular auction and the need to ensure parameters are appropriate for contracts of durations longer than one year. We suggest that the consultation reviewing all parameters is initiated in Q2 2018 to allow sufficient time for market participants to assess implications and for investment decisions to be made sufficiently in advance of the March 2019 auction.

Locational Capacity Constraints

BGE notes the EC's view in the State Aid decision that including transmission constraints within the auction was an appropriate solution to dealing with capacity constraints which cannot be resolved before the commencement of the capacity delivery year, particularly given the exit signal generated by the change in capacity mechanism, (implemented through Format Option B). More importantly we recognise the EC's request for assurance that this Option B approach will be discontinued for constraints from CY2020/21 onwards which will result in capacity providers that are required for constraints, displacing in-merit generation. Most importantly however, we believe that the EC's view on the move away from the Option B approach was made in the context of the EC's stated understanding that steps are being taken to resolve these transmission constraints swiftly.

In this context, we submit that it is pertinent that the SEMC, RAs and TSOs prioritise measures that alleviate the network constraints driving the need for consideration of the "substitutive" approach in the first place. The EC has in our view made it clear that customers should not be paying for over-capacity as it sends the wrong entry and exit signals. The answer however is not to simply substitute the in-merit capacity not behind a constraint, with out-of-merit capacity behind a constraint. The I-SEM CRM needs to deliver the best outcome for consumers by actually delivering efficient exit signals the CRM was so carefully designed to provide. This requires rectification of network bottlenecks thereby allowing the real efficiencies and value to flow to consumers.

It is noted at page 23 that "Upon request by the RAs the TSOs will carry out a reprise of the locational constraints analysis in line with the approved methodology set out in SEM-17-040 for CY2019/20." BGE would welcome insight as to when this analysis is expected to be done and believes that the RAs and TSOs should take the opportunity when undertaking the analysis, to decide on what level of measures (be they physical reinforcement or operational measures) will be taken to alleviate the constraints in the Dublin and Northern Ireland areas. The results of the recent T-1 2017 capacity auction and wider market outcomes clearly indicate the extent of the problem, the cost of which is borne by consumers. We call for analysis and decisions with regard to immediate next steps on the alleviation of network bottlenecks to be undertaken in the very near term.

In our view, to proceed with a move towards the "substitutive" approach without first seriously planning and taking major steps towards rectifying the constraints is counter-intuitive and undermines the EC's stated view on the matter.

De-Rating Factors (DRFs): Interconnection

With regard to the proposed refinements to inputs and the methodology for derating interconnectors in the CY2019/20 T-1 auction, BGE has the following comments:

Q: Do you agree with the proposed modification to the treatment of outages for small and embedded capacity in GB in the interconnector de-rating methodology?

We support the approach of using the most recently updated Future Energy Scenarios (**FES**) information for GB in assumptions and "stress testing" the External Market De-Rating Factor (**EMDF**) by applying two outage factors of 7% and 10%;

In terms of determining the probability of scarcity occurring in GB, we agree that given recent GB capacity auction results, a change to the methodology to take account of the volume of distributed and sub-1MW generation units is warranted. We understand, but would welcome confirmation, that the estimated volume of such generation will be based solely off insight from the FES as well as from the T-4 GB capacity auction results?

Q: Do you agree with the use of a least-worst regrets approach to the choice of GB generation scenario used to set EMDF?

On the least worst regrets analysis approach, we agree that this seems a reasonable approach given that, from the analysis, the changes to the GB generation mix could produce very different values for the deliverability of GB capacity to ISEM in times of scarcity, unlike for CY 2018-2019 where a clear "winner" was decipherable. In order to further understand the impact of outage rates on the results, we would however welcome further detail on the respective 7% and 10% outage factor outcomes for each of the FES scenarios assessed?

Moreover, notwithstanding that a range of 53% - 93% of a derating factor has been adjudged for the interconnectors (due to the degree of uncertainty involved and volatility of the key FES assumptions from year to year), the SEMC has chosen a DRF of 60% to apply to the interconnectors. We understand that the choice of the point on the range can be influenced by what level of capacity procurement is deemed appropriate to ensure security of supply. While we support erring on the side of caution if necessary, we are however unclear on the rationale for choosing the 60%. We seek further insight and clarity on this choice of DRF not least to enable understanding of what the direction future DRF decisions by the RAs may be?

