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23rd July 2021

RE: SEM-21-053 - Consultation Paper on Imperfections Charge October 2021 – September 2022 and Reforecast Report October 2019 – September 2020 (the “Consultation”)

Dear Patrick and Billy,

Bord Gáis Energy (“**BGE**”) welcomes the opportunity to respond to this consultation on the Imperfections Charge proposed for the tariff year 2021/22.

The accuracy of the TSO’s forecast model is important given it underlies not just the determination of the annual Imperfections Charge but also the determination of the Transmission Loss Adjustment Factors (“TLAFs”) for the following year (i.e. 2022/23). Increasing the level of accuracy across the model provides for consumers a true view of the cost of the dispatch balancing actions that the TSO needs to take in operating the grid. Increased forecast accuracy will feed through to lessen the annual K-factor adjustment that can introduce significant volatility to the annual charge. Better representative costs and lower annual volatility will feed through into more predictable costs for the consumer and more predictable TLAFs for generators.

1. Forecast model accuracy

BGE has concerns about the modelling accuracy of the assumptions and data sets used and the forecast costs making up the proposed Imperfections Charge. We ask that the following improvements to the accuracy of the forecast model areas are strongly considered by the Regulatory Authorities (**RAs**):

1.1. Cost-Based Model Assumptions

The TSO model needs to incorporate the difference in bidding approaches that exists between the ex-ante and balancing markets. However, this does not appear to be the case¹. No recognition in the difference in bidding between the ex-ante and balancing markets in our view potentially raises the risk of increased imperfections costs for consumers and inaccurate network flows and constraint actions. In the SEM, market participants are free to bid strategically into the ex-Ante unconstrained market. The Balancing Market Principles Code of Practice (“**BMPCOP**”), or Bidding Code of Practice (or “**BCOP**”) as is currently still being applied, is only relevant when EirGrid are incrementing or decrementing the unit away from the ex-Ante position (that being the Final Physical Notification – FPN) through a balancing action which is settled against the complex commercial offer data (“**CCOD**”). BGE believes that updating the model to better reflect the difference in bidding between the ex-ante and balancing markets potentially will change the network flows, losses, constraints, and outage planning requirements for the area. Updating the model could also by corollary have an expected positive impact for consumers in terms of reduced dispatch balancing costs (DBC) forecast error where constraint actions are reduced. We made a similar ask in our response last year to this consultation and no rationale has been put forward for why our suggestion has not been considered or if it has, why it has been discounted considering the potential consumer benefits of applying a realistic assumption to how units bid. Please provide rationale for why the current approach, in place of our proposed approach, is preferable from a consumer perspective.

¹ “There has been no extra provision made for any possible bidding strategy by a market participant as it is assumed the Balancing Market Principles Code of Practice (**BMPCOP**) is followed for their complex commercial offer data.” – TSO Forecast Imperfections Revenue Requirement For Tariff Year 2021/22 (Section 3.1.11 Participant Behaviour)

1.2. Modelling of SEM with interconnected markets

BGE believes that the regional proximity of markets and the chance of similar climatic conditions in both for the export of renewable electricity should be reflected in the export assumption on interconnectors. The modelling of wind production by onshore and offshore units in SEM needs to account for the probability of similar production conditions in the GB market at the same time which would impact export flows on existing interconnectors. The modelling of flow assumptions on the Moyle interconnector for example has not always followed the market activities on an hourly directional flow basis, and the growth in wind production expected in the coming years for both the SEM and GB markets could increase the modelling/ operations divergence.

Considering the extent of interconnection expected for SEM during this decade, we propose the implementation of an approach to better represent the interaction of the SEM with other markets as soon as possible. Interactions with the SEM can be modelled best using a fundamental model of the GB system (representing each generator in the system) and gradually improving the representation of the continental system. Better representation of these neighbouring markets would allow the prices on both sides of an interconnector to be endogenous variables. Endogenous prices better reflect interconnection operation as interconnector flows will reflect correlated weather and other shared market conditions.

2. Mid-Year Reforecast

We welcome the data provided in the Quarterly Imperfections Costs Reports provided by the TSO as a comparison between the Imperfections Costs forecast and outturn in the year. To build on the trends that this data can offer Suppliers especially relating to future K-factor adjustments, we ask that a mid-year review and reforecast of Imperfections Charge occurs to help inform the forecast model with very recent data from market operations. These changes could include those observed and could include updated flows / restrictions and infrastructure assumptions, and the impacts of any “one-off” events that would impact the H1 outturns. The data from the mid-year reforecast should be published to look for any significant changes needed in modelling assumptions between the original forecast at the start of the year and mid-year which can then be used to improve the accuracy of the new forecast for the following year. Suppliers can use the output of the mid-year forecast to prepare for any potential increase/decrease in the next year’s Imperfections Charge. The output from the reforecast in conjunction with the data in the Quarterly Imperfection Costs Reports would help Suppliers better appreciate the potential K-factor adjustment that may be expected in the next year. Further, a more recently updated model (i.e. at mid-year) can be a potential benefit in the other uses made of the PLEXOS model such as the TLAf calculation process.

