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Dear Socrates,

Consultation on Electricity Capacity Assessment: Measuring and modelling the risk of supply shortfalls

Thank you for providing SSE with the opportunity to comment on the above consultation. We have detailed our answers to the consultation questions in the attached annex. However, we would like to take the opportunity to also reiterate our high level views.

- We believe that VOLL should be included in the assessment of security in order to outline the consequence of supply shortfall.
- It is vital that a transparent and timely consultation with industry is carried out prior to the modelling work both in the first year and in subsequent years.
- It is important that risk weighting is applied to NGET's existing data and assumptions regarding commissioning and decommissioning dates and embedded generation.
- We consider that it is important to use a hybrid approach based on real wind generation history and wind speed data to forecast the contribution that wind generation will make to supply.
- We think that LCPD opt-out plant, (and IED opt-out plant in time) should be assumed to have an increasing disappearance factor with time to reflect the likely commercial pressure to front load operating hours and the diminishing case for repair as the operational end point comes closer.

We hope you have found our comments helpful. If you would like to discuss any of the points we have raised in further detail, please do not hesitate to contact me.

Yours faithfully

Angus MacRae
Energy Economics

Annex: Consultation Questions

CHAPTER: Three

Question 1: Do you agree that the de-rated capacity margin is a good indicator of future capacity adequacy? *Yes. We believe that de-rating gives the clearest indication of the capacity that is actually likely to be available to meet demand.*

Question 2: Are there any measures of risk other than LOLE and EEU that we should report and what are their comparative advantages? *We believe that VOLL should be included as this will give an indication of the cost to the GB economy of capacity shortfall whereas LOLE and EEU are limited in their ability to describe the consequence of capacity shortfalls.*

CHAPTER: Four

Question 3: Are there any additional key input assumptions that we should consider in the modelling?

We believe the approach outlined is sensible. However the validity and success of the approach will be highly dependent on the actual assumptions used. It is vital that a transparent and timely consultation with industry is carried out prior to the modelling work both in the first year and in subsequent years.

Question 4: Do you agree that the use of stochastics (probability distributions) to model short-term variation of key input variables is the best available method? Do you agree with the use of scenarios and stress tests for capturing long term uncertainty in key input variables? *Yes. We believe that the use of stochastics provides the best framework to allow a review of whether there is sufficient capacity because of the uncertainties present in trying to forecast both power demand and the availability of supply. However, we consider that it is also sensible to use scenarios and stress tests to evaluate the consequence of a range of values of some key variables.*

Question 5: Do you agree with the proposed approach to modelling wind availability? *Regarding the general approach, we consider that it is important to recognise that using wind data alone may yield flawed results due to the difference in calculated power output that may arise from using wind data that has not been collected for wind production studies. Regarding the two options presented in paragraph 4.19 we think that a hybrid approach would be the best. This would consist of applying analysis based on option 2 but modified to take into account historical experience from analysis based on option 1.*

Question 6: Do you agree with the proposed use of NGET's existing data and assumptions, regarding, in particular, commissioning and decommissioning dates and embedded generation? *We agree with the use of NGET's existing data and assumptions, but consider that a risk factor is introduced to take account of project non-delivery and/or delay should be added in to reduce NGET commissioning levels. We consider that if "informed" decisions are included then these are made clear to all.*

Question 7: Do you believe that Ofgem should require industry stakeholders to submit up-to-date data with regard to commissioning and decommissioning dates and embedded generation? Which industry process will ensure the confidentiality of information provided? *We think that it is only practical for Ofgem/NGET to use NGET SYS data and their own "informed" decisions which are not based on "confidential information" as we believe that all assumptions regarding capacity adequacy need to be made available to the market.*

Question 8: What are your views on how best to model LCPD opt-out plants' restricted running regimes? *We believe that it is appropriate to apply a disappearance factor to LCPD opt-out plants as they move towards their final assumed closure dates. We consider that the disappearance should increase with time to reflect the likely commercial pressure that operators will face to front load hours into early years.*

Question 9: Which of the two approaches for modelling electricity interconnection flows will provide the most realistic flows? If you favour the scenario based approach, what are your views on reasonable scenarios to run? *We think that the NETS SYS is a reasonable approach – we consider that alternative scenarios, for example full export to FR and NL and full export to IRL, should be considered. We do not think that there is merit in carrying out price based modelling.*

Question 10: Under what conditions would users respond by curtailing their demand and how would you go about modelling this? Is it worth Ofgem requesting data from DNOs on self-interruption and interruptible contracts? *We believe that users will curtail demand progressively as capacity margins tighten. We consider that the best way of modelling this is by use of a range of demand functions which represent a variety of relationships between demand (including a range of impacts arising from smart meter deployment) and margin and which are shared openly with generators and suppliers. We do not consider that DNO's are best placed to provide information on self-interruption or interruptible contracts, rather that this information should be sourced from suppliers.*

Question 11: Is historical data of scheduled outages a good indicator of future patterns of scheduled maintenance timings? *We consider that they provide a partial picture. We think that they provide a starting point, but we consider that they should be modified depending on the assumptions that are being made about the plant operating regimes and closure – e.g. if the modelling assumes that the load factor for plant is dropping then it is reasonable to assume that both the scheduled outages and the forced outages will increase in frequency due to the increased stop-start cycles that lower load factor plant running regimes entail. Additionally, given the expected extensive investment in the transmission system, transmission outage schedules should be considered in detail.*

Question 12: Will treating half-hour periods independently have significant effects on our estimates of the de-rated capacity margin and risk of supply shortfalls and how should the model take into account half-hourly cross-correlations? *We don't think it is necessary to consider half-hour periods independently. We consider that looking at daily peak over the most likely high demand periods will be enough. The market should be able to arrange outages to ensure that capacity margins will be adequate outside winter peak periods. We consider that a specific stress test is used to confirm this outwith the main adequacy exercise.*

Question 13: Are there any boundaries other than Cheviot that may significantly affect the risk of supply shortfalls? *We think that the B9 (Midlands South), the B14 (London), and the B15 (Thames Estuary) boundaries should also be considered.*