Q: Do you agree with the approach that the EMDF need only be determined for the GB market for CY2019/20 in the absence of interconnections with other markets?

BGE agrees with the proposal not to determine an EMDF for interconnectors that are not yet built. When the time comes to consider EMDFs for other interconnectors aside from Moyle and EWIC, we suggest that consideration is given to the fact that there are limitations (as there are with any type of generation) as to the range of services an interconnector can provide. A holistic view should be taken as to the appropriate balance of interconnection and other generation required to ensure that consumers are not over-paying for other services (e.g. ancillary services) on foot of capacity revenues being dominated by interconnection.

Another consideration to take into account will be the extent to which a particular interconnector can deliver when incidents of scarcity occur in multiple markets (e.g. if the Celtic interconnector is built, the extent to which this can provide capacity to I-SEM will be impacted by coincident scarcity not only in France but also in GB).

Finally, it should be borne in mind that when interconnectors go on forced outage, their timeline for rectification is often much longer than that of a conventional generator (e.g. gas or coal) and they can often be offline for several months at a time. The need for taking into consideration historical outage information including what might be considered "outlier years" should be factored into the modelling process.

De-Rating Factors (DRFs): Storage

a. Do participants have any comments on the methodology for calculating DRFs for storage units as described in this paper?

BGE believes that until more experience and statistics are available in I-SEM on storage units, the methodology used to determine De-Rating Factors (**DRFs**) for storage units could be simplified. In the first instance, BGE does not believe it is necessary to distinguish a DRF in accordance with MW generation size of a unit – it is sufficient only in our view to distinguish DRFs for storage units according to their storage volumes (durations) only.

In GB for example, a 100MW unit is chosen as a reference size and DRFs calculated for multiple durations ranging from 0.5 hours – 4 hours, for that 100MW unit. A reference unit size for the Irish CRM could for example be based off the average storage size of the existing storage units on the system. Once the reference unit size is determined, DRFs for the unit's operation at various storage volumes could be derived for durations between 0.5 hours – 6 hours max (in line with the durations suggested in the Consultation). The use of one size unit should also reduce the complexity in determining DRFs (be that via interpolation or otherwise) for units that do not cleanly fall into the size/ storage volume categories on the initial DRF table.

The other key element that BGE believes could be simplified is the choice of outage factor to apply in the methodology. BGE suggests that one outage factor should apply across the entire class in line with the approach adopted in GB which we discuss further in our answer (b) immediately below. Given current low levels of storage and low DRFs, the single outage factor approach is considered simpler in application and could apply until such time as sufficient historical information exists that allows an average across all storage units to be adopted.

b. In the absence of significant historical data, do participants consider it reasonable to apply system-wide outage statistics to new technologies (such as batteries)? If not, please provide alternative with justification.

As mentioned above, in the interests of: a) consistency of methodology application to various technology types (in this instance, storage); b) applying learnings from other markets where they exist; and c) simplicity in approach, BGE believes that equal principles should apply to all storage technologies, be they pumped storage, battery storage or other type of storage. While there is a lack of international experience to draw on when it comes to storage and DRFs, the GB approach would suggest that one outage factor reflective of the class of unit should apply. Ultimately BGE believes that batteries or other storage should not be adjudged differently in terms of outage statistics, from existing storage. In GB, no further distinctions by technology class are made for storage aside from their duration-limited characteristics. Instead, GB apply the technical availability factor for pumped storage of 96.11% (based on its 7-year average availability at system peak demand). A similar historical assessment could be applied in the I-SEM CRM whereby the historical pumped hydro availability over the course of the previous 10 years (the length already proposed in the Consultation) to determine the average availability of pumped storage at system peak demand, could be assessed and applied equally to all storage units. The use of the system-wide factor should only apply where there is technology for which there is currently no technology class. That is not the case for storage units.