We would not propose that any reforecast at mid-year be used to amend the Imperfections Charge mid-year as this would not be in the consumer’s interest.

3. Specific adjustments and amendments to 2021/22 modelling assumptions

On review, the TSO submission lacked enough specific information in areas to help explain the basis of the forecasting model results and the modelling output changes for 2021/22 over the previous year. We identify below the points where more detail is needed to understand the basis for the impacts on input changes advised in the submission. We also provide a view on key proposals that will help minimise the charge for consumers.

3.1. Potential costs of implementing Article 13 of the Clean Energy Package²

The submission by the TSO for costs relating to the implementation of Article 13 of the Clean Energy Package (CEP) prejudices the outcome of the consultation on Dispatch, Redispatch and Compensation Pursuant to Regulation (EU) 2019/943³. We support the position of the RAs not to include a provision in relation to potential costs arising from this implementation. Costs should not be estimated before the basis of their accrual is decided so that the consumer is charged only for costs as decided on through consultation that most closely reflects actual payments needed.

² Regulation (EU) 2019/943

³ [SEM-21-026 Consultation on Dispatch, Redispatch and Compensation Pursuant to Regulation EU 2019943.pdf \(semcommittee.com\)](#)

3.2. System Operator Interconnector Countertrading (SO IC Countertrading)

The forecast submission for System Operator Interconnector Countertrading in 2021/22 is concerning as it indicates a large potential for increasing costs of DBCs and so a future increase in the Imperfections Charge. We ask the TSO to advise of the actions they will take to minimise the costs of Interconnector Countertrading to the consumer and a forecast for the coming 2-3 years of the costs linked to this activity. We would have expected the cost to be closer to the actual outturn for the last year and we consider, in line with the RAs' view, that a reduction in the provision may be warranted. The TSO submission request of €10m is an increase on the €5.6m incurred in the past 12 months⁴, and yet is regarded by the TSO as "conservative"⁵ due to reduced generation plant availability and increasing demand giving tighter capacity margins. A projected increasing trend for what is a new cost in the Imperfections Charge is a concern for end costs to the consumer and the TSO should make all efforts to minimise any costs recovered through the Imperfections Charge and give a forecast of the scale for this cost in the coming years.

3.3. Changes to North-South flow limits

We ask that more clarity and explanation of the changes made to the North-South flow limits on the tie-line in the model is provided. We understand that nothing physically has changed on the line to drive these changes, and neither have the published MWR constraint limits⁶ changed. The changes that have been made which could impact the North-South flow limits are the increase to the Moyle Interconnector export limits and the increased level of Primary Operating Reserve (POR) available. Combining these changes with the actual MWR constraint⁷, it is difficult to rationalise the scale of the changes from 2020/21 to 2021/22 that is observed through the modelling. Why has the direction of greatest flow reversed from 300MW South-North in 2020/21 to 325MW North-South in 2021/22? Further the South-North flow limit has fallen from 300MW to 200MW at a time that Moyle Interconnector export limit has increased which would appear contrary to the expected operational flows. Do the changes in the North-South tie line flow limits in the PLEXOS model mean that the operational inter-area flow limits (S_MWR_ROI and S_MWR_NI) are expected to change?

3.4. Impact of data freeze date on model output

We ask that the PLEXOS model is re-run before the decision is made on the level of the Imperfections Charge for 2021/22 to provide as accurate as possible a position for the expected charge for that year. We believe that running the PLEXOS model is a quicker task compared to previous years. While a data freeze gives a point in time for the data in the TSO submission, the model should be rerun before the final decision to update the forecast costs involved. This should help with the K-factor volatility year on year by applying the most recent and thus accurate information, and so determining a more accurate Imperfections Charge, to each year.

3.5. DS3 / Operational Pathways to 2030 milestones

The TSO submission advises of the assumption that the units in this area are being scaled back from 8 to 7, and that the minimum level of inertia is reduced from 23 GWs to 20 GWs⁸. We ask the TSO to confirm the timing within 2021/22 for this change and the conditions/ dependencies that need to be met to support this move. The cost reduction of €7m as advised with this change is welcomed to reduce the cost to the consumer, but we request a better understanding of the operational timing for this change.