This approach is also preferable to applying the average system-wide outage statistics as the system-wide approach would dampen the view on the reliability performance of a storage unit. Battery units are a relatively simple technology and global statistics indicate its high availability factor. Its outages are arguably much closer to that of a pumped hydro unit than for example a conventional generation gas or coal unit. We suggest that the issue of the outage factor could be reviewed in future to re-assess the outage factor once we have statistically significant evidence from higher installed capacity levels of storage in I-SEM. In the meantime, however the same outage factor, the average of existing (pumped) storage, should apply to all storage units. Finally, we submit that an outage factor equal to that of pumped storage is aligned with the 97% availability requirement for units expecting to participate pursuant to the recent DS3 volume capped consultation.

c. Regarding Storage Units with Storage Volume sizes that are not a multiple of 30 minutes: Do participants have any comments on the TSO's preferred methodology for calculating DRFs for such storage units, i.e. interpolating between storage sizes? What other options do they believe may be more appropriate?

As explained in answer (a) above BGE believes it necessary to determine de-rating factors for storage units on the basis of their volume limits (in minutes) only. We think it is unnecessary and perhaps even risks double-counting to also use its generation size (MWs) to determine its de-rating factor. Arguably the existence of varying DRFs that reflect varying levels of storage volumes (minutes) already provides for the differing risks to security of supply between differing storage durations, without adding the MW size of the unit as another risk factor to account for. Indeed, as recognised in the Consultation, the difference between adjacent storage volumes in the DRF tables is far greater than the difference between adjacent unit sizes in those tables.

In general, if the decision is made not to use a single reference size unit for DRF calculations, we are in favour of linear interpolation between the DRFs below and above the storage volume of the unit being assessed where the storage volume does not align with a multiple of 30 minutes.

A "simple rounding" to the nearest 30 minutes or "rounding down" approach would fail, in our view, to recognise the differences in DRFs possible between the various adjacent storage volumes.

The "Adjusted storage unit capacity" approach also reveals a problem when it comes to "in-between" unit sizes. For example, on page 15 in the TSOs' paper, if you take a 100MW unit with 15 minutes storage, the calculation leads you to choose a 50MW unit on the DRF table.[2] There is however no DRF available for a 50MW, 30 minute unit.

d. Should storage units be allowed to apply a DECTOL to their De-Rated Capacity? Please provide arguments to support your response.

Until the latest DS3 consultation for volume capped services (**the DS3 consultation**), BGE was of the view that storage units could provide capacity and ancillary services. However, the DS3 consultation suggests that those contracted for the services thereunder, must be 97% available which implies that practically, they are not eligible to enter the capacity market (given the reliability option payback obligations and implied requirement to participate in the energy market). In order to enable storage units to participate in both the capacity and ancillary services markets, it thus seems prudent to allow units providing very important ancillary services to be able to apply a DECTOL of the unit's own choosing down to zero.

Consideration should also be given to exempting storage units that are providing important ancillary services during times of stress, from the CRM's reliability option payback obligation. Such an approach is adopted in GB where, when the ancillary service is included in a list of Balancing Services, if the storage unit that receives a capacity contract is also providing one of those ancillary services listed, that unit is exempted from penalty payments during the capacity market stress event.

e. Should specific DRF values be published for units with energy storage volumes of 6.5 hours or greater? Are participants aware of potential projects that might make such a change appropriate?

BGE is not currently aware of potential projects that might make it necessary that specific DRF values be published for units with energy storage volumes of 6.5 hours or greater. However, given the analysis in the Consultation and carried out by National Grid in GB it does not seem necessary at this point to consider determining DRFs for units of such duration or longer given that the analysis shows that as more storage comes onto the system the DRF becomes more static once storage volumes (minutes) hit a certain level (in GB that level is in fact ~4 hours duration and reflects a DRF that is consistent with the average technical availability of pumped hydro.)

Other Energy and Run-Hour Limited Generation

f. Do participants consider a unit's run-hour limitations (due to emission restrictions or otherwise) should be reflected in the Capacity Market Auction? If so, what mechanisms should be applied. If not, please provide rationale.

With regard to emissions limited generators BGE is not in favour of a DECTOL on the basis that their reduced or limited running time has already been taken into account in the de-rating methodology given that the methodology takes account of average outage levels across their generation fleet.