3.6. Commercial Offer Data

We believe that opportunities to improve the operation and accuracy of the PLEXOS model should be identified and actioned. One such improvement opportunity lies in the transparency between the modelling criteria used and observed operational market data in the heat rate used in the SEM PLEXOS model. Should a comparison of the data in the complex bids by units and that used in the SEM PLEXOS model identify any discrepancies, then these could be reported in a confidential manner as part of the supplemental modelling. This provides EirGrid with the opportunity to provide industry and the SEM Committee with a clear indication of the divergence of the operational system from the conditions modelled in PLEXOS. The model can then be updated to close out this divergence and improve accuracy of the modelled conditions.

⁴ SEM-21-053 Section 4 (pg 13)

⁵ TSO Appendix 1 – Imperfections Revenue Requirement Section 3.1.5 (pg 18)

⁶ [Wk28 2021 Weekly Operational Constraints Update.pdf \(sem-o.com\)](#)

⁷ [Information Note on Inter-Area Flow Constraints.pdf \(sem-o.com\)](#)

⁸ TSO Submission Appendix 1 – Imperfections Revenue Requirement (pg 9)

3.7. Peat Plant Costs

The consultation notes a €9m increase for the peat fired plant closures. We ask for clarification as to if this cost increase is a result of running the PLEXOS model with and without these plants? If the answer to the previous question is yes, we ask for confirmation of if the model run that included the peat plants matched these plants availability in 2020/21 (only available in the first 3 months of the year). A better understanding of the modelling assumptions used will add transparency to the modelling process and outputs.

3.8. Gas Transportation Charges

The change attributed to the review of the gas transportation charges is significant at €22m. Again, clarity is requested on the modelling assumption made with regards to these factors. Is this modelled reduction in PLEXOS due to applying the operational gas transportation charges within the model or have the model gas transportation charges within PLEXOS been updated due to change in modelling assumptions? If the change is within the PLEXOS based charges only, then what was the driver for this change?

3.9. Pumped Storage

Regarding Pumped Storage, we welcome the proposed decision by the RAs to revise down the forecast settlement costs associated with pumped storage units from €15.6m to €8m in keeping with the consistent direction by the RAs to the TSOs that they “...would expect the TSOs to continue to strive to match the market position of the units in dispatch as closely as possible⁹”. We note that despite this direction by the RAs, the modelled costs for pumped storage have increased by 34% over last year (€15.6m in 2021/22 from €11.6 in 2020/21). Can the TSOs explain what steps are being taken to comply with the RAs’ direction as we agree that the model should match the market position of the units in dispatch as closely as possible? Where operational datasets are available for units these should in our view be incorporated into the model to reflect a position nearer to the unit’s actual running.

3.10. Other model inputs

There is a lack of clarity about various other model inputs that hampers the ability to interpret the published results. Some examples are the dates of future operational changes, the generation portfolio for the coming year and details of the inputs used in the backcast model. Although commercial sensitivities might apply to a small number of inputs and outputs of the forecast model, they are unlikely to apply to the backcast model. Publishing detailed inputs and outputs of the backcast model would greatly improve the transparency of the process and provide a foundation for greater understanding of forecast values.

4. Conclusion

In conclusion, the accuracy of the imperfections model is critical to ensure consumers are being accurately charged imperfections costs and to minimise year on year imperfection charge volatility. An accurate imperfections model is also important from a predictability of TLAFs perspective given the impact TLAFs have on revenue potential for generators. We ask the RAs to clarify their view and what consideration has been given to our asks in section 1 that: a) the model should reflect the realities of bidding in that ex ante differs from balancing market bidding, and b) that an approach to modelling is taken to better represent the interaction of the SEM with other markets through interconnectors reflecting the generation and flow interplay between the markets across the interconnectors. As discussed above, we believe applying the approaches outlined could be overall more beneficial for consumers.

In section 3 our views include our support for the reductions made by the RAs to the initial TSO proposed charge, including not allowing the application of Article 13 costs in 2021/22 ahead of the awaited decision on the calculation of the curtailment compensation. We ask the TSO to advise of their actions on System Operator Interconnector Countertrading to minimise costs to the consumer and forecast cost for SO IC countertrading over the next 2-3 years.

Finally, we support for this year, the RAs’ proposal to fully apply the K-factor amendment resulting in a reduction in the forecast.

⁹ SEM-21-053 Section 4 (p12)

I hope you find the above comments and suggestions helpful. If you have any queries thereon please do not hesitate to contact me.

Yours sincerely,

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Bord Gáis Energy

{By email}