BGE is concerned that to allow a DECTOL for such unit types would undermine the exit signals for inefficient units inherent in the capacity mechanism. It is opined that the limitations of such units are adequately covered off through the existing DRF methodology and as with any other unit, any commercial risk such units perceive in participating in the CRM can be reflected to an extent in their CRM auction bids.

[2] 100MW*15/30 = 50MW

g. Do participants have any comments on the proposed approach for de-rating DSUs with limited Maximum Down Time?

On the contrary however, BGE is supportive of a DECTOL for DSUs on the basis that one of the design intentions of I-SEM was that it will incentivise efficient, low carbon units. There is limited experience in the market to date of DSUs but given the need to encourage the development of such units, and in light of the proposal to remove the payback amnesty (which BGE supports subject to the DSUs receiving the value of energy saved when their end consumers reduce demand), the application of a DECTOL is a considered a useful transition measure. Once further operational experience and statistics on DSU operation is available, the issue should be reviewed however.

Long-Stop Date and Termination of New Capacity

Q: Do you agree with our revised proposals for Long Stop Dates and Substantial Financial Completion dates as set out in the section, and summarised in Table 4?

BGE agrees that there should be no change to already determined auction winners for CY2018/19 as retrospective change is extremely damaging for prospective investments. We also understand and support the fact that substantial financial completion and long stop dates for multi-year contracts are not under consideration in this Consultation.

Given the undesirable unintended consequences of long-stop dates that do not expire until after the end of the capacity year in question, we support the proposed change that from CY2019/20 (for one-year reliability options) a long-stop date of one-month after the start of the CY should apply instead of 18 months. Finally depending on the timing of each T-X (save for T-4) auction, the substantial financial completion should be set in line with (i.e. allowed to flex with) when the T-X auction occurs (i.e. the nearer the T-1/ 2/ 3 auction is to actual delivery of the capacity, the shorter the substantial financial completion date should be).

General

We note in relation to the EC's State Aid Update, that the EC opines that to participate in the CRM, renewable generators, specifically those in Northern Ireland will have to forgo any support received through the NI Renewable Obligation Certificate Scheme (ROCs). BGE would welcome further insight from the RAs as to whether any specific additional rules are expected to be adopted to reflect this EC opinion, and whether steps will also be taken to reflect the opinion for the support schemes in the South of Ireland. At what point in time might we expect any such changes?

We note the RAs' commitment to endeavour to implement the full explicit participation mode for cross-border capacity for capacity auctions that take place in 2020. We would welcome further insight into whether discussions on this point have been opened with GB authorities and to what extent it has been indicated that full cross-border participation can be facilitated by GB for 2020 auctions? This insight is of relevance to market participants considering the impact additional volumes from GB can have on meeting security of supply needs, the costs of such as well as prospective investments.

Conclusion

In conclusion, BGE's main concern for the forthcoming CRM auctions relate to the need for the SEMC, RAs and TSOs to commit to decisions on projects that will alleviate, as a priority, the network constraints in the Dublin and Northern Ireland area. This grid congestion issue was recognised by the EC in its State Aid decision as something that needs to be resolved swiftly and we urge commitment to this intention as it will ultimately help competition and reduce costs of capacity for consumers.

We have identified in our response issues such as clarity in auction timings out to 2025 and largely support consistency in parameters as between the CY2018/19 and CY2019/20.
We welcome the improved methodology to derating interconnectors but ask for clarity around the final decision process of choosing a factor of 60% from the DRF range determined.

We suggest simplifying the methodology for de-rating storage - in particular the approach to determining DRFs based on storage volumes (minutes) as well as MW generation size is considered unnecessary and risks double-counting the risks to security of supply of storage units. A DRF determination based on storage volumes only is considered most appropriate. Furthermore, as storage units are not a “new technology class” in that a “storage” class already exists, suggests that a single outage factor based off pumped storage factors should apply across the storage class. This is more reflective of the high-performance levels of such units and is also in line with the GB approach to such.

Finally, while a DECTOL for DSUs is considered appropriate given the lack of experience with DSUs in the market and the need to incentivise such low carbon technology and take account of their new proposed exposure to RO paybacks, a DECTOL for emissions driven run-restricted units is not. A DECTOL should not apply to any unit where the effect would be to undermine the exit signals for inefficient plants that the I-SEM design has striven to achieve, and we are opposed to this.